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Bishop Pipe Freezing LTD

HEALTH, SAFETY AND ENVIRONMENTAL POLICY

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1. GENERAL POLICY STATEMENT

Bishop Pipe Freezing Ltd are resolutely committed to providing a safe system of work. This safe system of work shall protect employees, plant and equipment from accidental loss and contribute to the preservation of the environment.

The purpose of this document is to define the Companies policy on Health, Safety and Environmental Protection and to detail the responsibilities assigned to personnel within the organisation.

The effectiveness of the policy requires the dedicated attention and co-operation of all Companies employees and I trust you will join me in a personal commitment to loss prevention as an integral part of our operations.

2. STATEMENT OF POLICY

2.1 POLICY

Health, Safety and Environmental Protection are of principal importance to Bishop Pipe Freezing Ltd. They shall endeavour to conduct its operations in such a manner as to avoid harm to its employees, subcontractors and all others who may be directly or indirectly affected by its operations. They shall also endeavour to limit the adverse effects on the physical environment in which its operations are performed.

It is the policy not only to comply with Local Authority and Government Laws and Regulations pertaining to occupational health and safety and environmental protection, but to act positively to provide and maintain a safe system of work and wherever possible to work within the constraints of the *Guidelines to Good Practice in Pipe-Freezing, Cryogenics Safety Manual and other codes of practice for Under pressure Drilling, Hot Tapping and Shrink-Fitting.*

Within the Policy they shall strive to encourage all personnel to develop a keen health, safety and environmental awareness.

2.2 OBJECTIVES

In accordance with the Policy, Bishop Pipe Freezing Ltd have set the following objectives:

(a) To prevent all accidents in the workplace.
(b) To provide and maintain a safe working environment.
(c) To develop and implement procedures to establish safe and environmentally sound working practices.
(d) To comply with all statutory obligations relating to health, safety and environmental protection.
(e) To provide appropriate training and instruction for all employees to enable them to work safely and to avoid damage to the environment.
(f) To develop a high degree of safety and environmental awareness amongst all staff and to encourage staff participation in policy development.

3. RESPONSIBILITIES

3.1 GENERAL

It is incumbent on Management to strive to promote an effective and proper understanding with all employees and contractors on matters that relate to health, safety and the environment. However, all personnel employed by them are required to co-operate with Management on all matters relating to health, safety and the environment and to take reasonable care whilst at work to ensure the health and safety of themselves and others who may be affected by their acts or omissions.

3.2 MANAGEMENT

The Health, Safety and Environmental responsibilities of Management include, but are not limited to:

a) The development and implementation of procedures to establish safe and environmentally sound working practices that meet statutory obligations.

b) Ensuring that procedures are established and implemented to provide personnel with the necessary information, instruction and training to enable them to carry out their duties in a safe manner and without detriment to the environment.

c) Ensuring that all incidents involving injury to personnel, damage to property or the environment and those having the potential for serious effect (near misses) are thoroughly investigated. Having investigated the incident, ensuring that appropriate steps have been initiated to prevent the repetition of similar incidents.

d) Maintaining regular arrangements for consulting supervisors and employees' health, safety and environmental protection matters.

Conducting or, where appropriate, engaging suitably qualified independent consultants to conduct health, safety and environmental audits to identify deficiencies in equipment, operating procedures and policies and identifying and remedying any deficiencies.

3.3 SUPERVISORY STAFF

The Health, Safety and Environmental responsibilities of supervisory staff include but are not limited to:

a) Ensuring that work under their control is performed in a safe and environmentally sound manner in accordance with statutory obligations and standards.

b) Ensuring that personnel under their supervision are fully trained in the skills associated with the work they are required to perform and that they are aware of associated hazards.

c) Ensuring that tools and equipment used in the preparation and implementation of pipe freezing are well maintained (and, if applicable, certified) and when used correctly, unlikely to cause personal injury or environmental damage.

d) Ensuring that personnel engaged in the use of pipe freezing equipment are suitably attired with appropriate protective clothing.

e) Immediately informing Management of unsafe plant or systems of work that cannot be readily resolved.

f) Identifying areas where improvements can be made to systems of work and recommending their implementation to Management.

g) Ensuring that all incidents causing injury to the personnel, damage to property or the environment, and those having potential for serious effect (near misses) are reported to Management so that an investigation can be initiated.

(h) Encouraging subordinate personnel to adopt a positive attitude to Health, Safety and Environmental Protection.

3.4 EMPLOYEES

The Health, Safety and Environmental responsibilities of Employees include but are not limited to:

a) Ensuring that work is performed in a safe and environmentally sound manner, in accordance with statutory obligations and standards.

b) Taking reasonable care for the health and safety of themselves and others who may be affected by their acts or omissions.

c) Reporting to Supervision any potential health, safety or environmental hazard that comes to their attention whilst performing the work and, where appropriate, discussing with Supervision/Management methods of resolution.

d) Promptly reporting to Supervision all incidents causing injury to personnel, damage to property or the environment, and those having potential for serious effect (near misses) and co-operating in any subsequent investigation.

e) Co-operating with Management and Supervisors in ensuring the health, safety and environmental responsibilities are fulfilled.

3.5 SUB-CONTRACTORS

Bishop Pipe Freezing Ltd does not differentiate between the responsibilities of permanent Company employees and personnel contracted to perform short-term work for them.

In addition to any requirements imposed by the sub-contractor's employer, the sub-contractor shall observe health, safety and environmental responsibilities of employees as detailed in Section 3.4 of this Policy whilst engaged in Bishop Pipe Freezing Ltd activities.

4. ARRANGEMENTS FOR IMPLEMENTATION

4.1 INTRODUCTION

The following procedures and systems of work have been developed to augment the Health, Safety and Environmental Policy.

4.1.2 Provision of Welfare Facilities

As all works undertaken by Bishop Pipe Freezing employees are executed on a customer site, it is the principle contractor or the client that must ensure adequate welfare facilities are provided for all site personnel. Instructions for technicians are always included in the procedures/RAMS document issued for each job undertaken.

4.1.3 Provision of PPE

The following PPE is supplied by the Company

Protective working overalls

Protective gloves

Cryogenic gloves

Safety glasses

Full face mask

Hard hat

Boots with protective toe caps

Ear defenders

Oxygen deficiency monitors

High visibility jacket (or wear customer site specific High visibility jacket to be warn if requested to do so)

Basic first aid kit – supplied in each vehicle

The equipment above must be worn when working on customers sites at all times. If any equipment is defective, please seek replacement immediately otherwise do not enter the customer working environment.

4.1.4 First Aid arrangements

When entering a site to undertake works, please ensure you familiarise yourself with the local site first aid arrangements. If in doubt, please seek the assistance of the local site engineering manager / site lead or contact Bishop Pipe Freezing Managing Director for the site contact name and details prior to commencing any work.

4.1.5 Construction (Design & Management) Regulations 2015 (CDM 2015)

These regulations aim to improve the overall health, safety and welfare of those working in construction.

4.1.5.1 Contractor Responsibility: (For information only)

A contractor is anyone who directly employs or engages construction workers or manages construction/maintenance work. Contractors include sub-contractors, any individual self-employed worker or business that carries out, manages or controls construction work. They must have the skills, knowledge, experience and, where relevant, the organisational capability to carry out the work safely and without risk to health.

Contractors and the workers under their control are most at risk of injury and ill health from construction work. Contractors therefore have an important role in planning, managing and monitoring their work to ensure any risks are controlled.

Contractors on all projects must:

- make sure the client is aware of the client duties under CDM 2015 before any work starts
- plan, manage and monitor all work carried out by themselves and their workers, taking into account the risks to anyone who might be affected by it (including members of the public) and the measures needed to protect them
- check that all workers they employ or appoint have the skills, knowledge, training and experience to carry out the work, or are in the process of obtaining them
- make sure that all workers under their control have a suitable, site-specific induction, unless this has already been provided by the principal contractor.
- provide appropriate supervision, information and instructions to workers under their control
- ensure they do not start work on site unless reasonable steps have been taken to prevent unauthorised access
- ensure suitable welfare facilities are provided from the start for workers under their control, and maintain them throughout the work

Where a contractor is the only contractor working on a project, they must ensure a construction phase plan is drawn up before setting up the site.

As an employee of Bishop Pipe Freezing, you will be working for a Contractor or Principal contractor as a 'Worker' (see below). If you consider the Contractor or Principal contractor is not performing their duty then please stop work immediately and report your concerns to Bishop Pipe Freezing Managing director.

4.1.5.2 Worker Responsibility: (All Bishop Pipe Freezing technicians)

A worker is anyone working for or under the control of a Contractor on a construction site/premises.

Workers have an important role and should take an active part in helping to manage health and safety risks. In particular, workers must:

- only carry out construction work if they have the relevant skills, knowledge, training and experience - or they are provided with the training and supervision that enables them to do it safely and without risk to health
- make themselves aware of the health and safety risks involved in work on every site and the way those risks are managed
- always follow site rules and procedures

- cooperate with other duty holders, such as the contractor in control of their work and the principal contractor (who controls the overall project when there is more than one contractor)
- report any risks they find to whoever controls the work on site, whether the risks affect their own health and safety or anyone else, including other workers and members of the public

Bishop Pipe Freezing will consult with its employees (workers or their representatives) on any health and safety matters that affect them prior to commencing all jobs.

Please Note: No work is permitted to start until the site induction is completed.

4.2 ACCIDENT/INCIDENT REPORTING

4.2.1 Reporting Requirements

All instances and incidents causing injury to the personnel, damage to property or the environment, and those having potential for serious effect (near misses) must be promptly reported.

4.2.2 Reporting Responsibilities

The Supervisor of the work group shall immediately notify Bishop Pipe Freezing Ltd of the incident. Management shall then make the necessary statutory reporting requirements; initiate an investigation into the incident and implement appropriate remedial actions to prevent recurrence.

4.2.3 Accident/Incident Investigation

The purpose of the investigation is to identify underlying causes contributory to the incident. When such causes have been identified, Management shall action appropriate remedial actions to remove/reduce the possibility of recurrence. All personnel are required to co-operate with Management during any investigation.

4.3 ALCOHOL & DRUG ABUSE

Alcohol or drug abuse by employees and contractors (including supervisors and management staff) can adversely affect the health and safety of themselves or others in the workplace. Therefore, it is the policy of Bishop Pipe Freezing Ltd that alcohol or drugs are prohibited in the workplace.

Any persons known to be, or strongly suspected of being, affected by alcohol or drugs must be referred to the appropriate manager who will arrange for the person to be removed from the workplace.

4.4 TRAINING

All personnel shall have sufficient training and experience to perform their duties safely. This requirement encompasses training in both technical and safety related matters.

Management shall ensure that all project-working personnel are fully trained and knowledgeable in the preparation and utilisation of Pipe freezing equipment.

Management shall further ensure that all project personnel are fully trained and knowledgeable in the requirements to establish a safe system of work.

4.5 JOB BRIEFINGS

Management shall arrange to ensure that project personnel are thoroughly briefed on each job before commencement of the work. Project personnel shall be made fully conversant with what is required of them, with any precautions that need to be observed.

4.6 SAFETY MEETINGS

Safety meetings are held at regular intervals. The aims shall be the promotion of safe working practices and the development of safety awareness.

The meeting shall assist in accident investigation, corrective measures and development of procedures.

4.7 POLICY REVIEW

Management shall review performance regarding this Policy on a regular basis and where necessary instigate actions to improve health, safety and environmental protection standards within the Companies.

5. BASIC SAFETY INFORMATION

5.1 SAFE WORKING PRACTICES

a) Keep floors, stairs and work areas clean. Do not permit grease, mud, water, ice or other substances to remain on floors, stairs and other work areas, causing a slipping or tripping hazard.

b) Keep working areas clear of superfluous equipment and materials. There is a place for everything and everything should be returned to its place after use.

c) Inspect all tools and equipment for defects before attempting to use. All defective equipment and tools must be removed from service.

d) Be familiar with the location and operation of safety equipment about the workplace.

e) Be familiar with protective equipment required to enable the safe execution of your work.

f) All lifting equipment must be fully certified and inspected before use.

g) Ensure working areas are adequately ventilated and illuminated prior to commencing work activities.

5.2 PROTECTIVE CLOTHING

Approved safety footwear must be worn at all worksites.

b) Safety helmets must be work at all worksites. Safety helmets must not be painted or defaced in any way, as this weakens the helmet and renders it less effective.

c) Approved ear protection must be worn in all high noise areas. Such areas will display notices indicating that requirement for ear protection but, as a guideline, if noise levels do not allow normal conversation, ear protection should be worn.

d) Approved eye protection must be worn when handling chemicals, burning, welding, grinding or any other type of work where hazard of eye injury exists.

5.3 PERMIT TO WORK SYSTEMS

Permit to Work systems are likely to be encountered at all locations where pipe freezing operations are performed. The primary objective to Permit to Work System is to ensure that all operations are safely carried out and that the integrity of the site is not compromised.

On receipt of a Permit, the person responsible for carrying out the work shall follow all procedures and precautions as stated on the Permit, taking all practicable steps to ensure the safe execution of the work.

5.4 FIRE PREVENTION

Everyone in industry should be aware that fire is an ever-present hazard to life and property. The following practical steps will help to reduce this risk:

a) Good housekeeping - keep worksites clean and free from waste materials, residues, oil etc.

b) Smoking is only permitted in designated smoking areas.

c) Immediately report any oil or gas leaks to a responsible person.

d) Ensure that all hot work is undertaken within the site Permit to Work system.

e) Cease any hot work on the sounding of the site alarm.

5.5 FIRE EXTINGUISHERS

The following portable extinguishers are commonly encountered within the industry:

TYPE	COLOUR	USES
Dry Powder	Red	Effective on low voltage electrical fires as it is non-corrosive. Dry powder has limited cooling capability and therefore precaution must be taken against possible re-ignition. May also be used on flammable liquids.
BCF	Red	BCF is a vaporising liquid, which chemically stops the combustion process. Effective on fires involving electricity, flammable liquids, flammable gasses and burning solids.
Water	Red	Suitable for free burning materials such as paper, wood, fabrics. **NOT FOR USE ON ELECTRICAL OR LIQUID FIRES**
$C0_2$	Red	Suitable for all fires. Caution required when used in enclosed spaces due to asphyxiating effect.

6. SAFE OPERATING PROCEDURES

6.1 GENERAL PIPEFREEZING PROCEDURE

The technical procedure of establishing a freeze isolation of a live pressurised pipeline requires the application of cryogenic fluid to the external surfaces of the pipe, thereby reducing the pipe contents to a temperature below its freezing point.

To effect pipe freezing a pipe jacket is solidly bolted and sealed to the external circumference of the pipe. Liquid nitrogen, at a temperature of -196°C, is introduced into the annular space between the insulated pipe freezing jacket and the external surface of the pipe. The pipe temperature is thereby reduced until it is in the region of the boiling point of liquid nitrogen. Liquid nitrogen is then continuously supplied to the jacket until it is full of liquid. The liquid nitrogen supply rate is then reduced to a level that maintains a sufficient 'boil-off' until the formation of the ice plug is confirmed. The liquid nitrogen supply rate level is then further reduced to a level sufficient to maintain the integrity of the ice plug.

When the ice plug has been established and firmly solidified, instructions shall be given by Bishop Pipe Freezing Ltd to proceed with the mechanical work.

On completion of the mechanical work, the nitrogen supply is isolated and the plug may then be force-thawed or allowed to thaw naturally to ambient temperature. During this part of the procedure the pipe freezing jacket will be removed and connecting pipes and liquid nitrogen vessels cleared from the freeze position(s).

6.2 EQUIPMENT DESCRIPTION

6.2.1 Bulk Liquid Nitrogen Storage Vessels

The vessels are mounted and transported in a skid frame.

The principal dimensions of the vessel and transportation skid frame are as follows:

BULK NITROGEN STORAGE VESSELS	
Height	8 ft
Width	8 ft
Length	15 ft
Capacity	7500 litres
Weight empty	5.5 tonnes
Full weight	11.2 tonnes

6.2.2 Portable Liquid Nitrogen Storage Vessels

The vessels are portable, vacuum-insulated cylinders designed to provide a convenient and economical means of transporting, storing and dispensing liquid nitrogen.

The vessels may be of 160 litres or 200 litres in capacity. The principal dimensions of the vessels are as follows:

PORTABLE LIQUID NITROGEN STORAGE VESSELS		
Capacity	160 litres	200 litres
Diameter	0.510 metres	0.640 metres
Height	1.470 metres	1.520 metres
Weight empty	104 Kg	120 Kg
Weight full	233 Kg	280 Kg
Maximum pressure	22 psi	22 psi

6.2.3 Liquid Nitrogen Transfer Hoses

Liquid nitrogen transfer hoses are used in 1, 2 and 3 metre lengths. The hoses are fitted with ½" NPT swivel connections and are manufactured to British Standard specification.

6.3 WORKSITE PREPARATION

6.3.1 Liquid Nitrogen Storage Vessels

750 Litre Bulk Storage Vessels

Due to the physical dimensions of the transportation skid, the bulk storage vessel is likely to be placed in an open-air location. However, should the vessel be located in an enclosed area, i.e. not fully exposed to atmosphere, a forced ventilation supply must be provided by suitable air movers and/or fans.

Protection of the steel flooring must be provided to limit the potentially adverse metallurgical effect of allowing liquid nitrogen to come into contact with any steel plating.

Scaffolding boards with a tarpaulin placed under the boards or a similar arrangement to protect steel flooring shall cover the working area in front of the bulk vessel. The arrangement shall ensure that when portable liquid nitrogen storage vessels are refilled from the bulk vessel, accidental spillage will not affect any surrounding steel work.

160/200 Litre Portable Storage Vessels

Suitable air movers and/or fans must ventilate the vessel location.

6.3.2 Liquid Nitrogen Transfer Hoses

The routing of the liquid nitrogen transfer hoses shall be pre-planned to achieve the most prudent arrangement.

The transfer hoses shall be insulated from any surrounding steel work by scaffolding boards or similar arrangement, to limit the potentially adverse metallurgical effect of chilling the surrounding steel work.

6.3.3 Permit to Work System

All activities undertaken by Bishop Pipe Freezing Ltd shall be carried out in accordance with the Client's Permit to Work Procedures.

The following activities are typically carried out under Cold and Hot Work Permits respectively; however, personnel must comply with the specific requirements of the Client.

Cold Work Permit

A Cold Work Permit shall allow personnel to fit the pipe freezing jacket, position the storage vessels and decant liquid nitrogen from bulk storage to portable vessels.

Hot Work Permit

A Hot Work Permit is required to start pipe freezing operations due to the temperature monitoring equipment not being classified as intrinsically safe, i.e. it can produce an incentive spark.

6.3.4 Working Areas

The worksite shall be roped off; warning signs displayed and escape routes clearly indicated.

A schedule of personnel authorised to enter the working area shall be agreed with the Client. This shall include personnel names and positions and identify the Supervisor or person in charge of the operation.

6.3.5 Confined Spaces

Ventilation

All enclosed or partially enclosed spaces shall be fully ventilated before and during any pipe freezing operation. Suitable air movers and/or fans must provide a forced ventilation supply.

Breathing Apparatus

When any application is being carried out in any area that is not a completely open area or freely ventilated, Breathing Apparatus sets may be suitably

positioned at worksite. Staff shall be aware of the location of such equipment and familiar in their use.

Oxygen Deficiency Meters

Oxygen deficiency meters capable of providing audible and visual alarm shall be located at the pipe freezing worksite.

6.3.6 Safety Briefing

It is a Company requirement that all personnel working in the immediate area of isolation are made aware that a liquid nitrogen pipe freezing application is to be carried out and that all safety procedures must be observed.

If necessary, Bishop Pipe Freezing Ltd staff shall provide a pre-application lecture to staff on the safety procedures required when working with low temperature gases.

6.3.7 Provision of Blank Flanges

When isolating a pipeline whereby the line flanges are left intact, for example when changing a defective valve, the pipe freezing Supervisor shall ensure suitable blank flanges are positioned close to the working area.

In the event of a problem arising with the nitrogen supply, or if the isolation is required to remain beyond the envisaged work period, the blank flange can be promptly fitted to retain the integrity of the line.

6.4 ISOLATION IMPLEMENTATION

6.4.1 Pipeline Flow

Prior to freezing, it is essential to ensure that no flow exists in the pipeline before commencing any pipe freezing application.

6.4.2 Pipeline Contents

At the point of isolation, the pipe must be full of liquid. Any air at the freeze point must be purged from the system. It is the responsibility of the Client to ensure that the system is free of air at the point of freezing.

6.4.3 Pipeline Support

If temporary pipe supports, or any form of additional supports are required the Client shall provide this.

6.4.4 Liquid Nitrogen Flow Control

Liquid nitrogen flow to the pipe freezing jacket shall be under manual control via the liquid nitrogen discharge valve and/or pressure raising circulation vessels.

6.4.5 Verification of isolation

The isolation shall be verified as positive by any or all of the following methods:

Indicative signs	Positive test points
Back pressure	Pressure development between plugs
Pressure gauges	

6.4.6 Monitoring the Isolation

The Supervisor shall ensure that the isolation is continuously monitored and records and logs maintained.

6.4.7 Exemption from Emergency Drill

Due to the necessity for continuous monitoring, the Supervisor shall request that staff from Bishop Pipe Freezing Ltd be given exemption from any routine emergency drill during an open pipe situation.

The exemption should be detailed on the Permit to Work.

6.4.8 Isolation Removal

On completion of the mechanical work, the nitrogen supply shall be isolated and the plug may be force thawed or allowed to thaw naturally to ambient temperature. During this part of the procedure, the pipe freezing jacket shall be removed and connecting pipes and liquid nitrogen vessels cleared from the freeze position(s).

6.5 EMERGENCY PROCEDURES

In the event of an emergency, it is imperative that a continuous supply of liquid nitrogen is available to supply the pipe freezing jacket. This is of particular importance if the integrity of the ice plug is the sole means of isolation in an open-ended pipe.

When planning a pipe freezing isolation, the pipe freezing Engineer shall estimate the liquid nitrogen usage required to implement and maintain the isolation. The volume of liquid nitrogen available in the storage vessel(s) shall be between 25%-100% in excess of the estimated volume required, depending on the complexity of the isolation. The reserve liquid nitrogen capacity is therefore available to maintain the isolation integrity beyond the envisaged time-span, for example in the event of an emergency. The excess liquid nitrogen capacity may be supplied from an additional 200/160 litre portable storage vessel(s) or by ensuring an excess volume is available from the bulk storage tank.

The following procedure shall be adopted when implementing isolations on large diameter pipelines when using portable 200/160 litre nitrogen storage vessels.

A ½" NPT tee-piece complete with ½" isolation valves shall be fitted to the inlet of the pipe freezing jacket. A separate 200/160 litre nitrogen storage vessel shall be connected via the valves to the tee-piece.

In normal operation, nitrogen shall be supplied from one vessel through the tee-piece to the pipe freezing jacket. On the other side of the tee-piece the second 200/160 litre capacity nitrogen storage vessel shall be dedicated to emergency use. In the event of an alarm/emergency, the regular supply line valve shall be closed and the valve on the dedicated supply opened to a trickle flow to ensure that the pipe freezing jacket(s) is/are continuously full thereby ensuring the integrity of the ice plug.

When pipe freezing large diameter pipelines (in excess of 12"), a direct feed from the 7500 litre bulk vessel supplies the pipe freezing jacket. In such isolations the pipe freezing Engineer shall ensure that sufficient reserve volume of liquid

nitrogen remains within the storage vessel to allow the isolation to be maintained in the event of an emergency.

7. OPERATIONAL SAFETY STANDARDS

7.1 INTRODUCTION

Pipe freezing is a safe and practical way of achieving positive isolation of liquid carrying pipelines. Bishop Pipe Freezing Ltd is committed to ensuring that pipe freezing operations undertaken by their staff are as safe as reasonably practicable.

To help achieve this objective these Operational Safety Standards have been devised. They cover essential aspects of pipe freezing operations and should be read in conjunction with the Bishop Pipe Freezing Ltd Safe Operating Procedures.

All staff must be made aware of these standards and managerial and supervisory staff must ensure that they are complied with at all times. Any failure to comply with these standards may result in disciplinary action.

7.2 PERSONNEL

7.2.1 Recruitment

Bishop Pipe Freezing Ltd personnel employ only people with the physical capabilities, basic technical skills and responsible attitudes necessary for safe working in pipe freezing operations.

7.2.2 Training

Before any person begins work on an operational site, they shall:

1) Undergo such technical/orientation training as is necessary to enable them to operate pipe freezing equipment in a safe and efficient manner. This training may be given by the equipment manufacturer or supplier, or by Bishop Shrink Fitting Limited supervisory staff. An integral part of this training will be familiarisation with Bishop Pipe Freezing Ltd Safety Policy, Safe Operating Procedures and Operational Safety Standards. As a minimum this training will include:

a) Bulk Liquid Nitrogen Vessel - Design/operational features plus safety systems - inspection/certification requirements.

b) Portable Liquid Nitrogen Vessel - As above plus maintenance and operational handling requirements.

c) Liquid Nitrogen Transfer Hoses - Inspection, use and maintenance requirements.

d) Instrumentation - Monitoring/interpreting instrumentation.

e) The principles and importance of Permit to Work Systems.

2) Undertake any necessary induction/orientation training specific to the Client's operational site.

7.2.3 Update Training

When any changes are made to equipment or Safe Operating Procedures, which may have implication for safe operations, all operational staff will be made aware of the detail and implications of such changes.

This training may be given by the equipment manufacturer/supplier, or by Bishop Pipe Freezing Ltd supervisory staff.

7.2.4 Job Briefings

Prior to starting any pipe freezing job, the supervisor in charge must undertake a pre-job briefing. The scope of the briefing will be at the supervisor's discretion. Emergency procedures/actions and any special problem areas anticipated.

During the briefing the work crew are encouraged to ask questions to clarify their understanding of what is required.

7.2.5 Safety Meetings

A member of Bishop Pipe Freezing Ltd staff will play a full representative role at any client safety meeting, if invited.

He/she will co-operate fully with all others in monitoring/improving safety standards.

7.3 SAFE WORKING METHODS

7.3.1 Client/Site Requirements

Bishop Pipe Freezing Ltd staff will at all times comply with the client or site safety requirements.

7.3.2 Safe Operating Procedures

Bishop Pipe Freezing Ltd staff will at all times comply with the requirements of Bishop Pipe Freezing Ltd Safe Operating Procedures. If any requirement cannot be met, work must cease and the circumstances be reported to the Supervisor immediately.

7.3.3 Manual Handling

It is the policy of the company, as far as reasonably practice, to avoid the necessity for employees to carry out hazardous manual handling of heavy or awkward loads.

The company will assess the risks of injury from any hazardous handling that cannot be avoided.

The company will, as far as reasonably practicable reduce the risk of injury from hazardous manual handling.

Employees are required to follow safe systems of work laid down following risk assessment and to make proper use of equipment provided.

7.3.4 Working at Height

It is the company policy to comply with the requirements and schedules of the 'Work at Height Regulations 2005'

Employees are also required, when working under somebody else's control to:

a) Report any safety hazards to them.

b) Use equipment supplied (including safety devices) following any training or instruction.

7.3.5 Hazardous Substances

Assessments can be obtained for all know substances. Any substances used must have a COSH assessment and you should ask your supervisor or manager for the relevant COSH sheet.

7.3.6 Asbestos

Asbestos poses a serious problem, particularly in old buildings where refurbishment is carried out.

If the employee encounters a material which is considered to be asbestos (usually found on pipe lagging, insulation boards, ceiling tiles) stop work immediately and tell your supervisor or manager who will implement the company procedure for dealing with asbestos.

7.3.7 Hazard Reporting

If any member of a work crew is in any way unhappy with the safety of an operation, he/she must immediately bring his/her concerns to the attention of his/her Supervisor, who will assess what needs to be done to make the situation safe - and will if necessary immediately suspend work.

7.3.8 Accident/Incident Reporting

Bishop Pipe Freezing Ltd staff must co-operate in and comply with the Client's accident/incident reporting procedure. Any event, which leads to, or may have led to injury, damage to property or the environment, must be reported to the Bishop Pipe Freezing Ltd Supervisor, who will compile a full written investigative report for the Bishop Pipe Freezing Ltd management.

7.4 SAFE EQUIPMENT MATERIALS

7.4.1 Inspection and Certification

In order to ensure safe efficient working, all pipe freezing equipment must be inspected and function tested (as appropriate) before it is shipped to, and on receipt at, all Clients' sites. All relevant certification must also be checked to ensure it has availability, validity. Originals or copies must be made available to the client's representative if required.

Any hazardous materials in use must be accompanied by the supplier's must be in place before work begins.

7.4.2 Maintenance

All pipe freezing equipment must be maintained in a safe and efficient working order. Site maintenance work will normally be of minor notice, for example cleaning, minor adjustment and lubrication. If more involved work is required the Bishop Pipe Freezing Ltd supervisor must contact Bishop Pipe Freezing Ltd management.

7.4.3 Housekeeping

All operations must be conducted in a clean and orderly manner. Equipment surplus to requirement should be stored away neatly and equipment/material arrangements should be laid out/stored in a non-hazardous way. Safe access and egress to the worksite must be maintained at all times.

8. GENERAL PROCEDURES

As a standard policy, Bishop Pipe Freezing Ltd will produce a written Method Statement, Risk Assessment, Procedure, and Responsibility Statement for all Pipe freezing, Hot Tapping, and Under pressure Drilling, Shrink-fitting and Purging applications.

The above Policy is applicable to all activities undertaken by Bishop

Pipe Freezing Limited.

Signed …… **Date:** **02 January 2026**

Cyril Bishop **Managing Director**

Print Name …… **Position:** ……..

For and on behalf of Bishop Pipe Freezing Ltd

Covid 19 Requirements: 06-06-2021

A) The company and its management will ensure compliance with any Government Requirements and Protocols currently being in force, in respect of Covid 19 or at any future date.
B) Covid 19 requirements will be incorporated in the Procedures, Method Statements and Risk Assessment to ensure protection of its Employees, its client and the general public.

C. W Bishop – Managing Director. 06-06-2021