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Chapter 8 - Meat and Fish Processors

8.1 Introduction – Meat Processors

Meat has been processed for centuries. Originally, processing was simply used to extend the period during which a product could be safely consumed. Salting and smoking¹ are traditional meat processing methods still used today. In addition, meat may be ground, cured,² fermented³ or mixed with other ingredients.⁴ The finished product may be ready-to-eat (RTE) or require further preparation before consumption and includes ground meat, hot dogs, sausages, ham, bacon and cold cuts.

Demographic changes have produced an increasing demand for processed meat products which are regarded by many consumers as convenient and affordable. The rapidly expanding population consumes fewer home-cooked meals and more pre-cooked food products and fast food. Currently, meat processing is the largest sector of the Canadian food industry with sales exceeding \$14 billion.⁵

Consumer confidence in the safety of processed meat is vital to the viability of the industry. As with every other stage in the farm to fork continuum, hazards exist. Delivery of a safe processed product requires their control and, where possible, elimination.

8.2 Food Safety Risks – Meat Processors

The risk of contamination is ever present notwithstanding the success of previous participants in the farm to fork continuum in controlling them. Pathogens may remain⁶ and biological, chemical or physical contaminants⁷

¹ "Smoking" describes a process whereby meat is cured and treated with smoke to dry the meat and add flavour.

² "Cured" describes a process of adding salt, brine, with or without sugar, spices, nitrites and other ingredients to a meat product.

³ "Fermented" products have undergone a process by which microbes produce alcohol or acid which act as preserving agents. Salami is a typical example of a fermented product.

⁴ "Other ingredients" include meat from the same or a different species of animal or food additives.

⁵ According to the Canadian Meat Council, available from http://www.cmc-cvc.com/English/industry_statistic_e.asp [accessed 16 June 2004].

⁶ See for example, the European Food Information Council, *Food Processing, Lasting longer/Staying safer*, available from <http://www.eufic.org/gb/safe/safe01c.html> [accessed 10 June 2004]

⁷ This topic is discussed, at length, in Chapter 3.

may all be introduced at the processing stage due to substandard premises, equipment or processing practices.

In its 2003 Annual Report, the Canadian Food Inspection Agency (CFIA) noted:

*The leading causes of recalls for microbiological contamination were Salmonella, Listeria and E. coli O157:H7. Listeria was found in various ready-to-eat meat and dairy products such as frankfurters and cheese. Salmonella was found in assorted foods, such as sausage and spices, and E. coli O157:H7 was primarily found in burgers, ground beef and some cheese products.*⁸

Since 1998, the CFIA has announced approximately 65 meat recalls due to possible contamination and the attendant risk of the transmission of foodborne illness to consumers.

A health hazard alert issued by the CFIA on May 16, 2003 highlights the public health concern:

*E. coli O157:H7 causes serious and potentially life-threatening-illness by producing a toxin that breaks down the lining of the intestines and damages the kidneys. Food contaminated with E. coli bacteria will not look or smell spoiled. This product should not be consumed.*⁹

8.3 Current System – Meat Processors

8.3.1 Legislation

Meat processors who participate in interprovincial or export trade must be federally registered.¹⁰ Their businesses are regulated by the *Meat Inspection Act* (Canada) and are overseen by the CFIA. The activities of all others are governed by provincial legislation.

⁸ CFIA, *Performance Report for the period ending March 31, 2003*, available from http://www.tbs-sct.gc.ca/rma/deep/02/03/CFIA-acia/CFIA/03/D01_e.asp [accessed 16 March 2004].

⁹ The CFIA, Health Hazard Alert, *George's Tastee frozen unbaked patties (with beef filling) may contain E. coli O157:H7 bacteria*, available from <http://www.inspection.gc.ca/english/corpaffr/recarapp/2003/20030516e.shtml> [accessed 18 June 2004].

¹⁰ *Meat Inspection Act*, R.S.C. 1985, c. 25 (1st Supp.).

Under the *Health Protection and Promotion Act (HPPA)*,¹¹ the Ministry of Health and Long-Term Care (MOHLTC) and Boards of Health have legislative responsibility over all premises where meat is processed and sold. In 1994, the MOHLTC entered into a memorandum of understanding with the Ministry of Agriculture and Food (OMAF) to address an apparent overlap in their jurisdictions relating to meat inspection. Since that time, Boards of Health conduct routine inspections of meat processors only if their business is conducted separately from a provincially licensed abattoir. Those facilities, commonly known as free standing meat processors (FSMPs), are required to adhere to the *HPPA* and the *Food Premises* regulation promulgated thereunder.¹² However, meat processing operations conducted within a provincially licensed abattoir are overseen by OMAF as part of the inspection program it administers pursuant to the *Meat Inspection Act (Ontario) (MIA)*¹³ and its regulations.¹⁴

If the *Food Safety and Quality Act, 2001 (FSQA)*¹⁵ is proclaimed, OMAF will also have legislative authority to regulate the activities of FSMPs.

8.3.2 Licensing and Standards

Neither the *HPPA* nor the *Food Premises* regulation require FSMPs to be licensed. Operators are required to give notice to the local Board of Health of their intention to operate. They are also obligated to provide information concerning their business and comply with the standards for premises, equipment, processing practices and meat products which the *HPPA* and the *Food Premises* regulation establish.

Under the *MIA*, the operator of an abattoir must not commence or continue operation unless a licence has been obtained.¹⁶ A licensed abattoir is permitted to undertake processing activities in accordance with the regulations enacted under the *MIA*. If the licence of an abattoir is not

¹¹ *Health Protection and Promotion Act*, R.S.O. 1990, c. H.7

¹² *Food Premises*, R.R.O. 1990 Reg. 562 (the *Food Premises* regulation).

¹³ *Meat Inspection Act*, R.S.O. 1990, c. M.5.

¹⁴ O. Reg. 632/92.

¹⁵ *Food Safety and Quality Act, 2001*, S.O. 2001, c. 20, s. 2 defines "regulatable activity" as including processing food for consumption.

¹⁶ *MIA*, *supra* note 13, s. 3.

renewed or revoked, the processing operation may continue but would then be regulated under the *HPPA*.¹⁷

Under the *FSQA*, there is authority to require the licensing of any facility that processes meat.

While FSMPs and meat processors connected to abattoirs are governed by different legislative regimes, all provincially regulated meat processors are subject to requirements which:

- are designed to ensure that the premises at which meat is processed are properly constructed, maintained and cleaned;¹⁸
- establish minimum standards for lighting and ventilation;¹⁹
- require the premises to have an adequate supply of potable water and washrooms;²⁰
- require adequate, appropriately maintained and sanitized equipment and utensils on-site;²¹
- restricts²² or prohibits²³ the presence of uninspected meat on site;
- requires that all product be fit for human consumption although current provincial legislation does not describe methods of processing or standards in any detail.²⁴

¹⁷ Since currently, free standing meat processors need not be licensed, processing (but not slaughtering) operations formerly conducted at an abattoir may continue at the same premises if the abattoir's licence is not renewed, suspended or revoked. I understand in that event OMAF advises the local Board of Health by letter, that the processing operation is no longer connected to a licensed abattoir and leaves to the local Board of Health the task of inspecting the processing operation from that date onward.

¹⁸ O. Reg. 632/92, ss. 5-16 and the *Food Premises* regulation, ss. 11 and 59.

¹⁹ O. Reg. 632/92, s. 6(2) and the *Food Premises* regulation, ss. 13 and 15.

²⁰ O. Reg. 632/92, ss. 9-11 and the *Food Premises* regulation, s. 68.

²¹ O. Reg. 632/92, ss. 13-19 and the *Food Premises* regulation, ss. 56-63 and 71-82.

²² O. Reg. 632/92, ss. 27, 28, although wild game is, as outlined in Chapter 6, permitted according to strict guidelines and the *Food Premises* regulation, s. 40 which permits uninspected meat at a food premises for the purposes of custom-cutting, wrapping and freezing for its owner.

²³ O. Reg. 632/92, ss. 27, 28; O. Reg. 74/04, ss. 3 and 6 which will, effective September 1, 2004, prohibit uninspected meat at a food premises unless obtained through hunting and for the purposes of custom-cutting, wrapping and freezing for the owner.

²⁴ O. Reg. 632/92, ss. 26, 29 and 39; *HPPA*, *supra* note 11, s. 17 and the *Food Premises* regulation, s. 37.

The *MIA* and its regulations address these same requirements but are more detailed in certain respects than the *Food Premises* regulation of the *HPPA*. For example, they require that an applicant for a licence submit plans and specifications of the plant recommended by a regional veterinarian,²⁵ and contain additional construction requirements.²⁶ Unlike the *Food Premises* regulation, the regulations under the *MIA* address product flow by requiring that incompatible activities be separated and that products move from raw to finished.²⁷ Operators overseen by OMAF must provide recipes to OMAF²⁸ and comply with more detailed production standards.²⁹ The regulations under the *MIA* contain labelling and stamping requirements not found in the *HPPA* or in the *Food Premises* regulation.³⁰ On the other hand, the requirements contained in the *Food Premises* regulation are more extensive with respect to utensils and food processing equipment and prior approval for some changes is required.³¹

The food safety hazards are the same at an FSMP or a meat processing operation conducted at an abattoir. All of the contaminants that commonly cause foodborne illnesses can be found at both. There seems to be no justification for maintaining different standards.

When the current legislative scheme is compared to the National Meat and Poultry Regulations and Code (NMPRC) it is clear the existing provisions are out of date. Even a cursory review reveals the limitations and gaps in current regulations. The NMPRC covers, in careful detail, plant design, facilities, equipment, maintenance, sanitation, pest control, water, personnel including their health and training, processing and meat product standards including recipes, safe processes, storage, temperature control, packaging, drug residues, limits on microorganisms, sampling and testing, labelling, storage, transportation, distribution records and recall procedures. Those provisions recognize that a good food safety program must address every

²⁵ O. Reg. 632/92, s. 4 (1) (a).

²⁶ *Ibid.*, ss. 5-16.

²⁷ *Ibid.*, s. 6 (3).

²⁸ *Ibid.*, s. 40.

²⁹ *Ibid.*, s. 37 which incorporates by reference the Code of Practice of Health Canada.

³⁰ *Ibid.*, s. 75-84.

³¹ *Food Premises* regulation, ss.41, 68-69 and 71-82.

aspect of a processor's business including construction and day-to-day activities.

Adoption of regulations equivalent to the NMPRC, as I have earlier recommended, would modernize and improve existing standards. Those regulations should apply to all provincially regulated processors³² regardless of location. This is important for food safety but it is also necessary if provincial meat processors hope to gain access to markets that require compliance with federal standards.

8.3.3 Inspection

Inspection services are provided to ensure that meat is stored, prepared, served and distributed in a manner consistent with required practices and to limit the possibility of food being sold or distributed which is unfit for human consumption. Though processing activities are subject to provincial government oversight through inspection, the approach adopted by Boards of Health and OMAF is substantially different.

Under the *HPPA*, Boards of Health have a statutory duty to inspect food premises.³³ The Mandatory Health Programs and Services Guidelines (Mandatory Guidelines) established by the MOHLTC³⁴ require Boards of Health to assess food premises annually to determine their risk status according to a Hazard Analysis Critical Control Points (HACCP) protocol. Based on the results of the review of epidemiological evidence, the properties of the foods served, the nature and size of the operation and the nature of its customer base, premises are assessed as high, medium or low risk. High risk premises are to be routinely inspected quarterly, medium risk semi-annually and low risk annually. In 2003, few Boards of Health completed the required number of routine annual inspections.³⁵

OMAF's inspections of processors connected to abattoirs are scheduled on a different basis. Unlike slaughtering activities for which a meat inspector is

³² The recommendation is made in Chapter 2.

³³ *HPPA*, *supra* note 11, s. 10(2).

³⁴ MOHLTC, *Mandatory Health Programs and Services Guidelines* (December 1997).

³⁵ Information provided to the Review revealed that 10 out of 37 health units completed 80% or more of the 3 routine inspections required for high risk food premises and 8 out of 37 completed 80% or more of the inspections required for medium and low risk food premises.

required to be present at all times, inspection of processing activities is undertaken periodically. OMAF assesses each facility's processing activities and history of compliance, consumer complaints and food safety performance. Weekly further processing inspection hours are allocated according to that assessment. High risk facilities are to receive 3.5 hours, medium risk 2.5 hrs and low risk 1.5 hours of routine further processing inspection weekly although OMAF has advised the Review that fewer inspection hours may actually be provided in the event of limited human resources or other operational requirements. Nevertheless, processors connected to abattoirs receive more frequent regular inspection than FSMPs.

While some stakeholders have suggested that I should assess the relative competence of OMAF meat inspectors and public health inspectors, I do not believe that exercise is necessary. Nothing has come to my attention to suggest that inspectors from one provincial government program are necessarily more qualified to undertake the inspection of meat processing facilities than inspectors from the other. Provided the concerns I have mentioned earlier are addressed, I am satisfied that OMAF meat inspectors are positioned to adequately and competently monitor the activities of FSMPs, if OMAF is given that responsibility.

Since all abattoirs undertake some processing activity, OMAF currently offers three levels of further processing training for meat inspectors. Abattoir operators remove bone from meat and break carcasses into primal or sub-primal cuts. Many also manufacture fresh processed meat through grinding or fabricating. Consequently, all OMAF meat inspectors receive a basic level of further processing training covering these processing activities.

Some processors undertake additional activities which OMAF regards as medium risk. They include curing, smoking and vacuum packaging of meat products. OMAF requires that such processing operations be inspected by those which have received a second level of further processing training. Inspectors who have completed the third level of this training inspect premises undertaking dry curing, fermenting or canning of meat which are categorized by OMAF as high risk activities.

OMAF's Veterinarian Trainer and Further Processing Coordinator has responsibility to modernize and enhance food processing training for meat inspectors, to develop additional resources for initial and continuing education and to improve OMAF's ability to capture information relating to further processing activities in its Food Safety Decision Support System (FSDSS).³⁶ Those initiatives are important and should continue.

While differently worded, both the *HPPA* and *MIA* confer broad powers upon inspectors. They include rights of entry to inspect meat and meat products, rights of detention and authority to obtain samples.³⁷ Subject to review by others,³⁸ inspectors are authorized, in certain circumstances, to issue orders that non-compliant operations cease.³⁹ If proclaimed, the *FSQA* would expand those powers.⁴⁰

Concern that FSMPs are not currently receiving sufficient inspection was expressed by a number of people including representatives of the provincial government and the Ontario Independent Meat Processors (OIMP).⁴¹ OIMP acknowledges that the alternative systems of regulation and inspection of meat processors fuels a perception that Ontario's approach and standards are deficient. Many submissions to this Review suggested that a consolidated provincial approach to regulating meat processors in Ontario was long overdue. I agree.

There are a wide range of causes of contamination and the pace of discovery of new hazards is accelerating. Processes utilized to prepare meat and meat products for human consumption are complex and potentially dangerous. A common system of inspection undertaken by a properly trained inspectorate will provide more consistent, reliable monitoring and foster greater consumer and business confidence.

³⁶ Derived from information provided by OMAF in response to questions asked by the Review.

³⁷ *MIA*, *supra* note 13, s. 11(3), (4); O. Reg. 632/92, ss. 85-87 and 90-91; *HPPA*, *supra* note 11, ss. 13, 19 and 41.

³⁸ O. Reg. 632/92, ss.85(5), 86(4), 87(9) and 94(2) and *HPPA*, *supra* note 11, ss. 44-45.

³⁹ O. Reg. 632/92, s. 86 (1) and 94 (1) and *HPPA*, *supra* note 11, s.13(4)(b) and (c).

⁴⁰ *FSQA*, *supra* note 15, ss. 16-32.

⁴¹ The Ontario Independent Meat Processors made a submission to the Review at the public meeting held in London, Ontario, March 31, 2004. In its submission, the Ontario Federation of Agriculture suggested that the difference in treatment between FSMPs and processors connected to abattoirs is an "anomaly" and "is suspected of leading to compromised inspection and safety, while conferring differing economic advantages across similar businesses."

No reason has been advanced which justifies FSMPs being treated differently from processors connected to abattoirs. All meat processors should be subject to the same rules.

I recommend that the *Food Safety and Quality Act, 2001* and regulations to be promulgated thereunder regulate the activities of non-federally registered meat processors whether they are connected to an abattoir or free standing.

The provisions should require that meat processors be licensed,⁴² delineate standards consistent with the NMPRC and establish a comprehensive system of inspection.

Should the *FSQA* be proclaimed, OMAF is expected to assume jurisdiction for the regulation and inspection of all FSMPs that conduct high risk processing activities (eg. canning, dry curing, fermenting) or distribute their product off-site and are not federally inspected. The survey it conducted has identified approximately 700 such facilities.

OMAF has advised the Review that it anticipates a need for approximately 55 additional full-time meat inspectors in order to adequately inspect FSMPs. I am of the view that OMAF should conduct routine inspection of meat processors weekly. OMAF should also continue to allocate hours of further processing inspection applying risk criteria and the current number of hours for the various categories should represent the minimum required. OMAF should have, at all times, adequate human and financial resources to ensure that those levels of inspection are consistently met. In Chapter 6, I recommended that an independent audit be undertaken to determine the number of inspectors required in abattoirs to provide proper inspection. FSMPs should be included within that audit in order to determine the

⁴² Under *FSQA*, *supra* note 15, s. 4, no person shall carry on a licensed activity unless the person holds a licence for the activity issued under the *FSQA*. The phrase "licensed activity" is defined in section 2 as being a regulatable activity (which would include meat processing) to which the regulations specify section 4 is to apply. The regulation should specify that section 4 applies to non-federally registered meat processors whether connected to an abattoir or free standing. It should be noted that a number of participants in the Review thought OMAF's estimate of the number of FSMPs low.

number of inspectors actually required, taking these observations into account.

8.3.4 Audits

The annual independent audit of abattoirs includes connected meat processing operations.⁴³ Deficiencies in premises, equipment and business practices are noted and corrective action plans developed to ensure they are addressed in a timely and adequate manner. If the processing operation is the source of a serious deficiency endangering public safety or if the operator fails to fulfill the terms of a corrective action plan, the licence granted by OMAF may be at risk.⁴⁴

Hearing decisions provided by OMAF demonstrate the importance of the audit process.⁴⁵ An independent, comprehensive, annual review provides a system of verifying compliance and assists in determining whether monitoring activities are being adequately performed.

A similar audit process is not currently undertaken for FSMPs.⁴⁶ If the *FSQA* is proclaimed, an audit program should be initiated as part of the regulatory program for FSMPs.

In my view, a satisfactory annual audit,⁴⁷ or the development and execution of a corrective action plan by a meat processor, should be a precondition to a licence renewal.

8.3.5 Surveillance and Testing

OMAF has indicated that it is planning to undertake additional studies with respect to the microbiological quality of RTE meat and environmental

⁴³ Information concerning audits was provided to the Review by OMAF.

⁴⁴ In those events, the operator may be required to attend a hearing over which the Director of the Food Inspection Branch presently presides and after the hearing the Director may refuse to renew the operator's licence or suspend or revoke the licence.

⁴⁵ Between 2001 and 2003, for example, several hearings were held to review issues uncovered during audits involving deficiencies in premises, defective equipment and substandard business practices.

⁴⁶ Although the Mandatory Health Programs and Services Guidelines require inspections of high risk food premises in accordance with the MOHLTC's Hazard Analysis Critical Control Points protocol.

⁴⁷ By that I mean one which concludes that the operation complies with all regulatory requirements.

chemical residues to assess the levels of risk, facilitate the development of performance standards, measure the impact of regulation, target resources and assess existing plant practices.

Earlier in this Report, I recommended that those studies be completed. They will enable the provincial government to establish mandatory microbiological performance standards which processors will be required to meet within a reasonable time. Such studies, standards and performance requirements will likewise improve meat safety and consumer and business confidence.

8.3.6 Traceability

The ability to determine the source of raw materials and the destination of meat products is not addressed in a comprehensive way in existing legislation. Processors connected to abattoirs are only required to keep records of animals purchased, an inventory of supplies and materials bearing the inspection legend and to comply with federal labelling requirements.⁴⁸

The *Food Premises* regulation is more expansive. It obligates FSMPs to maintain records of meats received for processing including the names and addresses of suppliers and the dates of receipt and outgoing meat products must identify the processing plant of origin.⁴⁹

The requirements in the NMPRC are more extensive. For example, they require that meat products be labelled in a manner that allows accurate and rapid identification.⁵⁰

I have recommended that a system be developed and implemented throughout the farm to consumer continuum to enable meat and meat products to be traced back to their source and forward to their destination.⁵¹ Such a system will help ensure that meat processors are accountable for the quality and wholesomeness of their meat products, improve the effectiveness of food recalls and facilitate epidemiological study.

⁴⁸ O. Reg. 632/92, s. 92

⁴⁹ HPPA, *supra* note 11, s. 16 (5) and the *Food Premises* regulation, ss. 38-39.

⁵⁰ *National Meat and Poultry Regulation*, s. 77(d).

⁵¹ See Chapter 3.

8.3.7 HACCP

As I have described previously,⁵² OMAF has recently introduced its HACCP Advantage program which is designed to encourage meat processors to develop, implement and adhere to a HACCP-based food safety program. However, unlike the federal program, mandatory compliance is not, at this point, required. Supported by a successful pilot project, OMAF believes that it has demonstrated HACCP to be an accessible, affordable and viable program which enhances food safety. However, it is unclear whether the program, which is aimed at all meat processors whether connected to abattoirs or not, will gain widespread acceptance.

The MOHLTC has not developed a HACCP-based food safety program for food premises and none appears to be presently contemplated.

I have earlier recommended the development and implementation, over time, of mandatory HACCP-based food safety programs for every sector including processing.⁵³ Public safety, continued access to existing markets and development of additional ones, require it. The recommendation has not been made lightly and I have considered, at length, the financial impact of the recommendation on small and medium-sized establishments (SMEs).

In 2002, a study commissioned by OMAF determined whether the facilities, equipment and certain practices of 14 FSMPs complied with the *MIA*, its regulations and standards of compliance published by OMAF. It found that all had structural deficiencies requiring correction. It also found the operations fell below, to varying degrees, required standards for equipment, facilities and product flow. While injections of capital were required, all deficiencies were capable of being remedied.⁵⁴

The purpose of the recommendation is not to eliminate competent operators from the marketplace. I have, therefore, also recommended that HACCP-

⁵² *Ibid.*

⁵³ *Ibid.*

⁵⁴ J. Christian and P. Wu, *Free standing Meat Processors Regulatory Economic Impact Analysis* (June 2002). The authors estimated the costs of bringing the plants into compliance to the 2002 standards ranged from a low of approximately \$36,000 for one facility to a high of approximately \$1.76 million for another.

based food safety programs be flexible so long as the objective of ensuring the delivery of a wholesome product is achieved.

In an effort to provide a measure of assistance to operators, I have recommended that the provincial government provide various programs and take a number of steps to facilitate transition to a HACCP-based food safety program. I am satisfied that virtually all meat processors in Ontario are already committed to food safety and that they will find the transition to a HACCP-based food safety program can be more easily accomplished than some anticipate.

8.3.8 Food Handler Training

Thousands of workers are employed in Ontario's meat processing industry. They are involved when materials are received, unpackaged, processed, packaged, labelled, stored and shipped. At each stage, the diligent exercise of their duties in a safe and hygienic manner is essential to the delivery of a product that is safe to eat.

Understanding meat safety, biological, chemical and physical risks of contamination and the means of minimizing or eliminating them is imperative for all involved in meat processing. Given the importance of their duties, standardized food safety training should be mandatory for all personnel involved in the handling of meat at a processing operation.

8.3.9 Coordination of Resources

When OMAF attempted to determine the number of FSMPs in Ontario that would fall within the regulatory scheme contemplated under the *FSQA*, it excluded certain operations that conducted "low risk" activities, such as cutting and grinding, and sold their product from the premises where the processing activity was undertaken. These premises, most notably many neighbourhood butcher shops, were classified as meat retailing operations and excluded on the basis that their activities "presented a minimal degree of risk to consumers, as products would be cooked by the consumer prior to consumption."⁵⁵ OMAF proposes that meat retailing operations will

⁵⁵ A view that is exhibited in and has continued since the preparation of OMAF, *Free standing Meat Processors inventory and Risk Assessment Final Report* (25 March 2002).

continue to be governed by the *HPPA* and the *Food Premises* regulation administered by the MOHLTC notwithstanding the proclamation of the *FSQA*.

I am satisfied that properly resourced, both OMAF and the MOHLTC are capable of administering effective inspection programs that will address the particular risks associated with the different types of FSMPs. But, whatever the configuration, the delivery of inspection must be comprehensive. OMAF and the MOHLTC must ensure, legislatively and operationally, that there are no gaps in the system and that duplication is, wherever possible, eliminated. They must ensure that all meat processing operations are identified, the nature of meat processing activities determined and any changes in the operations identified. Those assessments should be undertaken with regularity so that responsibility for regulation and inspection can be appropriately allocated and performed with sufficient frequency by appropriately trained personnel. The proclamation of the *FSQA* will not eliminate the need for an agreement between the MOHLTC and OMAF of the kind entered into a decade ago. To the contrary, an agreement to address changes in the regulatory system will be required as will regular communication to ensure that risks which may endanger public safety and have far-reaching economic consequences are addressed, whether at processors connected to an abattoir, FSMPs or elsewhere. As stated by the Pennington Group:

*The potential for cross-contamination of foods points to the critical nature of meat production and butchers' premises in the food chain. Even with measures taken earlier in the chain to help prevent contamination, it is probably inevitable that some meat will enter the premises contaminated with E. coli 0157:H7. All raw meat, needs to be treated as though it is potentially contaminated and appropriate handling and hygiene standards adopted.*⁵⁶

The prevalence of hazards, whether the meat processing activity is “low risk” or not, must be borne in mind at all times and the standards to which

⁵⁶ The Pennington Group, *Final Report on the Circumstances Leading to the 1996 Outbreak of Infection with E. coli 0157:H7 in central Scotland, the Implications for Food Safety and the Lessons to be Learned* (Scottish Office, 1998) available from <http://www.scotland.gov.uk/libraries/documents-w4/pgr-00.htm> [accessed 4 June 2004].

meat processors are held should be equivalent wherever the activity is conducted.

I recommend that the Ministry of Agriculture and Food and the Ministry of Health and Long-Term Care enter into an agreement to ensure that the activities of all meat processors are appropriately regulated and inspected without unnecessary duplication.

8.4 Introduction – Fish Processors

I debated throughout the Review whether to comment on the production and processing of fish for human consumption as my mandate was limited to “meat”. However, since the *FSQA*, once proclaimed, will provide for the quality and safety of all agricultural and aquatic commodities, it seems appropriate to consider the regulatory regime for the processing of fish as part of this Review.

There is no mandatory broad-based inspection of the processing of fish for food safety purposes in Ontario. The federal government has jurisdiction over fish that is transported as food between provinces or out of the country. Fish processing plants that ship fish and fish products out of province or out of country are required to be licensed and inspected by the CFIA. The provincial government has jurisdiction over fish processors which process fish for human consumption solely within Ontario. There is legislation in Ontario which permits inspection of fish and fish processing, however, it is not mandatory and there is no inspection program to address all of the food safety risks associated with the processing of fish for human consumption.⁵⁷

The production of fish meat for human consumption is done in stages similar to those in the production of animal meat for human consumption including raising fish, acquiring fish for “slaughter,” “slaughtering” fish, harvesting fish meat from fish carcasses, processing fish meat into products for human consumption, transporting fish and fish products, and selling or serving fish and fish products to consumers.

⁵⁷ *Fish Inspection Act*, R.S.O. 1990, c. F.18.

Fish are typically acquired from commercial fishing of public bodies of water or from aquaculture operations. Although it is sometimes used with a broader meaning, in this context, aquaculture refers to the raising of fish either in private or public water.

8.5 Food Safety Risks – Fish Processors

The food safety risks associated with the processing of fish for human consumption are similar to those associated with the production of animal meat for human consumption, in that they can include biological, chemical and physical hazards.

Fish meat can carry or be a vector for agents which may cause illness in humans.⁵⁸ There is an increased risk with some fish processing activities and fish or fish products which are sold to be eaten without further preparation or cooking.⁵⁹ Fish meat can contain residues of chemicals at a level which is harmful for a human to consume, such as residues of cadmium and mercury. Fish meat can contain physical hazards which may cause harm to human health such as metal particles from the processing of fish, bones, and shell fragments. In addition, raw fish spoils much faster than meat from warm-blooded animals.

Fish meat is mixed with animal meat products in some food products and as such, can be used in the processing of food at abattoirs. Fish are also separately processed at meat processing plants connected to and separate from abattoirs. The mixing or presence of fish in animal meat processing facilities creates a risk of contamination of the inspected meat.

8.6 Current System – Fish Processors

As with meat, there are two systems – federal and provincial.

⁵⁸ Such as *listeria monocytogenes*, *E. Coli*, *salmonella*, *staphylococci*, and *vibrio cholerae* which can cause *V. parahaemolyticus*-associated gastroenteritis infections in humans. U.S. Food and Drug Administration, *Center for Food Safety & Applied Nutrition, Foodborne Pathogenic Microorganisms and Natural Toxins Handbook*, available from <http://vm.cfsan.fda.gov/~mow/chap9.html> [accessed 19 May 2004]; CFIA, *Bacteriological Guidelines For Fish and Fish Products*, available from <http://www.inspection.gc.ca/english/anima/fispoi/guide/bace.shtml> [accessed 19 May 2004].

⁵⁹ Ready-to-eat meat products are fish products purchased by consumers and eaten without further preparation or cooking. Some food dishes and food products are prepared with raw fish, such as sushi. Raw fish, including mackerel and salmon, can contain living parasites such as *Anisakis* which can reproduce or survive in the human intestines after the raw fish is eaten.

8.6.1 Federal Legislation and System

The federal government enacted a number of pieces of legislation which address food safety and govern fishing and fish processing. The *Fish Inspection Act* (Canada)⁶⁰ is the primary legislation as it regulates the processing of fish and fish products that are transported between provinces or exported from Canada. Some of the other legislation deals indirectly with food safety by controlling the nature of collected fish, the surveillance and response to fish diseases, and fish vaccines and fish feeds.⁶¹

The *Fish Inspection Act* (Canada) and the *Meat Inspection Act* (Canada)⁶² and their regulations prohibit the processing of a mixed fish and meat product except in accordance with the provisions of those statutes and further prohibit the use of meat or fish that was not processed in a federally inspected plant or imported into Canada in accordance with them to prevent contamination.⁶³

8.6.2 Ontario Legislation and System

The *Fish and Wildlife Conservation Act* (FWCA)⁶⁴ provides for the management of all of Ontario's fish and wildlife resources. The Ministry of Natural Resources (MNR) administers the FWCA and issues licences to culture and sell fish, stock fish, and collect fish from Ontario waters including licences to operate an aquaculture business and to collect fish from public waters.

The MNR also administers the *Fish Inspection Act* (Ontario) (FIA).⁶⁵ The FIA and its regulation both set out certain standards to address food safety, such as requirements for chilling or icing of fish during storage and prevention of contamination during loading and unloading⁶⁶ and prohibit the

⁶⁰ *Fish Inspection Act* (Canada), R.S.C. 1985, c. F-12.

⁶¹ *Fisheries Act* (Canada), R.S.C. 1985, c. F-14, *Fish Health Protection Regulations*, C.R.C., c. 812, and *Ontario Fishery Regulations, 1989*, SOR/89-93, *Health of Animals Act, 1990*, c. 21, *Feeds Act*, R.S.C. 1985, c. F-9, *Food and Drugs Act*, R.S.C. 1985, c. F-27.

⁶² *Meat Inspection Act* (Canada), R.S.C. 1985, c. 25.

⁶³ *Fish Inspection Regulations*, C.R.C. c. 802, s. 3(2)(b) and *Meat Inspection Regulations, 1990*, SOR/90-288, s. 3(l).

⁶⁴ *Fish and Wildlife Conservation Act, 1997*, S.O. 1997, c. 1.

⁶⁵ FIA, *supra* note 57.

⁶⁶ R.R.O. 1990, Reg. 456, ss. 2, 3, 10, & 11.

sale of tainted, decomposed or unwholesome fish.⁶⁷ However, there is no inspection program in place by the MNR to inspect non-federally registered fish processors to ensure that the processing activities, equipment and facility meet the food safety standards contained in the *FIA* and its regulation. The MNR only exercises its authority under Ontario legislation to prevent the sale of fish which was harvested illegally.

There are no provisions in any Ontario legislation that are similar to those in corresponding federal legislation that regulate the mixing of fish and meat in the processing of these commodities at provincially regulated facilities to prevent contamination by uninspected fish or meat.

Fish processors in Ontario may be inspected by the Boards of Health against food safety standards established by the *Food Premises* regulation under the *HPPA*.⁶⁸ The *Food Premises* regulation does not prohibit uninspected fish or fish meat from being processed at food premises or mixed with inspected animal meat in processing activities.

8.6.3 Licensing, Inspection and Enforcement

Under the *Fish Inspection Act* (Canada), all establishments at which fish and fish products are processed for export are required to register with some listed exemptions.⁶⁹ The plants pay a licence fee and contribute to the cost of inspection. Inspection of those fish processing plants is mandatory.

The purpose of the federal fish inspection program is to ensure that the fish is safe and wholesome and includes both safety and quality aspects. The inspection of processing plants by the federal government under the *Fish Inspection Act* (Canada) has been conducted under a regulatory verification model since 1992. The inspection program, the Quality Management Program (QMP), is now implemented by the CFIA. The QMP requires each federal fish processing plant to adhere to certain plans that are designed to ensure food safety. CFIA inspectors are not present for all hours of operation, but conduct audit type inspections of the plant records to ensure

⁶⁷ *FIA*, *supra* note 57, s. 7.

⁶⁸ *Food Premises* regulation, *supra* note 12.

⁶⁹ *Fish Inspection Act*, (Canada), *supra* note 60, as amended, *Fish Inspection Regulations*, C.R.C., c. 802, s. 14.

compliance with the QMP, verify that the requisite plans are being applied as intended, and determine whether regulatory requirements are being met. The frequency of audits depends on the risk assessment of plants based on compliance history and the nature of processing activities.

Under the *FIA*, fish processors are not required to register or obtain a licence to operate in Ontario. Inspectors under the *FIA* are permitted to enter any establishment or vehicle used for the storage or transport of fish, require records relating to the processing, transporting or marketing of fish to be produced, and take samples of fish for inspection, but inspection is not mandatory and no systemic inspection is conducted by the province.⁷⁰

The *Fish Inspection Act* (Canada) was amended in 1997 to bring it in line with the rest of the federal food inspection legislation.⁷¹ The amendments increased the penalties for committing offences under the Act, gave inspectors some powers of peace officers and increased the powers of inspection to cover the entire continuum of “sea-to-plate” or “boat-to-throat.”⁷² Prosecutions for summary conviction offences under the *Fish Inspection Act* (Canada) can be commenced within two years after the subject matter becomes known to the Minister.⁷³

The *FIA* was amended in 1999 to increase the penalties for committing offences under the Act and to extend the period of time permitted for the commencement of a prosecution to two years.⁷⁴ However, the *FIA* is not consistent with other provincial or federal food inspection legislation in that there is no licensing requirement for fish processing plants and, therefore, no regulatory enforcement provisions.

8.6.4 The Industry

Aquaculture grew rapidly in Ontario from the mid-1980s to mid-1990s. The commercial aquaculture industry in Ontario has grown to a value of \$40

⁷⁰ *FIA*, *supra* note 57, s. 3.

⁷¹ Department of Fisheries and Oceans Canada, News Release, *Minister Mifflin Introduces a new Fish Inspection Act* (31 October 1996).

⁷² *Fish Inspection Act* (Canada), *supra* note 60, ss. 6, 7, 8, 17.1 and 17.2.

⁷³ *Ibid.*, s. 17.2(1).

⁷⁴ *FIA*, *supra* note 57, ss. 9(1), 10.1.

million annually. In 2001, an estimated 4,135 tonnes of rainbow trout was produced from approximately 200 facilities.⁷⁵ In 1995, rainbow trout accounted for over 95% of the production output from Ontario aquaculture. This was partially a result of the legislative restrictions on the species which could be legally farmed. However, amendments to the provincial legislation in 1995 expanded the number of aquatic species permitted to be cultured to 38. By 2001, several other species were being produced including tilapia, arctic char, brook trout, small mouth and large mouth bass, and cyprinid bait fish.⁷⁶ Most Ontario trout are sold to processors, fish markets or directly to grocery stores and restaurants throughout the province and Northeastern U.S. Ontario trout is typically sold live, fresh, whole, smoked or filleted.⁷⁷ Ontario aquaculture operations are governed by federal and provincial legislation dealing with the management of fisheries.

One estimate is that there are 147 non-federally registered fish processors in Ontario and that the majority of the processors are small or very small enterprises that operate on a seasonal basis. Fish processed in Ontario for consumption in Ontario comes from Ontario's lakes and rivers (commercial fishing), aquaculture operations and other parts of Canada and the world.

The processing of fish at the non-federally registered fish processors includes both low and high risk processing activities. Activities such as cleaning, scaling, icing, eviscerating, filleting, mincing, comminuting, reforming, extruding, shucking, deshelling, breading, freezing, and repackaging are considered to present lower risks to consumers as the products usually undergo further preparation such as cooking prior to consumption. However, some fish processing activities including cooking, smoking, salting, drying, pickling/marinating, preparing ready-to-eat (sushi) products, vacuum packaging of these products or canning are considered to be high risk to food safety as the products are ready-to-eat and receive no further preparation prior to consumption.

⁷⁵ R. Moccia et al., *An Overview of Aquaculture in Ontario* (University of Guelph, AEC Order No. 96-003, January 1997).

⁷⁶ *Ibid.*, and R. Moccia & D. Bevan, *Aquastats 2001: Ontario Aquaculture Production in 2001* (University of Guelph, Order No. 03-001, February 2003).

⁷⁷ R. Moccia et al., *An Overview of Aquaculture in Ontario*, *supra* note 75.

8.7 The Future – Fish Processors

At present, non-federally registered fish processors in Ontario are not licensed or inspected. Under the present use of the term “meat” in the *MIA*, fish is not meat. Under the present *FIA*, there is no requirement for inspection nor any requirement for licensing. Either Act would require significant amendments to put in place a mandatory fish inspection system. However, the definition of food and agricultural or aquatic commodity in the *FSQA* makes the scope of the *FSQA* broad enough to permit a regulation under the *FSQA* implementing a fish inspection system to address the food safety risks at fish processing plants consistent with other parts of the food safety system in Ontario and Canada.

OMAF has surveyed non-federally registered fish processors who are subject to the provincial regulatory system under the *FIA* to assist in the development of a food fish inspection program. It was determined that a majority of the non-federally registered fish processors may have employee training, pest control, effluent treatment including blood, water treatment, tainted product detection and recall programs in place at their facilities. However, the levels of implementation of these programs were lower than in federally registered fish processors and the non-federally registered processors lacked written documentation for their programs. This indicates that there are some risks that are not presently being controlled at the fish processing plants and, therefore, there is a need to develop and implement a fish inspection program in Ontario.

It is recognized by the federal government and by the Codex Alimentarius Commission (CAC), that fish is one of the foods within a food safety system that should be included in a regulatory and legislative scheme.

The Recommended International Code of Practice for Fresh Fish of the CAC comments that:

*Fresh fish are an extremely perishable food, and should be handled at all times with great care and in such a way as to inhibit multiplication of micro-organisms.*⁷⁸

In my view, the lack of a fish inspection program in Ontario to ensure safe fish and fish products constitutes a risk to the public. I, therefore, believe that it is important that fish inspection be included in the food safety system in Ontario. A fish inspection program should be consistent with the standards applied to products from livestock and poultry. It should ensure that those who consume fish are given the same protection as those who consume meat. It should also ensure that the safety of food from livestock and poultry is not put at risk by uninspected fish. A fish inspection program should be developed which is adapted specifically to deal with the particular features and risks of fish processing.

I recommend that the provincial government develop and implement a fish inspection program and promulgate a regulation under the *Food Safety and Quality Act, 2001* to licence non-federally registered fish processing plants and regulate the safety of fish being sold for human consumption in Ontario. This regulation should replace the *FIA* and regulate fish sold in Ontario to standards consistent with established international and federal standards. The fish inspection program should include mandatory inspection and a HACCP-based food safety program consistent with my recommendations in Chapter 3.

I recommend that the *Food Premises* regulation be amended to include fish and the processing of fish at food premises and to prohibit uninspected fish at food premises, once an inspection program is implemented.

In order to avoid hardship to provincial fish processing plants, the timing of this amendment should coincide with the implementation of the fish inspection system.

⁷⁸ Codex Alimentarius Commission, *Recommended International Code of Practice for Fresh Fish*, CAC/RCP-1976, vol. 9.