

**Analysis of the impact of
proposed hygiene legislation
on Billingsgate Fish Market**

Technology and Training

**Consultancy Report
CR202**

June 2004

Working with the seafood industry to satisfy consumers, raise standards, improve efficiency and secure a sustainable future.

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We also develop standards, training programmes and learning support materials. We also promote training opportunities for all sectors of the sea fish industry through a national network of Group Training Associations. Quality award schemes are available for processors and friers.



Seafish Technology and Training

Report No. CR202

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Analysis of the impact of proposed hygiene legislation on Billingsgate Fish Market.

Summary:

Although Billingsgate Fish Market was established on its current site in 1982 its physical design, layout and operation reflect traditional practices and standards that may no longer be appropriate in the modern food industry.

This report provides an analysis of the impact of proposed EU Food Safety Regulations upon the market and makes recommendations with regard to compliance.

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1 Introduction and Background

Billingsgate Market, owned and administrated by the Corporation of London, is the UK's largest wholesale fish market with an estimated annual turnover in the order of £200 million. It was established on the current site in 1982 but its physical design, layout and operation reflect traditional practices and standards that may no longer be appropriate in the modern food industry.

Deficiencies in the physical design and layout of the market and standards of operational practice were recognised back in 1991 when Seafish produced a report⁽¹⁾ and recommendations for change to meet (the then) evolving Food Safety (Fishery Products and Live Shellfish)(Hygiene) Regulations and the changing nature of food trade. The major recommendations however were not implemented and lack of any significant investment by the landlord has resulted in a deterioration in the physical fabric of the market and the limiting of its trading potential.

Since that study there has been further development of Food Safety legislation with proposals for new hygiene regulations that are planned to be implemented in 2006. The Corporation is seeking advice on the proposed legislation and wishes to identify the likely requirements and obligations it is to acquire.

A review of the nature and future of London wholesale markets by Saphir⁽²⁾ in 2002 however places a question mark over the long-term future of Billingsgate trading as a specialist fish market on its current site, which is also threatened by high-density commercial development of Docklands. The Corporation has therefore requested that Seafish make recommendations on how the statutory requirements of the proposed legislation can be met at minimum capital cost and disruption to traders and their customer base pending strategic decisions on the future of the market.

This report is based upon an informal audit and structured interviews conducted on site (3-6th March) with merchants, porters, environmental health officials, Fishmongers Company, Corporation of London officials and on analysis of the latest drafts of the proposed legislation (as published in the Official Journal of the European Union on the 24th February 2004).

(1) Billingsgate Market Report' CR31 and CR45

(2) Review of London Wholesale Markets' by Nicholas Saphir, October 2002

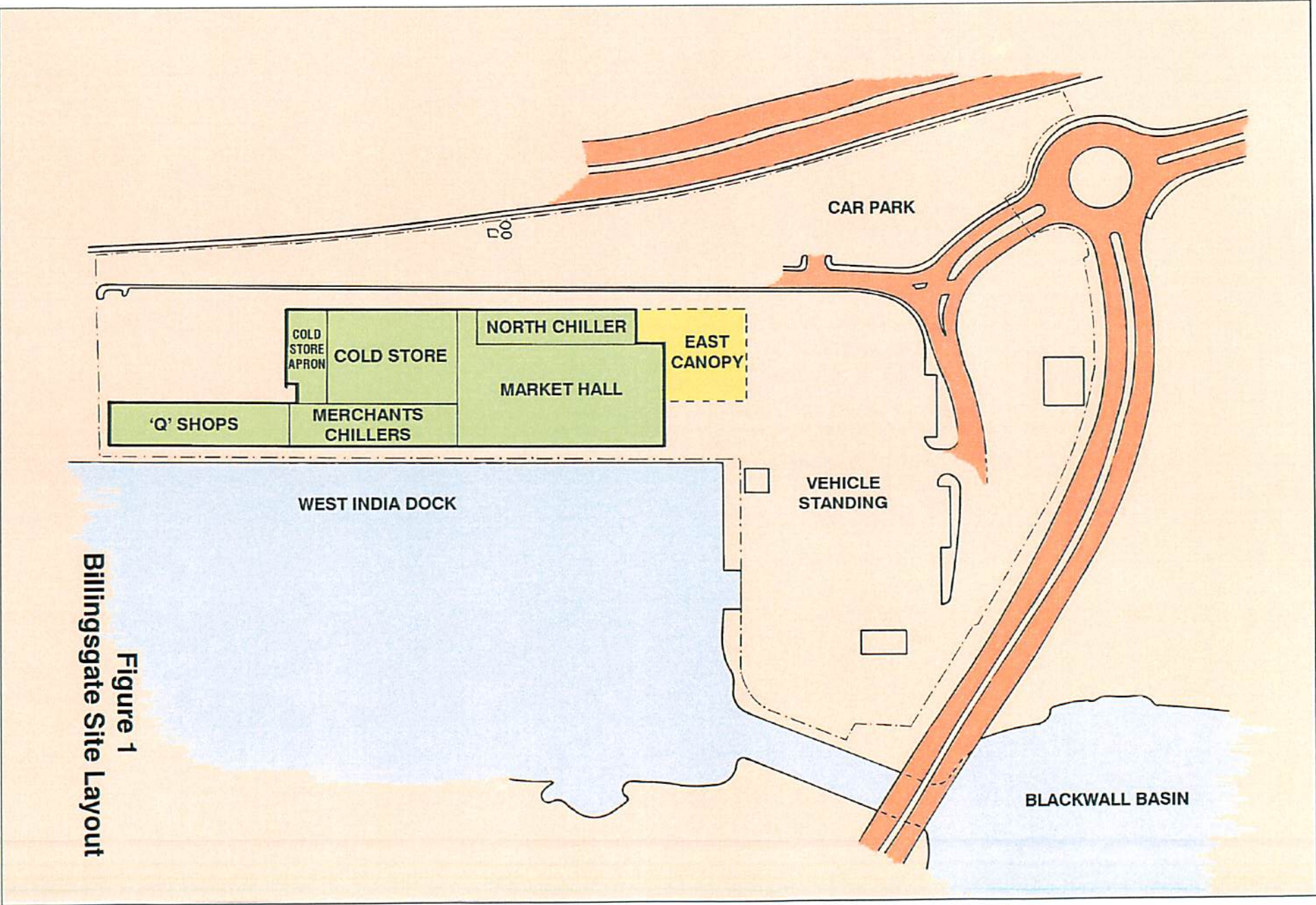


Figure 1
Billingsgate Site Layout

2 Overview of the Market and Trading

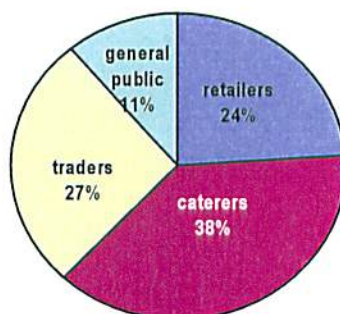
Billingsgate Market is located between Canary Wharf and the Blackwall Tunnel on a site of 13 acres. A plan of the site is shown in figure 1. The market accommodates 44 fish merchanting businesses in stands or shops in the main hall plus 6 ancillary businesses in self-contained 'Q' shops at the western end of the building. Cold and chilled storage is provided between the main market hall and the 'Q' shops with further refrigerated storage on the north side of the market and by numerous temporary units at various locations around the market.

Chilled fish is delivered to the market overnight from 22:00 hrs to the East Apron and unloaded under the canopy by market staff from 02:00 hrs. Fish may also be removed from the temporary storage units at this time in preparation for movement into the market or for sale/despatch. Some of the fish withdrawn from temporary units next to the canopy may be stored in the open. Frozen deliveries may be made at any time to the cold store or temporary cold storage units.

At around 04:00 hrs porters start to transfer some of the fish from under the canopy and the merchants chills into the market for sale, which starts at 05:00 hrs. Sales are conducted by a combination of direct sales from within the market hall and sale by sample, with product despatched from under the canopy. Analysis of data provided by the merchants would suggest that only 45% of product is actually moved into the sales hall and that 55% is in effect sold and despatched from under the canopy.

The proportion of direct sales from within the market however may be increasing with greater numbers of the public, particularly ethnic groups, buying on the market. Figure 2 provides a breakdown of sales to customer groups. Although the servicing of sales of small quantities of product to the public (and some small caterers) involves more work in breaking down bulk-packaged products, selection, weighing and repackaging etc. this sector of the trade is growing and is of significance to some traders. Many are cash sales which is good for the merchants cash flows. It does however add to problems of congestion on the market and to the control of hygienic practices.

Fig. 2 Proportion of combined sales to each customer group



Sales in the market hall are usually concluded between 08:00 hrs and 09:00 hrs after which the market cleaning staff commence operations. Any fish unsold under the East Canopy is returned to chill storage and would be subject to the same procedure the next day. Any fish unsold in the market, in the shops or on the stands, would also be returned to refrigerated storage unless refrigerated storage was provided at the shop or stand.

3 Review of Pending Legislative Change to Food Hygiene Legislation

Food law in the UK is based upon European Regulations that are enacted in national legislation. The basic regulation is the Food Safety Act 1990 that establishes principles of food safety and empowers Food Authorities to enforce food safety and to provide means of enacting subsidiary Regulations on more detailed aspects of food safety.

The Food Safety (Fishery Products and Live Shellfish)(Hygiene) Regulations 1998, as amended apply to the seafood industry and cover all aspects of seafood handling from capture to retail sale. They provide detailed requirements for premises, equipment and their operation, temperature control and monitoring and control procedures.

In January 2000 the European Commission issued a white paper announcing its intention to consolidate and simplify existing food safety legislation and subsequently issued a package of proposed regulations in July 2000. The principle EC Regulation 178/2002 on the general principles and requirements of food law is already in force although the Articles of most relevance do not apply until 1st January 2005. It defines 'food' and 'food businesses' and places basic responsibilities on all food business operators. A wholesale market will be a food business, as will each of the traders who operate on it, and all will be subject to the same basic requirements not to place unsafe food on the market or to mislead consumers. It also introduces a statutory responsibility for 'one up/one down' traceability in the food chain and to withdraw or recall any food thought to be not in compliance with food law. The three main hygiene regulations are;

- Proposed Regulation on the hygiene of foodstuffs (2004/C 48 E/01)
- Proposed Regulation on specific hygiene rules for food of animal origin (2004/C 48/02)
- Proposed Regulation on official controls on products of animal origin (2004/C 48/03)

These proposed hygiene regulations are now before the European Parliament and if agreed could enter into force in the first half of 2004. The legislation would then apply from 1st January 2006 or 18 months after entry into force, whichever is the later. The proposed regulations cover broadly the same aspects of food safety as the Food Safety (Fishery Products and Live Shellfish)(Hygiene) Regulations 1998 (which will be revoked) but are somewhat less prescriptive and based more upon hazard analysis and critical control point (HACCP) principles. They introduce statutory requirements for the application of HACCP by all food businesses (except primary producers), for food hygiene training and encourage the use of national guides to good practice. Under the proposed regulation on official controls of

products of animal origin, competent authorities are empowered to approve establishments and to withdraw approval under certain conditions. For wholesale markets secondary numbers indicating units or groups of units selling or manufacturing products of animal origin may be added to the approval number of the market.

The full text of the proposed regulations is published in the Official Journal of the European Union 24/2/2004 and on the Foods Standards Agency web-site www.food.gov.uk

4 Overview of Existing Market Standards and Management Controls

4.1 Standards

4.1.1 Design, Capacity, Construction and Layout.

Many of the problems of maintaining standards and efficiencies of operations are associated with the fundamental design, layout and capacity of the market and its functional elements. It is seriously at fault in the provision of facilities for maintenance of seafood at prescribed temperatures, for providing adequate protection from pests and in allowing for acceptable standards of hygienic operation.

4.1.2 Pest Control

During the inspection of the market there were no obvious signs of infestation within the market hall although it was reported that birds did occasionally gain access. Access is possible through doors that are left open for much of the day although volume of traffic probably acts as a deterrent. Some of the doors however comprise only of roller steel lattice and are not pest-proof.

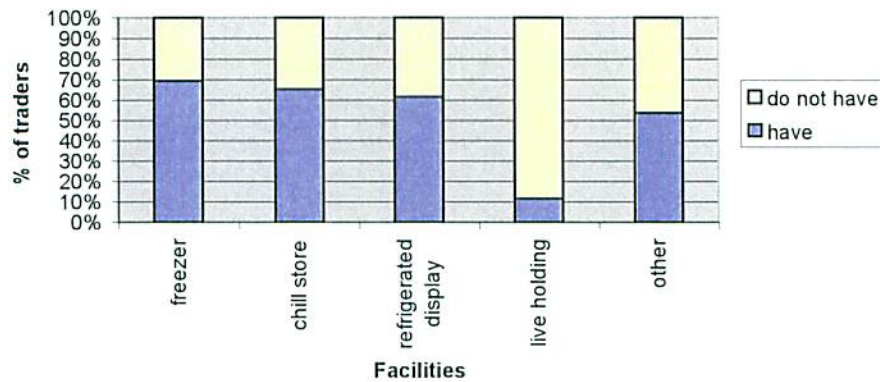
It is not possible to exclude pests from the reception and seafood holding area under and alongside the East Canopy where birds (particularly gulls) and rats are known to be a problem. Some protection of seafood, which may be held in the open for up to seven hours, is provided by the packaging but it is not uncommon for this to be damaged thereby exposing product to risk of contamination.

4.1.3 Temperature Control

Provision for the maintenance of chilled and frozen seafood at the prescribed temperatures is lacking for fish held under the East Canopy and often lacking or of inadequate capacity within the market on merchant's stands or in their shops. Figure 3 shows the percentage of traders having refrigerated facilities. Only 68% of traders have the ability to maintain fish at regulation temperatures at all times. On one afternoon after close of business, fresh product was found to be stored without refrigeration on at least ten stands at temperatures of up to +8 o centigrade. (This was however during a period of industrial action by the porters and may not be typical of normal practice).

The chill store on the northern side of the market appears to be used as a buffer store for temporary holding of frozen seafood awaiting sale/despatch. Temperatures of seafood stored there were measured in a range of -17° up to -9° Centigrade. Doors to the chill were left permanently open during handling operations. It should be noted that the above temperatures were recorded under ambient conditions of only $+5^{\circ}$ Centigrade and would likely have resulted in much higher seafood temperatures if similar practices were followed in warmer weather.

Fig. 3 Percent of traders having facilities



It was reported that in summer months the temperature within the market can rise considerably and that demand for ice can lead to shortages. Three merchants have their own ice machines.

4.1.4 Cleaning

The standard of cleaning of the fabric of the market and exterior paved areas is generally acceptable except some areas that are difficult to clean effectively due to poor hygienic design. There is an accumulation of rubbish behind the row of merchants chiller units, between the units and the exterior wall, which is inaccessible and similarly beneath the temporary refrigerated storage units around the market. This is of particular concern due to it encouraging and harbouring rodents. Some of the fixtures and equipment on merchants stands likewise do not allow for ease of cleaning, and the standard of cleaning of equipment of the stands could be improved in some cases.

There is effective provision for cleaning of waste bins. The facility for cleaning of transport vehicles however did not appear to be functional.

4.1.5 Waste Disposal

Suitable provision is made for storage of packaging and other non-fish waste in plastic bins with lids that are emptied daily by a contractor. Fish waste is stored in similar bins held within a lockable fenced area in the open near the 'Q' shops and collected daily by the local authority. The area is surfaced and provided with water for wash-down but

was reported to attract flies in warm weather that can result in infestation with maggots. Catering supply waste from the 'Q' shops is collected under separate contract by the local authority.

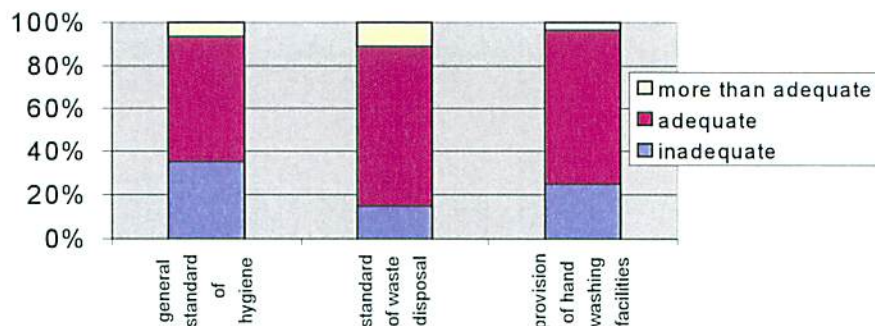
4.1.6 Hygiene Facilities and Standards

Adequate staff facilities, of washrooms, toilets and changing rooms are provided on the first floor. Toilet/wash-room facilities are also provided on the ground floor for customers and for transport staff. The driver's toilet facility adjacent to the East Canopy comprises of only a urinal and wash-hand basin (no W.C.) although facilities in the market would usually be accessible during normal hours of delivery. Café facilities and a laundry service are provided.

Hand-wash basins are provided for use by customers and traders at entrances to the market hall and in many of the shops (but not on the stands). At the time of the inspection the toilet/washroom and hand-wash facilities were well maintained and provided with soap and paper hand-towels.

Acceptable standards of clothing and state of cleanliness were generally maintained by merchants, staff and porters but not by some customers, particularly public buying on the market. Drinking of tea/coffee on the market was common, including merchants, but no-smoking was generally observed. Some of the larger trading companies were critical of general standards of hygiene on the market quoting adverse comments by their customers on litter, smoking, and eating and drinking in the market but over which they had no control. Figure 4 shows the opinion of traders as to standards of hygiene on the market. 35% of merchants were of the opinion that hygiene standards were inadequate.

Fig. 4 Opinion of hygiene standards



Handling, inspection and selection of seafood by buyers was considered to be a reasonable and legitimate function of trading and permitted by 71% of merchants, provided basic hygiene practices were observed. Merchants can use their discretion and exercise their right not to allow the handling of product by any customer.

4.1.7 Maintenance of the Fabric of the Market and Equipment

Although the Saphir report on the London Markets comments on Billingsgate as being ‘dilapidated’ there are in fact only relatively minor defects in the condition and state of repair of the building and equipment (the major problems relate to design, layout and capacity).

It was noted that some of slab joints in the paved surface under the East canopy were in poor condition, some areas of the market hall floor in poor condition, a door to the chill (north side) was damaged and that paint-work on overhead pipes in the chill was flaking off over stored fish.

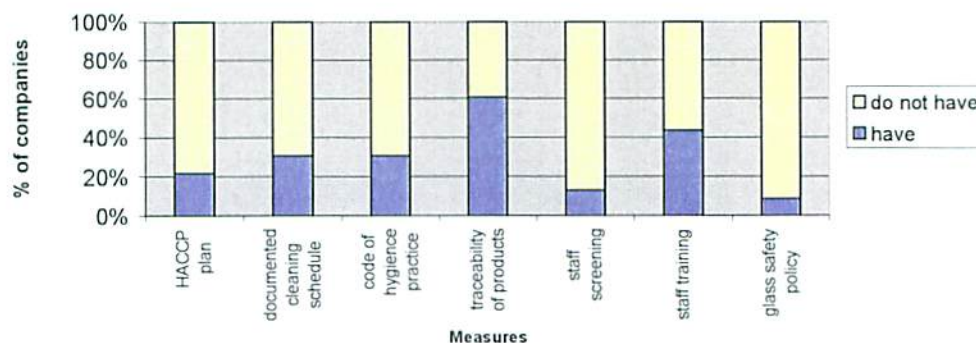
4.1.8 Management Controls and Records

To ensure compliance with legal requirements of food safety and to deliver the standards of service and product required by the marketplace it is necessary to have in place agreed standards, procedures and controls, including documented records of the results of monitored performance.

This is especially so for a market where facilities may be shared. In such circumstances it is essential that the management functions, responsibilities, authority levels and interface arrangements of the market authority and traders are clearly defined, understood and agreed. Each and every food business should have its own documented system of management controls and records of performance relevant and appropriate to the business. This includes the Market Authority, individual merchants, ‘Q’ shop operators, the Cold Store Company and porters.

Although the Market Authority and individual merchants etc., may in many cases meet the statutory requirements of food safety, the Market Authority and many of the merchants do not have documented standards, control procedures and records of performance. Figure 5 shows percentage (by number) of traders having certain documented control measures in place.

Fig. 5 Percent of companies having measures in place



Only 22% of traders have a HACCP plan and only 30% have a documented cleaning plan or code of hygienic practice. It is mostly the larger trading companies, driven by the commercial trading requirements of their customers that have documented systems of control. An example of the contents of one trader's Quality Manual and HACCP plan is shown in Appendix I.

Fish inspectors employed by the Worshipful Company of Fishmongers have a permanent presence on the market and environmental health officials of the Local Authority make weekly inspections.

5 Analysis of the Impact of the Proposed Hygiene Legislation

Many of the general and specific requirements proposed under the hygiene regulations contained in the Annex II of the hygiene of foodstuffs (2004/C 48 E/02) and Section VIII of the specific hygiene rules for food of animal origin, are essentially the same as those under existing food safety legislation. The proposed legislation however introduces a new statutory requirement on all food businesses to implement food safety programmes and procedures based upon HACCP principles. It also introduces a statutory responsibility for approval of food businesses handling seafood and for training in food hygiene and HACCP principles for those responsible for implementation.

Under the proposed legislation Market Authorities are regarded as 'food businesses' and will require HACCP plans to ensure food safety and hygiene in respect of the provision of infrastructures and services provided to, or for the benefit of, merchants and other food businesses on their site. Their principle responsibilities are:

- provision of adequate premises with regard to design, layout and capacity that permit good hygiene practices and protect product from contamination
- cleanliness, repair and condition of facilities in communal use
- where necessary to provide temperature-controlled handling and storage conditions of sufficient capacity for the maintenance of product at prescribed temperatures
- pest control
- lighting and ventilation
- water supply
- drainage
- waste disposal
- staff/public washroom facilities
- wash-hand facilities
- training of Market Authority staff

The Market Authority is not responsible for the HACCP plans of individual merchants, processors or the Cold Store Company etc., or for the standard of their equipment or the

conduct of their staff, other than as may be agreed between the parties. Neither is it envisaged that the Market Authority would be held responsible for the traceability of product consigned to or from the market by merchants or other food businesses. This would be the responsibility of the individual food businesses.

Some of the problems identified in the audit such as the standard of cleaning, unhygienic practices on the market and the unrefrigerated storage of product on market stands or the use of the chill for holding of frozen product etc., could be addressed by stricter management controls encompassed in a HACCP system/s. Other minor defects in the condition or state of repair of the building and equipment could be addressed by relatively low capital investment. There are fundamental problems however with the provision of facilities for the reception and holding of chilled seafood both with regard to temperature control and protection from contamination/infestation that HACCP alone cannot address.

6 Recommendations

- 1) That the Corporation of London develop a HACCP plan to ensure food safety and hygiene in respect of the provision of infrastructures and services provided to, or for the benefit of, merchants and other food businesses operating on the market, particularly with regard to the use of infrastructures or services in communal use.
- 2) That the Corporation of London and merchants/food businesses agree the essential management functions, responsibilities, interface arrangements and authorities, regarding operations on the market.
- 3) That the merchants/food businesses be encouraged and assisted to develop their own HACCP plans as required by the proposed legislation and that they be concordant with the HACCP of the Market Authority.
- 4) To replace the open and exposed area under the East Canopy used for the reception and holding of chilled seafood with an enclosed refrigerated facility that meets the requirements for temperature control and hygiene as required by legislation.
- 5) To investigate the viability of integrating the above facility (6.4) with permanent refrigerated storage capacity for individual merchants, both chilled and frozen, to replace the temporary refrigerated units in the area of the East Canopy to improve the hygienic handling of seafood to and from the merchants temporary stores. See indicative figure 6.
- 6) To improve the pest proofing of the market building by replacement of open lattice steel roller doors.
- 7) To rectify the minor defects in the condition of the market structure and equipment as identified in the report.
- 8) That market authority staff involved in the handling of seafood, cleaning, waste management and pest control etc., be trained in food hygiene matters commensurate with their duties.
- 9) That those responsible for the development and maintenance of food safety procedures and the application of HACCP be qualified or trained in HACCP.
- 10) Subject to strategic decisions on the future of the market and possible change of site, consideration should be given to the functional design of the market to reflect change in modern trading practices that would provide greater flexibility and freedom of trading, either on the existing site or a new one.

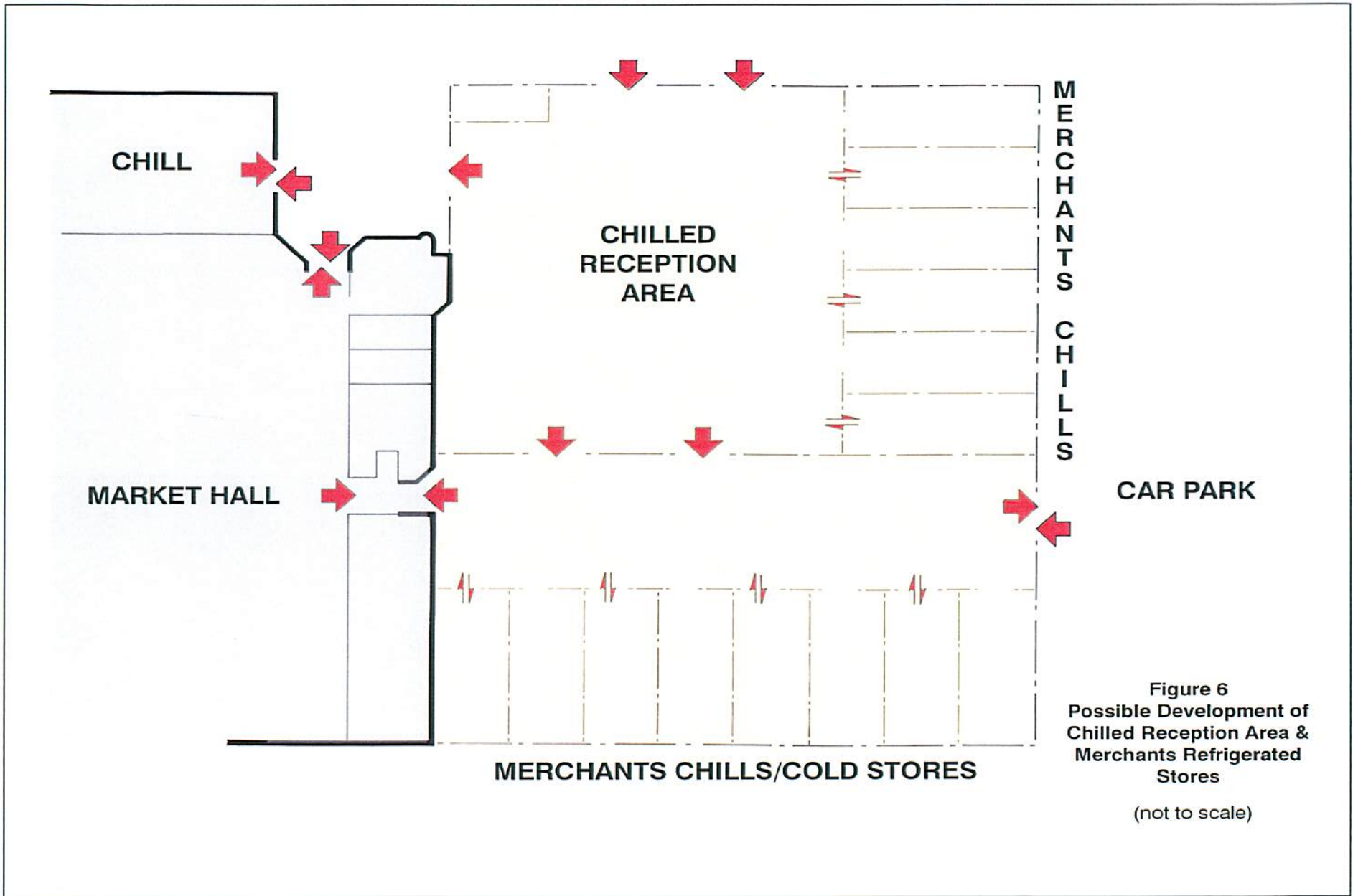


Figure 6
Possible Development of
Chilled Reception Area &
Merchants Refrigerated
Stores

(not to scale)

7 Acknowledgements.

Seafish gratefully acknowledge the assistance provided by all those involved in this study particularly,

1. M MacLeod
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Appendix I

Example of a Merchants Quality Manual and HACCP Plan

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