



European Bank
for Reconstruction and Development

Sub-sectoral Environmental and Social Guidelines: Supermarkets

PROCESS DESCRIPTION

Supermarkets range in scale from high street stores to large out of town hypermarkets. Many of the larger stores have an associated petrol station (see Petrol/Gasoline Retail guidelines) and in-store franchises such as pharmacies (see Pharmacies guideline) and shoe-repairs. Supermarkets sell a wide range of products from general groceries through to clothes, home electrical and gardening products. Some also have in-store bakeries (see Bakeries guideline), delicatessens, fresh meat and fish counters where fresh food may be handled by the staff, and prepared to meet customer requirements.

KEY ENVIRONMENTAL, HEALTH AND SAFETY RISK/LIABILITY ISSUES

Solid Waste

Supermarkets may generate large volumes of waste from:

- Unsold, blemished and surplus food or food spoilt through spillage, inadequate storage or poor handling or from food processing;
- Products damaged in transit;
- Packaging waste (see below) from deliveries.

Methods to reduce the amount of waste, such as reuse and recycling should be considered.

Stores should segregate the recyclable material. Some stores may have waste compactors and shredders to minimise the volume of waste. Refuse compactors can produce highly polluting liquid waste that must be isolated from the surface water drainage system. Waste should be stored in a clearly signed designated area and be

secure from access by vermin and pests and public.

Good quality in date food, non-food items and redundant but serviceable equipment can be reduced for sale to customers and staff, used in staff canteens or donated to charity. Food that is not sold can be sent for composting and anaerobic digestion.

Packaging

Packaging is used to preserve and protect the retail products from contamination and damage during transport but also to market the product. Much of this packaging can be recycled or composted. Supermarkets should work with their suppliers to reduce the amount of packaging wherever possible, e.g. using reusable plastic crates rather than cardboard boxes for deliveries reducing over packaging of products and to enable easy recycling of any remaining packaging.

Companies operating with the European Union (either as a manufacturer or as a supplier into European Union countries) will be subject to the European Union Packaging and Packaging Waste Directive (94/62/EC), which aims to reduce the amount of packing that is being introduced into waste streams.

Customers should be encouraged to use their own bags for transporting the shopping home from the store. Consideration should be given to whether free carrier bags should be provided to customers or whether there should be a charge for these.

Food Hygiene and Product Contamination

Food products can become contaminated through:

- Contaminated products which have been received from the supplier;
- Poor food hygiene standards within the food handling areas, e.g. unclean machines, unhygienic handling;
- Failure to maintain correct storage within store, e.g. failure to maintain chilled/frozen conditions;
- Poor warehousing practices; incorrect rotation patterns.
- Damage to product packaging.

Slips, Trips and Falls

Slippery floors and surfaces present a high risk of slips, trips and falls where spillages, including in the retail area have not been cleaned up, where effective cleaning has not taken place or where water has been walked in from outside in wet weather.

Roll Container Injury

Roll containers are half pallet-sized platforms, with four running castors and with a wire cage used to contain goods during transport. These are often used to transfer goods from the storage area to the shop floor to reduce the need for manual handling. However, a poorly designed or poorly loaded roll container can be a source of injury. A typical fully-loaded container can weigh up to 500 kg and can be difficult to manoeuvre in a congested back of store or shop

floor area and can itself be responsible for manual handling and crush injuries. Therefore, the design and loading of the container is crucial. It should have:

- Large diameter wheels, to reduce pushing/pulling forces and to make these less sensitive to surface imperfections;
- Castors close to corners to improve stability;
- Handles, to move fingers and hands away from the corners of containers where they are vulnerable to impact and trapping damage and, feet further away from the container and reduce the risk of foot injuries;
- Marked load height limits, to enable the operator to have a clear view when containers are pushed;
- Designated areas and procedures for the loading and unloading of roll containers from delivery vehicles.

Forklift truck Operation Injury

Forklift trucks are a potential danger to their operators and to other people in the vicinity if not operated with great care. Risks include being struck by a moving truck, crushed by an overturning vehicle, becoming trapped between a truck and an object or, being crushed by a falling load.

Energy

Supermarkets are one of the most energy-intensive types of commercial buildings. Refrigeration alone accounts for over 35% of the energy consumed in a typical supermarket. Just over 50% is used for heating and cooling,



lighting, and office equipment. The remainder is consumed by cooking, water heating, and other miscellaneous uses¹.

The refrigeration systems produce a large amount of rejected heat that can be recovered and used by heat pumps or other equipment to provide space and water heating for store requirements.

Energy usage has a direct correlation to the operating costs of the supermarket and energy generation and consumption may be regulated or taxes/levies applied to reduce energy use and associated emissions of gases such as carbon dioxide.

Refrigerants

Supermarkets rely heavily on freezing and chilling facilities to preserve the products. The refrigerants used may be ozone depleting chemicals, such as Chlorofluorocarbons (CFCs) and Hydrochlorofluorocarbons (HCFCs), the production of which are being phased out under the Montreal Protocol. Releases of these types of refrigerant gases should be avoided because they can lead to ozone depletion and global warming.

Ammonia gas (NH₃) generated from animal waste can cause acidification of soils and water. It has a sharp and pungent odour and in higher concentrations can irritate the eyes, throat and mucous membranes in humans and farm animals. Factors such as the temperature, ventilation rate, humidity, stocking rate, litter quality and feed composition (crude protein) can all affect the ammonia levels.

¹ US EPA 2007 see references

OTHER ENVIRONMENTAL, HEALTH AND SAFETY RISK/LIABILITY ISSUES

Water

Wastewater will arise from:

- Cleaning windows, internal floors, display surfaces, equipment etc;
- External cleaning of yards and parking areas;
- Discharges from plant rooms, air conditioning systems, heating systems and chillers.

Discharges should pass to the sanitary sewer (also known as a foul sewer). A permit with specific discharge parameters from the regulatory authorities will possibly be required. Fat traps and other wastewater treatment may be required if there is food processing (e.g. butchery).

Rainwater run-off from large car parks and other hard surfaced areas may give rise to pollution due to oil drips from cars, and the accumulation of dust and litter. This may require treatment prior to discharge, e.g. oil separators.

Polychlorinated Biphenyls (PCBs) and Asbestos

- PCBs are a group of substances which are good electrical insulators. Typically, PCBs may be present as constituents of hydraulic oils or dielectric fluids in electrical switchgear, transformers and fluorescent light starters;
- Asbestos has been used on a large scale for many years as a fire proofing and insulation



material and may be encountered in a wide range of forms including asbestos cement boards, as fire retardant gaskets in pipework and as fire retardant insulation around boilers and furnaces.

Particular attention should be given to buildings constructed before the 1980s.

Standby Generators

Standby generators and their oil supply systems should be provided with suitable protection to ensure that any oil leak is contained. Underground oil tanks and pipelines are at risk from undetected damage and corrosion and therefore above ground storage tanks are preferred.

Dermatitis

Staff working in areas involving food handling, e.g. delicatessens, bakery, meat and fish counters, are at risk of developing work-related dermatitis through contact with foods (e.g. juices from fruit and vegetables, proteins in fish, shellfish, meat and flour), water (through washing up and food washing), soaps and cleaning products. This can result in symptoms of redness, itching, swelling, blistering, flaking and cracking of the skin. A general guide is that more than 2 hours contact per day or 20 hand washes a day can constitute a risk².

Manual Handling and Repetitive Injury

Many injuries in the retail sector are due to handling, lifting or carrying. Musculoskeletal disorders occur across all sectors of retail,

particularly checkouts, shelf stacking, stocktaking and delivery work.

Violence & Security issues

Employees in customer-facing jobs are at risk of work-related violence such as physical attacks and verbal abuse. The latter can damage employees' health through anxiety and stress resulting in low staff morale and high staff turnover. Night workers can be particularly vulnerable.

KEY SOCIAL, LABOUR, AND COMMUNITY RISK/LIABILITY ISSUES

Supply Chain

Supermarkets place very exacting specifications on their suppliers. Fruit and vegetables must meet very high appearance standards, such as size, shape and colour, and uniformity. Some may be required to increase their use of fertilisers and pesticides and encourage waste within the supply chain.

Competition

When a new superstore opens, smaller local shops can struggle to compete, causing food retailing to become concentrated at a few locations and putting local shops out of business.

Traffic

- Large supermarkets are frequently located out-of-town or on the edge-of-town, making it difficult for customers to make other purchases in the same trip, and another car trip may be needed for the rest of their shopping, increasing the number of local car

² UK HSE 2008

journeys overall. Car journeys are responsible for traffic emissions, noise, accidents and congestion;

- Delivery vehicles may cause traffic congestion or excessive noise. Delivery times may be restricted to reduce disturbance to neighbours.

FINANCIAL IMPLCATIONS

- If contaminated products were permitted to enter the animal and human food chain, the financial implications on a viable business would be significant. Financial impacts may arise from compensation claims, loss of reputation, loss of contracts and in terms of export markets. 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 and international food hygiene standards;
- Specific national or international legislation and customer requirements, e.g. animal welfare, bio security, packaging and waste disposal may require modification to facilities and processes or require additional capital investment;
- Replacement of refrigerant gas or equipment may be required to meet international standards;
- Where large quantities of energy are used then this can result in high operating costs to the business;
- Income may be generated through sale of organic waste such as spoiled fruit and vegetables for use as animal feed;

- Injures may lead to increased payroll costs to replace workers;
- Fines, penalties and third party claims may be incurred for non-compliance with environment, health and safety regulations.

IMPROVEMENTS

Environmental Improvements

- Work with the supply chain to reduce packaging waste, e.g.
 - Use of reusable crates for deliveries;
 - Removal of unnecessary packaging layers;
 - Use of thinner packaging;
 - Use of recyclable or biodegradable packaging;
 - Encourage customers to reuse carrier bags.
- Minimise overstocking by use of just-in-time inventory monitoring and control;
- Explore alternatives for reuse and recycling of unsold/unsaleable goods;
- Replace chiller and freezer cabinets with more energy efficient models. Consider use of cabinet doors to prevent warming;
- Train workers to correctly segregate and dispose of waste;
- Implement procedures to ensure solid waste is removed from surface areas before rinsing

and washing, e.g. using scrapers, brooms and vacuum cleaners;

- Change to non-CFC coolants and/or seal leakages in the refrigeration system;
- Good housekeeping should be maintained at all times;
- Regular inspection should be carried out of all bulk containment facilities on site;
- Implement waste management systems which are safe, hygienic, secure from scavenging pests and minimise manual handling.

Health & Safety Improvements

- 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;
- Redesign manual processes to avoid heavy lifting/repetitive activities. Install mechanical lifting aids where possible. Provide roll containers for moving products from storage areas to shop floor;
- To safeguard against the dangers posed by forklift trucks, companies must ensure they assess the risks involved in any use of these vehicles and take appropriate steps to counter those risks.
 - Use of licensed/certified forklift truck operators is mandatory in some countries
- Provide regular health and safety training for any employees operating forklift trucks.
- Vehicle routes and movements need to be planned to ensure segregation from pedestrians. Ideally areas where vehicles are maneuvering should be made pedestrian free.
- All operators of machines need to be competent and trained on the individual characteristics of machines they are expected to operate.
- Undertake regular visual inspections of the general condition and cleanliness of the lift truck, as well as an operational check to test its proper functioning
- Employees & visitors need to be made aware of any site safety rules.
- Provide health and safety guidance for drivers and forklift operators, including stipulated rest breaks.
- Where necessary, security personnel should be used to establish and control access to restricted areas and other vulnerable or sensitive key points, locations, functions or operations without endangering themselves or others. Security practices should be in line with the voluntary principles on security and human rights
- Install walkways to separate people from commercial vehicle movements to reduce risk of collision;
- Separate delivery areas from those areas accessible to the general public;



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- Minimise access to areas being cleaned or where spillages have occurred and provide warning signs to customers. Spills should be cleaned up immediately and the floor should be dried as much as possible;
- Provide supplementary matting in entrance areas during wet weather.

Community Environment, Health and Safety Improvements

- Provide information to consumers on the environmental impacts and health effects of products;

Potentially implement a food safety programme to improve food hygiene standards and to enable product traceability.

GUIDE TO INITIAL DUE DILLIGENCE SITE VISITS

During the initial site visit, the issues will vary according to the size of operation and the level of environment, health and safety management already introduced. While visiting the site it is important to discuss and review the following:

- Check the condition of storage facilities for chemicals;
- What is the standard of “housekeeping” on site? Do areas look clean and tidy? Look for evidence that the walking and working surfaces are kept clean and dry;
- Observe food hygiene standards and the results of previous food hygiene inspections, e.g. separate welfare areas for workers; Are staff wearing PPE?

- Check signage around the site:
 - Does it convey the health and safety risks?
 - Are fire exits clearly marked?
 - Are there separate routes for pedestrians and vehicles painted on floor in car parks and delivery areas?
- Is fire fighting and first aid equipment available?
- Check the age and condition of equipment, look for signs of wear and tear, degradation, leaks and breaks;
- Check that waste storage areas are clean of debris and that skips covered to prevent waste escaping, for example, check that waste containers have lids or are stored in an area with a roof. Check that solid waste storage and disposal is in a good condition;
- Check that waste disposal takes place on a regular basis;
- 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?
 - Does the organisation have insurance in place to cover the sale of contaminated/dangerous products? Have there been any recent product recall incidents?
 - Have the premises been inspected recently (within the past 2 years) by the regulatory authorities for health, safety and the environment?
 - Have there been any recent (within the last three years) incidents on site such as serious injuries, fires/explosions, spills? Are there insurances in place to cover such incidents?
 - Is the facility subject to any audits by consumer organisations? What was the outcome of these audits?
 - Does the business plan have line items for Environment, Health and Safety improvements?
 - Check the conditions and duration of validity for all permits.
 - 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?
- Take note/ask questions relating to any activities that address the improvements listed in the Improvements section of this document.

ACTION PLANS

Dependent on the individual business, select appropriate improvements from the list above to include in the action plan. As a minimum, any business should be required to have the following in place:

- Operational procedures to manage environmental, health and safety risks;
- Monitoring programmes;
- Improvement objectives, targets and project plans;
- Training for personnel;
- Regular inspections, checks and audits with records to demonstrate achievement of the



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required level of performance against legal requirements and improvement action;

- Emergency response plans for environment, health and safety accidents;
- Management review/demonstrated involvement in environment, health and safety management.



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