



Development Bank of Namibia

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DBN ENVIRONMENTAL AND SOCIAL MANAGEMENT GUIDANCE FOR THE DAIRY INDUSTRY

Content

a) Version Control.....	4
1. DEFINITIONS, TERMS & ABBREVIATIONS	5
2. INTRODUCTION	6
3. SCOPE	6
4. INTENT	6
5. BACKGROUND TO THE SECTOR	6
6. KEY EOHSS RISKS.....	7
6.1. Persons vs. Truck/Forklift Collision.....	7
6.1.1. Mitigation and Management Measures	7
6.2. Effluent Treatment and Discharge	7
6.2.1. Mitigation and Management Measures	8
6.3. Energy Consumption	8
6.3.1. Mitigation and management measures.....	8
6.4. Emissions to Air	8
6.4.1. Mitigation and management measures.....	8
6.5. Exposure to Biological Hazards.....	9
6.5.1. Mitigation and Management Measures	9
6.6. Exposure to Chemical Hazards.....	9
6.6.1 Mitigation and Management Measures.....	9
6.7. Financial Implications	9
6.8. Hazardous chemicals	10
6.8.1. Mitigation and management measures.....	10
6.9. Machinery	10
6.9.1. Mitigation and management measures.....	10
6.10. Manual Handling	10
6.10.1. Mitigation and management measures.....	11
6.11. Noise	11
6.11.1. Mitigation and Management measures.....	11
6.12. Odour	11
6.12.1. Mitigation and Management Measures	11
6.13. Packaging.....	12
6.13.1. Mitigation and management measures.....	12

6.14. Product Contamination.....	12
6.14.1. Mitigation and management measures.....	12
6.15. Refrigerants.....	12
6.15.1. Mitigation and management measures.....	13
6.16. Slips, Trips and fall.....	13
6.16.1. Mitigation and management measures.....	13
6.17. Solid Wastes	13
6.17.1. Mitigation and management measures.....	13
6.18. Storage Issues	14
6.19. Sludge Spreading	14
6.19.1. Mitigation and Management Measures	14
6.20. Temperature/Thermal Stress	14
6.20.1. Mitigation and Management Measures	14
6.21. Water Supply.....	15
6.21.1. Mitigation and Management Measures	15
6.22. Lifting and work posture injuries	15
6.22.1. Mitigation and Management Measures.....	15
6.23. Working at height and ladder works	15
6.23.1. Mitigation and Management Measures	15
6.24. Confined Space Entry.....	16
6.24.1. Mitigation and Management Measures	16
6.25. Permit-To-Work System	16
6.25.1. Mitigation and Management Measures	16
7. REVIEW	20
8. GENERAL REFERENCES FOR STANDARD METHODS.....	20

a) Version Control

The table below serves to track the key revisions made to this document for change control purposes.

Date	Version	Change Description	Author/Editor
07/09/2016	0.01	Initial Draft	Manager: Environment & Social Development
28/02/2018	0.02	DBN Logo and update as per 07 April 2017 Kreditanstalt für Wiederaufbau (KfW) Development Bank Gap Assessment of the Development Bank of Namibia's (DBN) Environmental & Social Management System (ESMS)	Officer: Environment & Social Development

1. DEFINITIONS, TERMS & ABBREVIATIONS

AMTA	Agro-Marketing and Trade Agency
CFC's	Chlorofluorocarbons (CFCs)
Db	Decibels
DBN	Development Bank of Namibia
EOHS&S risks	Environmental, Occupational Health and Safety and Social
ESIA	Environmental and Social Impact Assessment
HACCP	Hazard Analysis Critical Control Points
HCFCs	Hydro Chlorofluorocarbons
HFO	Heavy Fuel Oil
PPE	Personal Protective Equipment
UHT	Ultra-High Temperature processing
VOC's	Volatile organic compounds

2. INTRODUCTION

This guideline is designed to be used by the Development Bank of Namibia (DBN) clients to understand the nature of environmental, occupational health and safety and social (EOHS&S) risks associated with existing or planned operations in this sector and suggested actions for businesses to manage these EOHS&S risks.

It also provides guidance for clients on potential due diligence questions to discuss with management to understand how their business is managing these EOHS&S risks. This guideline focuses on material EOHS&S risks; it is not an exhaustive list of EOHS&S risks. In managing EOHS&S risks, all businesses should be compliant with relevant EOHS&S laws and regulations and best practices.

This guideline focuses on dairy processing operations and factories with reference to the International Finance Corporation's Environmental, Health and Safety (EHS) General Guidelines. The EHS Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP).

3. SCOPE

This guidance is applicable to all the Development Bank of Namibia's (DBN) clients/customers who intends to or have set up operations in this sector category and, extends to their assets, facilities, operations, projects and activities, including activities undertaken by any contractor on behalf of the Company, business units and managed operations including corporate/administration offices and other facilities located off site.

4. INTENT

The intent of this guidance note is to assist prospective clients to develop a thorough Environmental and Social Management Plan (ESMP) for their activities and merely act as a guidance and is not comprehensive nor exhaustive.

5. BACKGROUND TO THE SECTOR

Dairy processing covers the conversion of raw milk into safe products for human consumption. This guideline includes reception, storage, and industrial processing of raw milk and the handling and storage of processed milk and dairy products.

Products include pasteurised and ultra-high temperature processing (UHT) milk, liquid milk butter, condensed whey, cottage cheese, ice cream, condensed milk, milk powder, whey powder, fluid and cultured products, natural and processed cheese. Dairy processing plants can be divided into two main types:

- Fluid milk processing involving the pasteurisation and processing of raw milk into liquid milk, cream, flavoured milk, and a second process producing cultured products such as yoghurt.
- Pasteurisation and processing of raw milk into value-added products such as cheese and butter, milk powder and condensed milk, whey powder and ice cream. The figure below summarises the principal aspects of dairy processing.

Trends of late has been for those plants producing long life products such as cheese, UHT and milk powders to be located close to the raw milk supply and, those plants producing products with short shelf life such as milk, cream, yoghurt and soft cheeses to be situated close to consumer markets, on the edge of urban centres.

There has also been a trend towards rationalisation with larger processing specialising in a limited range of products enabling the use of more automated and efficient equipment operated by fewer people.

6. KEY EOHSS RISKS

Below are the material EOHSS risks associated with this sector and key measures to manage them. Where gaps are found in the management of key EOHSS risks, the DBN E&S risk management measures may form part of a corrective E&S action plan agreed with clients.

6.1. Persons vs. Truck/Forklift Collision

In a busy manufacturing environment, it is common to have injuries where people are struck by moving or falling objects and operational vehicles (forklifts and trucks).

6.1.1. Mitigation and Management Measures

- Training and licencing industrial vehicle operators in the safe operations of specialised vehicles such as forklifts, including safe loading and load limits.
- Ensure that drivers undergo medical surveillance.
- Ensure moving equipment with restricted rear visibility is outfitted with audible back up alarms.
- Establish rights of way, site speed limits, operating rules and procedures and control of traffic patterns and directions.
- Restricting circulation of delivery and private vehicles to defined routes and areas, giving preference to 'one way' circulation if possible.

6.2. Effluent Treatment and Discharge

The main environmental impact problem associated with dairy products manufacture is the discharge of large volumes of liquid effluent.

Untreated wastewater from dairy processes typically:

- Has a high organic content due to the presence of milk solids, and in some instances whey, a by-product of dairy production, which depletes oxygen levels and reduces water quality. Such discharges can cause pollution of water courses and damage to wildlife;
- May contain salts from cheese making activities, acids, alkalis and detergents, disinfectants, including chlorine compounds, hydrogen peroxide and bleach;
- May contain pathogenic viruses and bacteria;
- May cause fluctuations in temperature in the receiving waters causing harm to wildlife.

Typically, authorities require treatment of such wastewater before it is allowed to enter natural watercourses. For plants located near urban areas, the effluent is either treated at the plant or discharged to municipal waste water treatment systems.

In rural areas the effluent may be irrigated to land and inappropriate application adversely affect the environment. In addition, contaminants in the effluent may impact groundwater quality.

Large dairy facilities are likely to have been issued with a discharge and treatment permit from the Ministry of Agriculture, Water and Forestry, which specifies limits for various contaminants as per the Water Act, 1956 (Act 54 of 1956) and its requirements in terms of water supplies for drinking water and for waste water

treatment and discharge into the environment. These permits may apply to effluent discharges to sewer and to surface water.

6.2.1. Mitigation and Management Measures

- Increased monitoring and control of effluent discharges.
- Installation or upgrade of effluent treatment plant
- Implement procedures which ensure regular inspections of surface and foul drainage systems, soak ways, fat traps and interceptors etc.

6.3. Energy Consumption

Dairy plants consume large quantities of energy (electric, Heavy Fuel Oil (HFO) or diesel) for running electric motors on process equipment, for heating, evaporating and drying, for cooling and refrigeration and for the generation of compressed air. Approximately 80% of the energy demand is to generate hot water and steam for process applications and is met by the combustion of fossil fuel (diesel or HFO).

Energy usage has a direct correlation to the operating costs of the company and energy generation and consumption may be regulated or taxes/levies applied to reduce energy use. Investment in technology may be required in future where targets will be set by regulators to reduce energy or carbon emissions as per the 2009 Namibia Climate Change Strategy and Action Plan which will give way to Climate Change and Air Quality Legislation in Namibia.

6.3.1. Mitigation and management measures

- Recover energy using heat exchangers for cooling and condensing
- Insulate refrigeration rooms and consider automatic door closures and alarms to prevent chill room doors being left open.

6.4. Emissions to Air

The pasteurisation/sterilisation process requires significant heat generation capacity. Many large dairy facilities have on-site boilers to meet these high temperature requirements. The exhaust gas emissions from the boilers will be dependent on the fuel used (diesel or HFO).

Fine milk powder residues from the exhausts of spray drying and bagging equipment can be deposited on surrounding surfaces. The presence of hot air and fine dust creates fire and explosion impacts. When wet these deposits become acidic and can cause corrosion in extreme cases.

6.4.1. Mitigation and management measures

- Maintain aerobic conditions for wastewater processing;
- Use filters or scrubbers to eliminate or reduce particles;
- Carry out continuous routine monitoring of emission points using audible, visible alarms.

6.5. Exposure to Biological Hazards

Inhalation of dust and aerosols can expose workers to biological hazards this is particularly true of milk powder operations. Skin irritations and other allergic reactions may arise from dust and high levels of humidity.

6.5.1. Mitigation and Management Measures

- Avoid dust and aerosol- generating activities (e.g. use of compressed air or high pressure water for cleaning) and where they cannot be avoided, provide ventilation of enclosed and semi closed areas to eliminate exposure to dust and aerosols;
- Install exhaust ventilation equipped with filters and/or cyclones at source of dust;
- Provide workers with PPE that is appropriate for the process activity;
- Ensure physical segregation of work and welfare facilities to maintain workers' personal hygiene.

6.6. Exposure to Chemical Hazards

Workers may be exposed to hazardous substances (liquids and gases) typically during cleaning and disinfecting of process areas and in the maintenance of heating and cooling systems.

6.6.1 Mitigation and Management Measures

- Replacement of the hazardous substance with less hazardous substitute.
- Implementation of engineering and administrative control measures to avoid or minimise the release of hazardous substances into the work environment keeping the level of exposure below national established and recognised limits as stipulated in the Hazardous Substance Ordinance 14 of 1974. It covers manufacture, sale, use, disposal and dumping as well as import and export of toxic substances.
- Keeping the number of employees exposed or likely to be exposed to a minimum.
- Communicating chemical hazards to workers through labelling and marking according to national and international recognised requirements and standards e.g. Material Safety Data Sheets (MSDS). Any means of written communication should be readily available to exposed workers and first aid personnel.
- Training workers in the use of the available information such as MSDS's, Safe work practises and appropriate use of personal protective equipment PPE.

6.7. Financial Implications

Milk products may be contaminated at source, during processing or after packaging. This could have serious consequences for a company in terms of compensation claims, loss of reputation, loss of contracts and market share. Significant upgrades in hygiene standards may be required at the production facility in order to reduce the risk of contamination during processing and to satisfy national or international hygiene standards. A company may need to invest in a sophisticated system to assist in tracing its products;

Expenditure relating to effluent discharge may be incurred for a number of different reasons. These include:

- The need to pay fines for contamination of nearby surface water courses;

- There may be pressures from regulatory authorities to install or upgrade a wastewater treatment plant, which would incur significant costs. Drainage systems may also need to be inspected, upgraded, replaced or re-routed;
- Capital expenditure may be required to meet new environmental, hygiene and health and safety standards;

Considerable reductions in water consumption, and therefore cost, can be achieved through investment in advanced equipment, good housekeeping and awareness among both employees and management;

The consumption of large quantities of energy will result in high operating costs, which could be reduced by capital investment in energy efficiency measures. Namibia is a signatory to the Kyoto Protocol and have adopted targets for the reduction of CO₂ emissions by 2020. This will result in a need for substantial investment in new/clean technologies to achieve emission targets yet to come.

Injuries may lead to increased payroll costs to replace skilled workers and lost production time. Fines, penalties and third party claims may be incurred for non-compliance with environment and occupational health & safety regulations.

6.8. Hazardous chemicals

Dairy processing uses chemicals and substances, for example, ammonia or caustics, which if incorrectly used could release into the surrounding environment resulting in inhalation of harmful fumes by the general public and should be controlled and managed as per the Hazardous Substances Ordinance, 1974 and the Environmental Management Act No 7 of 2007.

6.8.1. Mitigation and management measures

- Separate work and welfare facilities should be provided to maintain worker personal hygiene
- Implementation of engineering and administrative control measures to avoid or minimise the release of hazardous substances into the work environment keeping the level of exposure below national established and recognised limits as stipulated in the Hazardous Substance Ordinance 14 of 1974. It covers manufacture, sale, use, disposal and dumping as well as import and export of toxic substances.

6.9. Machinery

All equipment should have safety guarding and workers should be issued with appropriate personal protective equipment to protect against unavoidable sharp items and edges.

6.9.1. Mitigation and management measures

- Improve signage to give clear warnings and instructions e.g. health and safety, waste segregation and minimisation; fire exits.

6.10. Manual Handling

Workers may be involved in heavy manual lifting, carrying and repetitive work including the operation of slicing and vacuum packing machines and poor working postures.

6.10.1. Mitigation and management measures

- Redesign manual processes to avoid heavy lifting/repetitive activities.
- Where this is not possible install mechanical lifting aids and rotate work tasks to avoid repetitive tasks
- Provision of personal protective equipment (PPE) that is fit for the task to prevent injury and maintain hygiene standards.
- Staff should be trained in the correct selection, use and maintenance of PPE
- The training should include the reasons for its use and the dangers of not using it.
- PPE should be inspected regularly and maintained or replaced as necessary

6.11. Noise

Operations such as hammer mills to grind the product and the use of steam injection for heat treatment of milk and for the creation of reduced pressure in evaporation processes can cause high noise levels which is a nuisance to neighbours.

Noise induced hearing loss can result from prolonged exposure to grinding or steam injection operations which may reach levels in excess of those regarded as healthy (80Db). Noise issues can arise depending on plant location and the processes conducted.

6.11.1. Mitigation and Management measures

- Locate and design facilities to avoid sensitive receptors to noise or minimise their exposure through appropriate siting and the use of noise screening;
- Enclose noisy machinery to isolate people from noise where practicable and eliminate noise exposure through the hierarchy of controls;
- Identify sources of elevated noise and demarcate these;
- Provide Personal Protective Equipment (PPE) (e.g. hearing protection) where workers and visitors have to enter noisy areas and ensure appropriate use of PPE;
- Rotate tasks to minimise workers' time spent in noisy areas over an eight hour period;
- Conduct regular hearing tests for workers.

6.12. Odour

Depending upon the location of the facility, odour can be a significant nuisance issue for neighbouring facilities and residential areas. In the most serious cases odour control equipment may need to be installed.

Odour problems are mainly due to poor housekeeping and inadequately operated wastewater treatment plants. The installation of odour control equipment may incur significant expenditure depending upon the location of the facility. Odour reduction and prevention is much more cost effective than end of pipe control.

6.12.1. Mitigation and Management Measures

- Ensure water waste treatment facilities are properly designed and maintained for the anticipated waste water load;
- Keep all working and storage areas clean;
- Empty and clean the fat trap frequently (e.g. daily emptying and weekly cleaning);
- Minimise stock of waste and by products for short periods in cold, closed and well ventilated rooms.

6.13. Packaging

Green procurement aims to reduce the amount of packaging that is being introduced into waste streams. The City of Windhoek Solid Waste Management Policy supports the Environmental Management Act No 7 of 2007 which both calls for reducing, reusing and recycling of waste materials in order to keep out waste from ending in landfill. To that end businesses should engage in green procurement such as buying inputs/supplies in bulk and reducing their packaging waste.

6.13.1. Mitigation and management measures

- Ensure that packaging is either recovered or capable of being recycled.

6.14. Product Contamination

Dairy products can become contaminated as a result of contamination of the vegetable matter consumed by the grazing species (e.g. dioxins, and other fat soluble pesticides) through a process known as bio-accumulation and during processing, packaging and transport.

Screening of raw materials will identify any incoming contaminated raw product and food hygiene standards such as The Agro-Marketing and Trade Agency (AMTA) Food Safety and Standards, Standards Act No 18 of 2005, Namibia Food Safety Bill June 2014 and the Hazard Analysis Critical Control Points (HACCP)/ISO2005 will need to be considered in order to reduce the risk of contamination.

A system of product quality testing and traceability should be considered to enable product recall if required.

6.14.1. Mitigation and management measures

- Direct contact with non-conforming dairy products should be avoided
- Implement a food safety programme to improve food hygiene standards in accordance with HACCP prerequisites
- Implement a Customer complaints mechanism
- Implement a system of product labelling to enable product traceability and recall and to inform the consumer of correct storage and product requirements.

6.15. Refrigerants

Dairy processing plants rely heavily on chilling facilities to preserve the products. The refrigerants used may be ozone depleting chemicals, such as Chlorofluorocarbons (CFCs) and Hydro chlorofluorocarbons (HCFCs), the production of which are being phased out under the Montreal Protocol.

Use of these types of refrigerant gases should be avoided. Ammonia is becoming a more commonly used alternative refrigerant, which has no such restriction but does have health and safety issues. It is toxic if inhaled at high concentrations and can cause frostbite when released to the atmosphere.

Facilities using ammonia refrigeration should be aware of the potential hazards of ammonia releases and of the steps that can be taken to prevent such releases. They should be prepared to respond appropriately if releases do occur.

6.15.1. Mitigation and management measures

- Consider changes to non-CFC coolants and /or sealing of leakages in refrigeration systems

6.16. Slips, Trips and fall

The high volume of water and other liquid substances used within dairy processing lead to a high risk of slips, trips and falls where leaks and spills have not been cleaned up or where cleaning of process areas are taking place.

Vats and tanks used for mixing raw materials and storage provide hazards in the form of working at height, which could result in falls and asphyxiation (immersion).

6.16.1. Mitigation and management measures

- Take measures to avoid spillages and leakages onto floors and walkways, ensure there is a system for cleaning spillages
- Walking and working surfaces should be kept clean and dry and workers provided with anti-slip footwear.
- Restrict access to areas being cleaned or where spillages have occurred.
- Floor cleaning should be scheduled for a time when work is not in progress or has finished for the day and the floor should be dried as much as possible
- Handrails should be fitted on platforms, ladders and stairs
- Eliminate the need to work at height or at the top of tanks, e.g. install automatic tank sampling. Ensure correct fall arrest systems are in place, e.g. guarding and harnesses

6.17. Solid Wastes

Solid wastes arise from:

- Non-conforming products and product losses;
- Sludge from wastewater treatment;
- Filter residues and some packaging wastes.

Dairy products are packaged in a wide range of materials ranging from plastic-lined paperboard cartons, plastic bottles, glass bottles, foil, wax, plastic film and cans. Solid waste will arise from the packaging process in the form of discarded packaging offcuts and improperly packaged dairy products.

The products themselves can often be returned for reprocessing but the packaging is generally consigned as waste. Solid wastes should be stored in adequate containers and segregated to encourage recycling. Solid wastes will need to be disposed of regularly to avoid odour, litter, fly and rodent problems.

6.17.1. Mitigation and management measures

- Collection of waste product for use in lower-grade products such as animal feed.
- Implement waste management systems which are safe, hygienic, secure from scavenging and minimise manual handling
- Have robust waste management procedures to maintain hygiene standards

- Undertake continuous sampling and monitoring of key production parameters to enable identification and reduction of production losses, thereby reducing waste arising's, energy and water consumption.

6.18. Storage Issues

Finished product, raw ingredients, chemicals for cleaning and fuel oil may all be stored on site in bulk storage tanks, caustic and acid tanks, fuel oil tanks; tank farm (multiple tanks) containing finished product; and drums of assorted additives, caustics, disinfectants, detergents and cleaning agents.

These storage facilities should be provided with satisfactory containment (concrete walls/bunds, recessed drainage gullies connected to effluent treatment areas) to ensure that spillages do not enter the surface water drainage systems or leak direct to the ground. Alarms may be fitted on equipment to detect leakages of gas or oil.

6.19. Sludge Spreading

Spreading of sludge to land may cause degradation of soil and groundwater quality having implications for the local community.

6.19.1. Mitigation and Management Measures

- Sludge spreading should be prohibited on lands located less than 10 meters from water sources or streams and less than 50 meters from groundwater abstraction wells.
- Avoid wherever possible, sludge spreading on lands located near residential and other sensitive areas.

6.20. Temperature/Thermal Stress

Fluctuating internal climatic conditions ranging from refrigeration areas to scalding operations. Refrigeration systems will result in very cold temperatures, which can result in frostbite and contact burns. High temperatures can lead to collapse through heat exhaustion and contact burns and, ill health can also arise from prolonged working at low temperatures.

6.20.1. Mitigation and Management Measures

- Reducing the radiant heat emission from hot surfaces by covering hot surfaces with sheets of low emissivity material such as aluminium or paint that reduces the amount of heat radiated from hot surfaces in the processing areas.
- For work below the freezing point or high temperatures, metal handles and bars should be covered by thermal insulating material. Also, machines and tools should be designed so that they can be operated without having to remove mittens or gloves.
- Workers and supervisors involved with work in cold/high temperature environments should be informed about symptoms of adverse effect exposure to cold/heat, proper clothing habits, safe work practices, physical fitness requirements for work in cold, and emergency procedures in case of cold injury.
- Procedures for providing first aid and obtaining medical care should be clearly outlined. For each shift, at least one trained person should be assigned the responsibility of attending to emergencies.

6.21. Water Supply

Large volumes of water are needed for cleaning process equipment and work areas to maintain hygiene standards, for cooling and for production purposes. The amount of effluent generated is closely related to the volume of water consumed for these processes.

Where water abstraction takes place it is typical for abstraction or water use permits to detail volumes of water abstraction allowed as over abstraction can impact local communities. Where ever changes take place in product volumes this should be reflected in the permit.

6.21.1. Mitigation and Management Measures

- Optimisation of use of water and cleaning chemicals; recirculation of cooling waters
- Segregation of process, cooling and sanitary effluent to enable recycling of waste water
- Use taps with automatic shutoff valves and use high pressure hoses to minimise water usage

6.22. Lifting and work posture injuries

Dairy processing activities may include a variety of situations in which workers can be exposed to lifting, carrying, repetitive work, and work-posture injuries. Such injuries may result from heavy manual lifting and repetitive work, including the operation of slicing and vacuum-packing machines and poor working postures caused by inadequate workstation and process activity design.

6.22.1. Mitigation and Management Measures

- Use of mechanical equipment where necessary (e.g. to move pallets of milk carton) to reduce these injuries

6.23. Working at height and ladder works

Some examples of poor work practices that could lead to a serious fall on a dairy processing farm include:

- Working on or near fragile surfaces such as badly rusted corrugated iron or fibreglass roofs, with no guarding, safety mesh, catch platforms, or alternative fall protection measures in place.
- Climbing on rails and pipelines to service equipment.
- Mezzanine levels used for extra storage space where there are no guards or hand rails installed.
- Ladders set up on slippery or uneven surfaces and not secured to prevent them slipping forwards, backwards or sideways.
- Ladders being used inappropriately, for example, using an ordinary straight ladder as a horizontal working platform or subjecting a ladder to loads over the ladder's load rating.

6.23.1. Mitigation and Management Measures

- Ensure that workers working on heights wear proper footwear (e.g., non-slip flat shoes).
- Place the ladder on stable and level ground. Ladders should not be placed on an uneven surface.
- Prevent passers-by from walking under or near ladders in use by using barriers (e.g., cones) or have someone to act as a lookout.
- Maintain three points of contact at all times.
- Prohibit working from on the top rung of the ladder.

- Ensure that the right ladder for the job is used.
- It is recommended that the radius of the barricaded area should be approximately the same as the height of the ladder.

6.24. Confined Space Entry

There are several areas on dairy processing plants that may be classified as confined spaces. These can be space in a vat, tank, pit, pipe, duct, oven, chimney, silo, container or other similar enclosed or partially enclosed structures. A confined space is determined by the hazards associated with a set of defined circumstances (restricted entry or exit, hazardous atmospheres or risk of engulfment) and not just work performed in a physically restrictive location. The presence of physical or chemical agents acting alone or in combination may be exacerbated in a confined space.

6.24.1. Mitigation and Management Measures

- Restrict access by using a suitable lock-out system;
- Implement Confined Space Entry Permit and Indicate with signage that there is 'Authorised Access Only';
- If mechanical ventilation is provided, there should be a warning system in place to immediately notify the worker in the event of a hazard or a failure in the ventilation equipment;
- Care should be taken to make sure the air being provided by the ventilation system to the confined space is 'clean' throughout the entire space.
- The use of mechanical ventilation should be noted on the entry permit.

6.25. Permit-To-Work System

Serious and fatal accidents occur during maintenance operations in tourism and hospitality industry. These include but not limited to working at heights including roof, working in confined spaces, hot work- welding, soldering, isolation of modification to fire safety system and alarms, live working on electricity supply systems.

6.25.1. Mitigation and Management Measures

- Permits to work should be required whenever there is a significant risk to safety and health during maintenance operations that are potentially risky.
- Allow work to start only after safe procedures have been defined and all foreseeable hazards have been considered.
- Ensure that staff and contractors fully understand the importance of permit-to-work system and are trained in its use.
- Ensure that the work which is intended to take place is properly authorised.

The DBN will look at the following during loan application and monitoring after disbursement;

- Perform a complete tour of the facility, accompanied by someone knowledgeable about all the activities there.
- Confirm organisational responsibilities and systems for environment, occupational health, safety and social matters and that these systems cover both employees employed directly and sub-contractors.

- During the initial site visit, the issues will vary according to the type of dairy product being produced and depending on of environment, occupational health and safety and hygiene management already introduced. While visiting the site it is important to discuss and review the following:

Topic	Issue to Review
Organisational responsibilities	• Confirm organisational responsibilities and systems for environment, occupational health and safety.
Management Plans	• Review the operational procedures and management plans available regarding the control of risks. As a minimum any business should have the following in place. • Environmental, Occupational Health & Safety management systems which include operational procedures that are communicated, implemented and regularly reviewed (i.e. “live” systems that are used in practice, not just kept as an office manual) • Monitoring programmes to monitor environmental, occupational health & safety, and hygiene risks (and where necessary, testing of water, air, noise, waste emissions etc.). • Improvement objectives, targets and project plans • A training plan for personnel to include environmental and occupational health and safety issues • Emergency plans for environment, occupation & community health occupational health & safety, and food safety incidents and site security • Food safety management plans • Environmental, Occupational Health, Safety and Food Safety audits of its operations conducted via a third party • Demonstrable involvement of senior management in environment, occupational health & safety management and leadership.
Wastewater and Surface Water Management	• Condition and efficiency of wastewater treatment plant and location of discharge points. • Note whether the wastewater treatment plant discharges to a municipal water treatment plant or to a local watercourse. • Check the extent of treatment/capture systems for the different types of wastewater, including process water, surface water runoff and cleaning water.
Storage and Packing	• Check the condition of storage facilities for raw materials and chemicals to observe the integrity of the storage. • Check the location and condition of fuel and chemical storage areas. Are these well controlled, appropriately constructed and is containment / spill clean-up equipment provided?
General Housekeeping	• What is the standard of “housekeeping” on site? Do areas look clean and tidy? Look for evidence of any recent spills or releases of raw materials/product. Look for evidence that the walking and working surfaces are kept clean and dry.

Health and Safety	• The source of raw materials and screening for contamination, in particular, which contamination parameters are analysed (e.g. pesticides, herbicides, radioactivity, heavy metals, and industrial pollutants). • Observe food hygiene standards at the facility and the results of previous food hygiene inspections, e.g. separate welfare areas for workers; Are staff are wearing Personal Protective Equipment; food traceability systems. • Check signage around the site: ○ Does it convey the health and safety risks? ○ Are fire exits clearly marked? ○ Is firefighting and first aid equipment available? • Check the age and condition of equipment, look for signs of wear and tear, degradation, leaks and breaks. • Have there been any recent (within the last three years) incidents on site such as fatalities, fires/explosions, spills? Are there insurances in place to cover such incidents? • Have the premises been inspected recently (within the past 2 years) by the regulatory authorities for health, hygiene and environment? What were their findings? • Does the business plan have line items for Environment, Health and Safety improvements?
Waste Management	• Check that solid waste storage and disposal (storage equipment) is in a good condition; • Check that waste disposal takes place on a regular basis; • Check that waste storage areas are clear of debris and that skips are covered to prevent waste escaping, for example, check that waste containers have lids or are stored in an area with a roof;
Food and Beverage Handling Practices	• Are there management control plans, specific to food safety and hygiene • Does the organisation have insurance in place to cover product contamination or food hygiene issues? Have there been any recent incidents? • Is the facility subject to any audits by customers? What was the outcome of these audits?
Regulatory Compliance	• Check the conditions and duration of validity for all permits. • Check if the Company has received inspections from the local labour, OH&S or Environmental inspectorate in the previous three years and whether these have resulted in any penalties, fines, major recommendations or corrective action plans;
Social, Labour and Community	• Check that labour standards, contracting and remuneration are in line with national law and are consistent with the average for the sector.

	• Check that hours worked, including overtime, are recorded and staff should receive written details of hours worked and payment received. • Has the Company received inspections from the local labour inspectorate in the previous three years? Have these resulted in any penalties, fines, major recommendations or corrective action plans? • Does the organisation have a grievance mechanism which allows employees to raise workplace concerns? • Are employees free to form, or join, a worker's organisation of their choosing? • Consider installing product traceability systems that facilitate tracing and recall of products once released for sale.
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7. REVIEW

The principles contained in this guidance will be reviewed on an annual basis to facilitate improvement.

8. GENERAL REFERENCES FOR STANDARD METHODS

- International Finance Corporation (IFC) (2007), Environmental, Health and Safety Guidelines: Dairy Processing, International Finance Corporation, April 30 2007.
- International Organisation for Standardisation (ISO) www.iso.org ISO22000:2005: Food Safety Management System – Requirements for any organisation in the food chain, Geneva ISO
- ISO14001:2015: Environmental Management Systems – Requirements with Guidance for use. Geneva: ISO.
- United Kingdom Environment Agency (2003), General guidance for the Dairy and Milk Processing Sector, Sector Guidance Note, IPPC S6.13.