11 Food safety in dairy production and processing

Key points

- All dairy businesses in Australia are required, since October 2008, to comply with the primary production and processing standard for dairy, contained in the Australia New Zealand Food Standards Code (ANZFS Code). Rather than adopting this standard, New Zealand regulates its dairy businesses with separate regulations and its own food standards.
- Licensing or registration of dairy producers, processors and manufacturers is required in all jurisdictions.
  - For a medium-size milk processor, licence fees are estimated to be highest in New Zealand and Victoria. Licence fees in New South Wales also appear comparatively high for milk processors, but may cover multiple business activities.
  - For a medium-size dairy manufacturer, licence fees in South Australia, Victoria and Tasmania are well over those that apply in other jurisdictions.
- New South Wales, Victoria, South Australia and Tasmania have manuals and/or codes containing requirements on dairy premises, equipment and processes that are additional to requirements in the ANZFS Code. In general, New South Wales is the most prescriptive in its requirements of dairy businesses.
- In most jurisdictions, the temperature at which milk is stored on dairy farms is guided by the ANZFS Code and related guidance material. However, requirements in New South Wales are more stringent and those in New Zealand are more relaxed than the Code, which may impact differentially on dairy farm compliance costs.
- Compliance audits are required in all jurisdictions. While New South Wales and New Zealand's audit regimes have potential for the most frequent audits on compliant businesses, the longest duration for audits was reported for Victoria and Western Australia (8 hours), South Australia and Tasmania (5 hours), and the highest per hourly charges were reported for Queensland and Victoria.
- Overall, the annual cost of meeting both licensing and compliance audit requirements for a medium-sized milk processor was assessed to be highest in New South Wales and Victoria. For a medium-sized dairy manufacturer, annual regulatory compliance costs were assessed to be higher in Victoria and South Australia than in other Australian jurisdictions (due mainly to the high licence charges).
- In all Australian states and territories, the key dairy regulators also undertake audits and inspections on behalf of (Australian Quarantine and Inspection Service) AQIS, which potentially reduces the regulatory compliance costs for dairy exporters.

This chapter examines in detail the differences in primary production and processing regulation, and its implementation within jurisdictions for dairy and dairy products.

The benchmarking in this chapter draws heavily on a comparison of regulatory differences between jurisdictions, as detailed in a consultancy report prepared for this study (Baldwins-FoodLegal 2009), and information supplied by jurisdictions in response to the Commission's surveys of regulators and local government. Where possible, the cost implications for business of these regulatory differences are then explored using jurisdictional fees and charges information and, where available, specific examples provided by study participants.

11.1 Scope of dairy and dairy product safety regulation

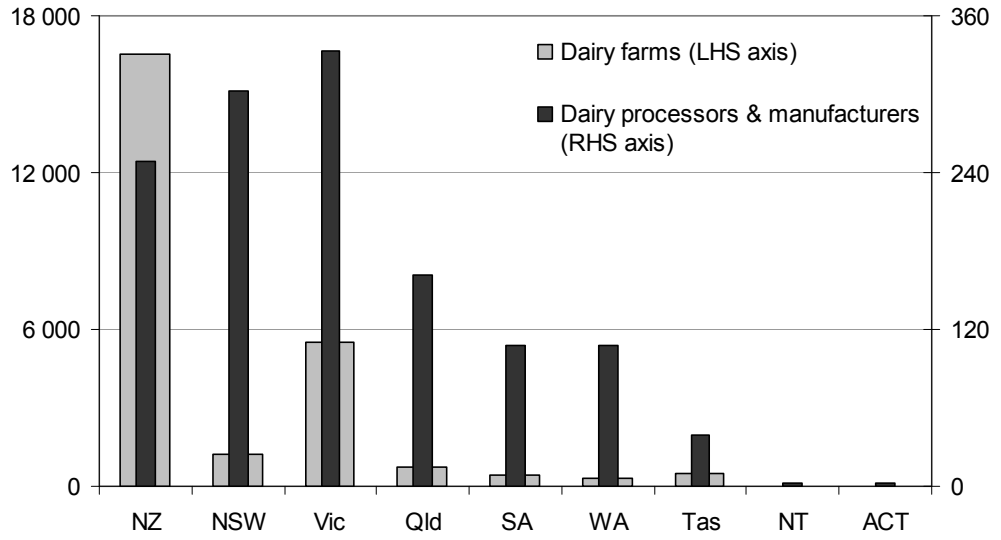
Dairy businesses

The regulation of dairy products for human consumption begins at the farm with milking sheds on producing dairy farms. There are almost 9000 primary dairy producers and just over 1000 secondary dairy producers and wholesalers in Australia, mostly located in Victoria or New South Wales (figure 11.1). In New Zealand, there are over 16 000 primary dairy producers and around 250 secondary producers. In both countries, most dairy manufacturers produce food products such as butter, cheese and milk powders.

The majority of dairy businesses (including a dairy/milk factory with pasteurised products, the dairy section of supermarkets and icecream manufacturers) are classified as medium risk operations (ANZFA 2001).

Figure 11.1 **Number of dairy businesses by jurisdiction**

As at 30 June 2008 for primary producers in Australia and 30 June 2007 for all other dairy businesses in Australia; as at February 2008 for New Zealand[a]



[a] Dairy processors and manufacturers includes: milk and cream processing; icecream manufacture; manufacture of butter, cheese, condensed, evaporated or powder milk; and dairy wholesalers.

Data sources: ABS (*Counts of Australian Businesses,* Cat. No. 8165.0); ABS (*Agricultural Commodities,* Cat. No. 7121.0); Dairy Australia (2009); Statistics New Zealand; Tasmanian Dairy Industry Authority (TDIA) pers. comm. 2009.

Broad regulatory framework

The primary production standards for dairy are contained in *Standard 4.2.4 Primary Production and Processing Standard for Dairy Products* of the Australia New Zealand Food Standards Code (ANZFS Code). These standards are applicable only in Australia and have been enforceable since October 2008.

Standard 4.2.4 sets out a number of food safety requirements for dairy primary production businesses (covering on-farm milk and colostrum production activities), dairy transport businesses (covering the collection and bulk transport of milk and dairy products) and dairy processing businesses (covering activities up to, but not including, retail). Under Standard 4.2.4, all dairy businesses are required to control the potential food safety hazards associated with their business by implementing a documented food safety program (FSP). Particular measures that should be covered by the FSP are also specified.

The Australian Dairy Industry reported that '… the gazetted Dairy PPPS [primary production and processing standard] is compact … The Dairy PPP Standard is

structured to achieve outcomes. It allows for innovation and a degree of operational variation among plants. The PPPS builds on Australia's highly safe dairy food preparation which is based on modern State regulation.' (Australian Dairy Industry 2008, pp. 17, 18).

In addition to the standard for dairy products, the ANZFS Code contains compositional requirements for dairy products (in chapter 2 of the code) and provision for food safety requirements for a number of other dairy-derived activities:

- *Standard 4.2.4A Primary Production and Processing Standard for Specific Cheeses* provides some requirements for Gruyere, Sbrinz, Emmental and Roquefort cheese and cheese products, to ensure these cheeses are produced under equivalent safety standards to other cheeses (as specified in Standard 4.2.4)
- distribution of dairy products and retail sale activities are covered by the requirements of Chapter 3 of the ANZFS Code (Standard 3.2.2 and Standard 3.2.3)
- FSANZ is also currently developing standards for the sale of raw milk products (products that have not been pasteurised or undergone a heat treatment or equivalent process) in Australia through *Proposal P1007 Primary Production and Processing Requirements for Raw Milk Products*. The development of requirements for raw milk products aims to facilitate use of raw milk products within acceptable food safety outcomes. FSANZ released a discussion paper on the proposal in August 2008, but work on the standard remains in the preliminary stages.

These Australian food standards for dairy and dairy products are generally incorporated in each jurisdiction into industry-specific legislation (table 11.1). In those states for which dairy is a significant proportion of total agricultural production — Victoria, South Australia and Tasmania — there are separate authorities regulating dairy and dairy products. These are the only industry-specific government regulators of food safety in Australia and New Zealand (after considering the possibility of merging the Dairy Food Safety Victoria (DFSV) with other food safety agencies in Victoria, VCEC (2007) concluded that such a move was unlikely to be either necessary or advantageous at that point). In these jurisdictions and in New South Wales, the regulation of the dairy industry is covered by specific codes of practice and guidance manuals.[1] For example, in

[1] New South Wales, Victoria, South Australia and Tasmania additionally refer to the *Australian Manual for the Control of Listeria in the Dairy Industry* (ADASC 1999) and the *Australian Manual for the Control of Salmonella in the Dairy Industry* (ADASC 1999). From 1 July 2009, the South Australian code of practice has been replaced by ANZFS Code provisions under the

Victoria, a person cannot sell, deliver or provide for human consumption a dairy food that has not been treated, packed or sealed as required under the *Code of Practice for Dairy Food Safety* (except where delivering to a licensed dairy manufacturing premises).

In comparing the regulatory approach in different jurisdictions, the Australian Dairy Industry reported that:

> The approach taken by DFSV [Dairy Food Safety Victoria] is far more open and flexible than the prescriptive approach used historically in Victoria, in other States, and as set out in the Export Orders administered by the Australian Quarantine and Inspection Service (AQIS), and in a number of our overseas dairy trading partner countries. It allows for innovation and acceptance of new processes and technologies, while the integrity of the Food Safety System is not compromised and the targeted outcomes are still achieved. In general [companies] see Dairy Food Safety Victoria (DFSV) as very progressive in its management of food safety risk. (Australian Dairy Industry 2008, p.17)

In the Northern Territory and the ACT, there is very little dairy production and any dairy businesses operating in these jurisdictions are required to be registered (and regulated) as food businesses under the relevant food Act.

In New Zealand, dairy production and processing are regulated under the *Animal Products Act 1999*, the *Animal Products (Dairy) Regulations 2000*, subordinate notices and approved criteria, and are also bound by the New Zealand standard — *Food (Milk and Milk Products Processing) Standard 2007*. Although some primary producers engaged in secondary processing may fall within the scope of the *Food Act 1981*(NZ), the NZFSA regulates both sets of legislation, which reduces the potential for any duplication or inconsistency for businesses.

To the extent that the provisions contained in the dairy manuals and codes in some jurisdictions (in addition to formal legislation) come to be treated as mandatory requirements, there is potential for regulatory creep to emerge in the regulation of dairy food safety.

Primary Produce (Food Safety Schemes)(Dairy Industry) Regulations 2005. While not having separate manuals, in its legislation Queensland refers to the Australian Standards *AS 3993-2003 Equipment for the pasteurisation of milk and other liquid dairy products – continuous flow systems*; and AS 1187-1996 *Farm milk cooling and storage systems*.

Table 11.1 **Food safety legislation and regulators — dairy**

2008-09

	Documented requirements	*Principal regulator*[a]
NZ	*Food Act 1981* *Food (Safety) Regulations 2002* *Animal Products Act 1999* *Animal Products (Dairy) Regulations 2005* *Animal Products (Dairy Processing Specifications) Notice 2006* *Animal Products (Dairy Industry Fees and Charges) Regulations 2007* *Animal Products (Regulated control scheme – Dairy export quota products) Regulations 2008*	New Zealand Food Safety Authority (NZFSA)
NSW	*Food Act 2003* *Food Regulations 2004* *NSW Dairy Manual* *Code of Practice for Dairy Buildings* *Code of Practice for Collection of Milk from Dairy Farms 2004*	NSW Food Authority (NSWFA)
Vic	*Food Act 1984* *Dairy Act 2000* *Code of Practice for Dairy Food Safety*	Dairy Food Safety Victoria (DFSV)
Qld	*Food Production (Safety) Act 2000* *Food Production (Safety) Regulation 2002*	Safe Food Production Queensland (SFPQ)
SA	*Food Act 2001* *Primary Produce (Food Safety Schemes) Act 2004* *Primary Produce (Food Safety Schemes)(Dairy Industry) Regulations 2005* *Code of Practice for Dairy Food Safety (June 2005)*[b]	Dairy Authority of South Australia (DASA)
WA	*Health Act 1911* *Food Act 2008*[c] *Health (Food Hygiene) Regulations 1993* *Health (ANZ Food Standards Code Adoption) Regulations 2001*	Department of Health (Western Australian Health)
Tas	*Dairy Industry Act 1994* *Dairy Industry Regulations 2004* *Tasmanian Code of Practice for Dairy Food Safety (November 2002)* *Tasmanian Code of Practice for Farm Dairy Premises (1998)*	Tasmania Dairy Industry Authority (TDIA)
NT	*Food Act 2004*	Chief Health Officer — Department of Health & Families (NT Health)
ACT	*Food Act 2001* *Food Regulations 2002*	Chief Health Officer — ACT Health

[a] The core food agencies in the Northern Territory and the ACT absorb food safety functions that would be undertaken by local councils in the Australian states. For all other jurisdictions, the core body responsible for regulation under the jurisdiction's Food Act generally devolves some monitoring responsibilities (for those businesses which provide food directly to the public) to local governments. The extent of devolution, and subsequent coordination between local councils, varies between jurisdictions (chapters 7 and 8). [b] The South Australian code has been repealed and does not apply from 1 July 2009. [c] The *Food Act 2008* (WA) did not come into effect until late October 2009.

11.2 Comparison of regulation across jurisdictions

Differences in the regulatory requirements imposed on business and in the regulatory instruments and powers given to regulators can give rise to a range of areas in which the compliance activities of businesses and associated costs of meeting food safety requirements differ between jurisdictions. Differences between jurisdictions can include: business licensing requirements; stipulations on business inputs, processes or employees for hygiene purposes; product sampling and testing requirements; regimes for inspections and audits; and associated options adopted as corrective action.

Licensing and accreditation[2]

Every jurisdiction requires its dairy businesses to be licensed or, in the case of New Zealand, registered. The more licence categories in place in a jurisdiction, the more finely tuned licence conditions can be to business processes. Conversely, however, more licence categories increases the potential for additional regulatory burden (in terms of time to complete forms, monitoring of requirements and possibly licence fees) for those businesses with operations spanning the production chain.

Australian jurisdictions generally issue licences for dairy production, dairy processing and at least some stages of dairy transport and storage. Consistent with the distribution of dairy production and processing across Australia, Victoria has the greatest number of licensed dairy businesses (table 11.2). Most jurisdictions have three to five licence categories; Queensland legislation provides for seven different classes of licences which may be applicable to a dairy business. There are also some minor differences in coverage between jurisdictions. For example, Tasmania does not currently licence milk tankers or milk storage facilities for food safety purposes. From 1 July 2009, dairy distributors in South Australia were no longer covered by Dairy Authority of South Australia (DASA) but instead are regulated by local government. Furthermore, potentially some dairy farms may not be licensed if they do not have an on-site milking shed.

2 For simplicity, the terms 'licence', 'registration' and 'accreditation' are used synonymously in the remainder of this chapter although where relevant, the appropriate terminology for a given jurisdiction is used when referring only to that jurisdiction.

Table 11.2 **Number of licences on issue by jurisdiction**

End 2008-09

	Dairy farms	*Dairy processors*	*Dairy distributors*	*Dairy transport*	***Total***
NZ	na	308		na	**308**
NSW	860	118		650	**1 628**
Vic	5 476	154	132	38	**5 800**
Qld	648	50		na	**698**
SA	326	42	136	77	**581**
WA	198	40		na	**238**
Tas[a]	451	29		64	**544**
NT	1	1		na	**2**
ACT	na	na		na	**na**

na not available. **a** The number of dairy processors licences for Tasmania includes licences for 13 premises which export.

Source: Productivity Commission survey of food safety regulators (2009, unpublished); DASA 2009.

In each jurisdiction, the licensing authority generally requires detailed information from the applicant on its operations in order to set appropriate licensing conditions. Most jurisdictions license dairy businesses according to where in the production chain they operate (table 11.3). However, New South Wales and the ACT also require information on business size (as determined by the number of employees), and New Zealand, Victoria and South Australia require an estimate of annual throughput.

Table 11.3 **Differences in licensing and registration requirements for dairy businesses**

2008-2009

	NZ	*NSW*	*Vic*	*Qld*	*SA*	*WA*	*Tas*	*NT*	*ACT*
Licence costs within categories vary with									
Stage in production chain	✓	✓	✓	✓	✓	✓	✓		
Number of employees[a]		✓							✓
Volume of throughput	✓		✓		✓				
Licence etc conditions									
Establishment building compliance / planning permission		✓			✓	✓	✓		✓
FSP/RMP	✓	✓	✓	✓	✓	✓	✓	✓	✓
Inspection or review of FSP/RMP	✓	✓	✓	✓	✓		✓	✓	

a In the ACT, a food business must simply specify if they have fewer than 10 employees if in the service sector, or fewer than 50 employees if in the manufacturing sector. This distinction affects determination of the business's risk rating.

Sources: Baldwins-FoodLegal (2009); regulator websites.

One participant in the Commission's review, a dairy business from Queensland, provided evidence that in Queensland the licensing of businesses according to their stage in the production chain is not always straightforward (Emerald Creek Foods, sub. 15). As a gelato manufacturer that uses processed milk in its operations, the business was nevertheless assessed and licensed by Safe Food Production Queensland (SFPQ) as a dairy processor (at a considerably higher accreditation fee than would otherwise have been the case).

Most jurisdictions undertake an inspection of the dairy business prior to, or shortly after, licensing/accreditation in order to determine compliance with legislative requirements, including (in Australia) the PPPS for dairy and, where relevant, the suitability of the business's FSP.

Licence fees

The fee structure for licensing varies substantially between jurisdictions (table 11.4). In general, fees are set on the basis of the type of operation (for example: producer, processor or transporter) and the perceived risk level associated with that operation. In Victoria, Tasmania and South Australia, fees can vary for a given business from year to year with changes in annual throughput. However, the Commission was advised that for dairy businesses in Tasmania at least, the majority of small and medium-sized businesses purchase their milk from a source other than farmers (the cost of which may indirectly incorporate regulatory fees which are passed on). Consequently, most dairy businesses in Tasmania pay the dairy regulator only a fixed annual licence fee, which also includes the cost of a compliance audit (TDIA, pers. comm., December 2009). Fees in New South Wales and New Zealand also vary for different size businesses, and in the latter case, five particular dairy operators are charged business-specific, higher annual fees.[3]

[3] New Zealand's cost recovery principles provide for a different charging regime for sectors where there are large variations in business sizes (as exists for dairy). The principal aim is to improve the equity and efficient of the cost recovery charges. As such the following co-operative dairy groups and companies face different charges based on their market share for raw milk processed: Fonterra; Westland; Tatua; Dairy Goat; and, Open Country Cheese.

Table 11.4 **Initial and ongoing fees to maintain licences — dairy**

Australian dollars, 2008-09

	Category	*Initial fee*	*Annual fees*[a]
NZ[b]	Application for registration	$112	
	plus		
	Annual fee for development & maintenance of standards: for each registered manufacturing premises receiving		
	< 316,000kg of raw milk solids		$350
	Specified amounts for larger companies (eg Fonterra)		$790 to $1 286 000
	Annual performance monitoring fees: for each registered manufacturing premises receiving		
	< 316,000kg of raw milk solids		$97
	Specified amounts for larger companies (eg Fonterra)		$380 to $330 000
	Market access fees in relation to development and maintenance of standards & program payable by exporters as well as dairy residue monitoring programs Specified amount for Fonterra		$280 $420 000
	Application for product disposition		$150/application plus $150/hour after first hour
	Residue monitoring fees (payable by dairy exporters) Specified amount for Fonterra		$331 $1 050 900
NSW	Application	$50	
	Dairy Farm licence		$323
	Dairy Produce Store licence		$286
	Dairy (milk) Produce Factory licences (fee increases with employee numbers)		$816 to $224 211
	Dairy (dairy product) Produce Factory licences (fee increases with employee numbers)		$816 to $87 496
	Dairy Vehicle Vendor		$196
	Farm Milk Collector		$511
	Dairy Farmer (Goat Milk)		$109
	Bottling (Unpasteurised Goat Milk Producer) &/or Dairy Farm (Goat Milk)		$328
	Dairy Goat Produce Factory &/or Unpasteurised Goat Milk Producer &/or Dairy Farm (Goat Milk)		$546
Vic[c]	Dairy farms		
	Dairy farmer	$161.00	0.014 c/litre (approx)
	Dairy farmer Goat/Sheep (fee increases with throughput)	$161.00	$53.66 to $107.33
	Dairy processor/manufacturer (fee increases with throughput)	$161.00 to $2146.52	$536.63 plus
	Dairy processor		0.129 cents per litre
	Dairy manufacturer		$1.29 per tonne
	Milk Broker	$161.00	0.030 cents per litre
	Dairy distributor (fee varies with throughput)	$161.00	$103 to $203
	Dairy food carrier (fee varies with number of tankers)	$161.00	
	2 tankers or less		$53.66
	each additional tanker		$21.47

(continued next page)

Table 11.4 **(continued)**

	Category	*Initial fee*	*Annual fees*[a]
Qld	Application fee	$116.60	
	Accreditation fee		
	Exporter		$5835.15
	Retailer		$373.35
	Producer (eg: dairy farmers)		$291.65
	Processor (eg: dairy factories)		$1166.75
	Cold store or transporter		$210.00
	Other		$198.25
SA	Administration fee	$100	
	Accreditation fee		
	Dairy farmers supplying large-scale dairy manufacturers (over one million litres) - paid by mfg on behalf of farmers		0.0221 cents per litre
	Large scale dairy processor/manufacturer		0.0221 cents per litre
	Small-scale manufacturers & small-scale farmers		$280
	Dairy distributors[d]		$100
	Dairy produce carriers		$105
WA	Licence fees	No charge	No charge
Tas	Dairy farmer		
	– licence application	$128.00	
	– licence fee		0.02625 cents per litre
	Dairy processor/manufacturer		
	– licence application	$128.00	
	– licence issue/renewal (where milk is purchased directly from farmer)		0.02625 cents per litre
	– licence issue /renewal (where milk is not purchased directly from farmer)		
	Receiving ≤ 2000 tonnes of milk per year		$525
	Receiving >2000 tonnes of milk per year		$3150
	Vendor (dairy distributor)		
	– licence application	$128.00	
	– licence renewal/transfer		$76.80
NT	Online registration	No charge	No charge
ACT	Registration of a food business (based on FSANZ priority classifications of food businesses)		
	Low risk (eg milk vendor)		$50
	Medium risk (eg dairy/milk factory; dairy section of supermarket; ice cream mfg)		$100
	High risk		$150

a Annual licensing fees in NSW and Tasmania include the cost of one compliance audit per year. **b** New Zealand fees are converted to Australian dollars based on average exchange rate for 2008-09 of 1.23. **c** The initial fee includes an initial inspection to assess the suitability of facilities before they commence their operation and an assessment of their FSP, including advice on compliance. **d** 2008-09 is the last year in which dairy distributors were accredited with DASA — these businesses are now regulated by local government under the *Food Act 2001* (SA).

Sources: Baldwins-FoodLegal (2009); Productivity Commission survey of food safety regulators (2009, unpublished); regulator websites; DASA 2009.

For dairy farmers, licensing fees for food safety purposes are possibly higher in Tasmania than in other jurisdictions, due to the slightly higher charges per litre of milk produced.

However, for dairy milk processors (depending on the business size), annual licensing/accreditation fees may be comparatively higher in New South Wales and Victoria than in other jurisdictions. For example, for a medium-size milk processor (about 3 million litres of market milk per annum), the Commission estimated that licence charges would be about $55 000 in New South Wales, $4400 in Victoria and lower in other jurisdictions (table 11.5).

Table 11.5 **Annual licence costs for a medium-size dairy business, by jurisdiction**[a]

Australian dollars, 2008-09

	Milk processor[b]			*Dairy manufacturer*[c]		
	Fixed charges	*Variable charges*	*Total cost*	*Fixed charges*	*Variable charges*	*Total cost*
NSW[d]	54 682	0	54 682	1 639	0	1 639
Vic	537	3 870	4 407	537	1 935	2 472
Qld	1 167	0	1 167	1 167	0	1 167
SA	0	663	663	0	3 315	3 315
WA	0	0	0	0	0	0
Tas[e]	0	788	788	3 150	0	3 150
NT	0	0	0	0	0	0
ACT	100	0	100	100	0	100

[a] New Zealand is not included in this comparison due to the highly mixed nature of most dairy businesses. [b] Based on a hypothetical business with production of 3 million litres of market milk per year. [c] Based on a hypothetical business with throughput of approximately 1500 tonnes per year or milk input of approximately 15 million litres per year. [d] Based on a business with 11-70 employees. [e] Assumes that milk used by the dairy manufacturer was purchased from a source other than a farm (and therefore a fixed annual charge applies).

Sources: Productivity Commission survey of food safety regulators (2009, unpublished); pers. comm. with regulators.

It should be noted, however, that the New South Wales licence fee for milk processors is an 'all-inclusive' fee which incorporates charges for other activities (such as an annual compliance check/audit and licences for cold stores, farms and vendors that are attached to the milk factory).[4] This significantly reduces the usefulness of a comparison with fee structures in other jurisdictions, which on the whole, charge businesses separately for these activities. Estimating licence costs of New Zealand milk processors is also problematic given the mixed operations of most production sites, but the Commission assessed that given the range of fees

4 New South Wales is moving to a new flat structure fee system in 2010 (NSWFA 2009b).

specified (table 11.4), a medium-sized milk processor could incur an annual licence fee in the order of A$8000 — well above that of most Australian jurisdictions.

For a medium-size dairy manufacturer (with throughput of approximately 1500 tonnes per year), licence charges would be around $3300 in South Australia, $3150 in Tasmania, $2500 in Victoria and lower in other jurisdictions.

Food safety plans

All dairy businesses in Australia are required under the PPPS for dairy to have a 'documented food safety program', however, Western Australia and the ACT do not specifically require there to be an FSP for licence approval.

While FSPs for dairy businesses are generally required to be Hazards Analysis and Critical Control Points (HACCP) based, jurisdictions differ in the prescriptiveness of additional requirements on plan content. New South Wales, Victoria and Queensland have provisions in their legislation and/or codes of practice on the content of FSPs which vary for different types of dairy businesses (Victoria's provisions, however, do not require anything additional to the national standard). Emerald Creek Foods estimated that it cost their business at least $6000 to convert an existing FSP to meet SFPQ requirements (sub. 15, p.6). South Australia, Western Australia and Tasmania include prescriptive provisions in their respective dairy industry codes of practice. The Northern Territory and the ACT (perhaps due to the small size of their dairy industry) defer to the ANZFS Code for the content of FSPs. Template FSPs are provided by regulators in New Zealand and New South Wales (albeit a generic template for all types of businesses), which may reduce regulatory compliance costs for businesses in these jurisdictions.

Dairy producers and processors in New Zealand are required to register a risk management plan (RMP) with the NZFSA prior to starting operation. At the end of 2008-09, there were around 300 RMPs registered with NZFSA for dairy businesses. Over half of these were RMPs for businesses that transport and/or store dairy products. Some of these RMPs may apply to multiple businesses as NZFSA allows more than one business to operate under a registered plan. To some extent, this may reduce the costs to business of operating under an RMP. Some secondary processors are able to choose whether they register and operate under an RMP, or alternatively, register an FSP under New Zealand's *Food Act 1981*.

New Zealand also requires the application of HACCP principles and has specific requirements detailed in the *Animal Products (Dairy Processing Specifications) Notice 2006* for dairy processing, farm dairies, raw milk acceptance and manufacturing.

Other requirements on business inputs and operation

All jurisdictions (except the Northern Territory, the ACT and South Australia from July 2009) have detailed requirements for the premises, equipment and processes used by dairy businesses that are additional to requirements under the ANZFS Code (table 11.6). For example:

Storage temperature requirements — Requirements for the temperature at which stored milk is maintained vary between jurisdictions with New Zealand the least restrictive and New South Wales the most stringent:

- Under the Dairy PPPS, all Australian jurisdictions are required to ensure that milk is cooled and stored at a temperature that prevents or reduces growth of microbiological hazards. FSANZ claim that the recognised industry standard is to cool milk to 5°C or less within 3.5 hours of the commencement of milking
- Victoria, South Australia and Tasmania each repeat this requirement in their codes of practice for dairy and specify that if milk is collected at a higher temperature it is 'the dairy manufacturer's responsibility to ensure that temperature control procedures are validated and equivalence demonstrated to ensure the minimisation of pathogenic microbiological growth'
- New South Wales on the other hand, requires that within 3.5 hours of the commencement of milking, the milk is either packaged and processed or cooled to 4°C or less (and milk is not to be collected from any farm vat unless the temperature has been reduced to 4°C or less, unless specifically authorised by the NSWFA)
- New Zealand, which is not bound by the ANZFS Code, allows a higher storage temperature than Australian jurisdictions and applies this from the completion of milking rather than commencement. Specifically, the RMPs of dairy operators are to describe procedures to ensure raw milk is cooled to 7°C or below within 3 hours of completion of milking and kept at this temperature until collected or until the addition of milk at the next milking, or is processed without delay.

Table 11.6 **Requirements on business operation — dairy**
2008-09

	NZ	*NSW*	*Vic*	*Qld*	*SA*	*WA*	*Tas*	*NT*	*ACT*
Jurisdiction-specific legislative requirements on premises, equipment and/or processes	✓	✓	✓	✓	✓	✓	✓		
Additional codes, standards, manuals or procedures (other than the ANZFS Code)		✓	✓		✓		✓		
Detailed requirements on building design or construction		✓				✓	✓		
Prescriptive requirements on cleaning		✓					✓		
Storage temperature requirements different from ANZFS Code	✓	✓							
Requirements on record keeping additional to ANZFS Code	✓		✓	✓	✓	✓	✓		
Requirements on sampling and testing additional to ANZFS Code	✓	✓							

Source: Baldwins-FoodLegal (2009).

Cleaning requirements — There is a vast range of requirements around the cleaning of dairy premises and equipment and while these vary in content and extensiveness between jurisdictions, in general, New South Wales appears to be the most prescriptive in its requirements (at least for on-farm practices).

- Victoria, South Australia and Tasmania require there to be an adequate supply of 'potable' water to clean the manufacturing premises, equipment and transport vehicles and for incorporation as an ingredient where required. In contrast, New South Wales require dairies to have a supply of 'unpolluted water' sufficient for operating needs and specify a requirement for '… an adequate supply of good quality water under pressure in the milk room or in close proximity to the milk room, so the bulk milk tank when emptied can be hosed by the tanker driver.' New Zealand requires that all water that may come into contact with raw milk during milking, including water used to clean the milking plant, is of 'suitable quality'.
- Tasmania specifies that only cleaning products approved by the National Registration Authority for agricultural and veterinary chemicals can be used to clean on dairy farms.
- As part of its cleaning requirements for dairy premises, New South Wales requires that dairy buildings have a water heater capable of supplying adequate hot water at above 94°C.
- New South Wales and to a lesser extent, Tasmania, provide detailed requirements for the design, layout and construction materials used for dairy premises and proximity to other facilities such as animal holding pens, feed storage and roads.

Record keeping requirements — While all dairy businesses are required under the Dairy PPPS to maintain certain records of operating procedures, Victoria, Queensland, South Australia, Western Australia and Tasmania also have additional requirements either in their legislation or code of practice. These requirements tend to focus on the producer's ability to trace products, lot identification and production dates. Baldwins-FoodLegal (2009, p. 65) report that '… the record keeping requirements for the dairy industry are more prescriptive in the legislation, regulation and codes of practice than for other primary food industries.'

Product sampling and testing requirements — There are several issues with sampling and testing of products that may result in higher business compliance costs in some jurisdictions.

- In relation to product testing requirements for the dairy industry, most jurisdictions rely on requirements in the ANZFS Code and simply specify that testing is required to verify the effectiveness of the on-farm food safety program. Testing requirements in New South Wales are considerably more prescriptive and relate to specific contaminants in particular products or food-borne illnesses. For example, the NSWFA requires dairy produce factories to conduct some tests (such as for salmonella) on some dairy products at least fortnightly. Baldwins-FoodLegal (2009, p.65) note that '… the majority of prescriptive testing requirements with respect to the dairy industry are generally contained in the Codes of Practice and not in statute or legislation.'
- One issue that can arise with demonstrating compliance of tested dairy product samples is that the nutritional composition of products can change considerably with the age of the product. Requirements on product testing generally do not allow different standards at different stages in the life of a product. The extent to which this is an issue for dairy businesses will depend on the way in which requirements are enforced in the different jurisdictions.

11.3 Audits and compliance monitoring

Purpose and agencies involved

While there is generally a difference between an inspection to verify compliance against legislation or standards and an audit of an FSP, in practice, most routine inspections of dairy premises by authorised officers include a check of the compliance against the business's FSP.

Legislation in New Zealand, New South Wales, Victoria, Queensland and South Australia requires FSPs/RMPs of dairy businesses to be audited but, in practice,

regulators in Tasmania and the Northern Territory also undertake regular audits or compliance checks (table 11.7). In four of the nine jurisdictions, third party agencies are used for compliance checks in at least some stages of the production process. To the extent that these agencies can also provide audits for other (non-regulatory) purposes and that these parallels reduce the overall compliance burden on business, the capacity to use these agencies may contribute to lower regulatory compliance costs for businesses.

Table 11.7 **Audit and compliance check agencies — dairy**
2008-09

	Principal authority	*Third party auditors possible*
NZ	NZFSA	✓
NSW	NSWFA	
Vic	DFSV	✓
Qld	SFPQ	✓
SA	DASA	✓
WA	Western Australian Health	
Tas	TDIA	
NT	NT Health	
ACT	ACT Health	

Sources: Baldwins-FoodLegal (2009); Productivity Commission survey of food safety regulators (2009, unpublished).

Costs to business of audits and compliance checks

Audit frequency is generally based on perception of risk of different types of businesses, but risk categories for different operations vary between jurisdictions. For example, the ACT adopts FSANZ priority classifications while New Zealand, New South Wales and Queensland have developed jurisdiction specific risk categories (chapter 8). Of all the jurisdictions, New South Wales and New Zealand have audit regimes with potential for the most frequent inspections on compliant businesses, while the longest average duration for audits was reported in Western Australia and Victoria (8 hours for large businesses) (table 11.8). Key differences in audit regimes between jurisdictions include:

- In New South Wales, dairy farms and transporters are audited once per year if they are found to be compliant with requirements or every six months if there are food safety issues. Milk produce factories and milk processors are audited more frequently — every six months if they are found to be compliant, otherwise audits may be three monthly. The NSWFA reported that, on average, an audit of a dairy processor takes around 2.5 hours (although NSWFA also noted that some of this time is spent educating the business operator on requirements)

- Victoria provides for compliance audits to occur twice a year for manufacturers and once every two years for farms. Audits can be undertaken by private auditors. DFSV reported that 70 per cent of domestic audits of dairy manufacturers are conducted by SAI Global (DFSV 2008), and cost around $215 per hour — DFSV also charges the same rate. Enforcement (penalties and corrective actions) is the responsibility of DFSV and not the private auditors
- Dairy businesses in Queensland are audited within six months after accreditation and within one year after the first successful compliance audit. Subsequent audits depend on risk and category of accreditation. For low risk dairy businesses (dairy farms, processors of butter and fat spreads, and transporters), SFPQ must conduct a compliance audit within six months of accreditation and within one year of first compliance. Thereafter, audits are annual if the business is found to be compliant. For high risk dairy businesses (those that process dairy products other than butter or process and package unpasteurised goat milk), SFPQ must conduct a compliance audit within three months of accreditation and within six months of first compliance. Thereafter, audits are six monthly if the business is found to be compliant. SFPQ reported that, on average, an audit of a dairy processor takes up to 4 hours (excluding preparation of an audit report)
- South Australia has, as a condition of accreditation, a provision that periodic audits may be conducted without notice, as often as required by the approved FSP. In practice, most dairy businesses are audited at least annually with audits taking around 2 hours for a dairy farm and 5 hours for a dairy processor
- Domestic dairy processors are audited every six months in Western Australia and Western Australian Health reports that the average time taken to complete an audit is just over 1 hour for a dairy farm but around 8 hours for a dairy processor
- In Tasmania, dairy businesses are audited, on average, once per year. The TDIA reported that, on average, an audit of a dairy processor takes around 5 hours
- There are two agencies in New Zealand that provide verification of RMPs for dairy businesses — the NZFSA Verification Agency and AsureQuality. Unless they export (in which case they must use the NZFSA Verification Agency), a dairy business is able to choose which agency it uses for audits. Approved RMPs are audited at least annually, with provision for greater frequency based on performance. A dairy processor may be audited up to four times per year.

Table 11.8 **Audit and compliance costs — dairy**

Australian dollars, 2008-09

	Frequency	*Average duration*	*Cost*
NZ[a]	Dairy farm: at least once per year Dairy processor: up to 4 times per year	5 hours (maximum)	NZFSA audit: $112 to $122/hr plus $28 to $30/15 min in final hour
NSW[b]	Farms, collectors, transporters & stores - once per year if compliant, otherwise every 6 months Factories & processors – 2 to 4 times per year if compliant	Farms: 1 hour Processors: 2.5 hours Transport: 0.5 hour	$147/hour plus $38 travelling expenses (costs increase with the consumer price index)
Vic	2 times/year for manufacturers and once every 2 years for farms.	Farms: 2 hours Small processors: 3 hours Large processors: 8 hours	$215/hour
Qld	Dairy farms, processors of butter & fat spreads, transporters – once per year after the first year, if compliant Other dairy processors, processors and packers of unpasteurised goat milk – every 6 months after the first 6 months, if compliant.	Farms: 1.5 hours Processors: 4 hours	$225/hour
SA	Farmers, manufacturers & carriers – at least once per year Large scale manufacturers – audit twice per year	Farms: 2 hours Processors: 5 hours	Dairy farmers: 0.0181 cents/litre Milk processors/manufacturers: 0.0160 cents/litre
WA	Farms: once per year Processors: twice per year	Farms: 1 hour Processors: 8 hours	No charge
Tas[b]	Once per year	Farms: 0.75 hour Processors: 5 hours Transport: 0.5 hour	No charge
NT	Once per year	Farms: 1 hour Processors: 1 hour	No charge
ACT	Once per year	na	No charge

na not available. **a** Comparable audit duration estimates are not available for New Zealand as they report only maximum duration and the vast majority of audits incorporate compliance checks for export purposes. New Zealand fees are converted to Australian dollars based on average exchange rate for 2008-09 of 1.23. **b** Annual licence fees in New South Wales and Tasmania include the cost of one compliance check per year.

Sources: Productivity Commission survey of food safety regulators (2009, unpublished); NSWFA (2009d); regulator websites; DASA (2009).

In several jurisdictions (for example, Queensland and South Australia), the larger dairy processors and manufacturers report on a monthly basis to the food safety regulator to demonstrate the quality of product test results and their compliance with the required standards. This information is already generated by the business in the course of its operations and can be provided electronically to the regulator. The information is reviewed by the regulator throughout the year in conjunction with compliance audits, and may facilitate a reduction in the number of audits of

businesses. SFPQ (pers. comm., 2009) indicates that this approach is a more cost effective system for verifying food safety performance and provides a more objective indicator of food safety performance than audits, as the effectiveness of audits relies on auditor competence, experience and only provides a snapshot of overall performance. For those businesses covered by this approach, audits may not be a major compliance burden.

In most jurisdictions, audits are charged on an hourly basis. Per hour audit fees are highest in Queensland and Victoria. In New South Wales and Tasmania, annual licence fees include the cost of one annual compliance audit. While compliant businesses in New South Wales incur the cost of one additional audit per year to meet regulatory requirements, those in Tasmania only incur additional audit fees if they are found to be non-compliant and require a follow up audit. Western Australia, the Northern Territory and the ACT do not currently charge for audits of dairy premises.

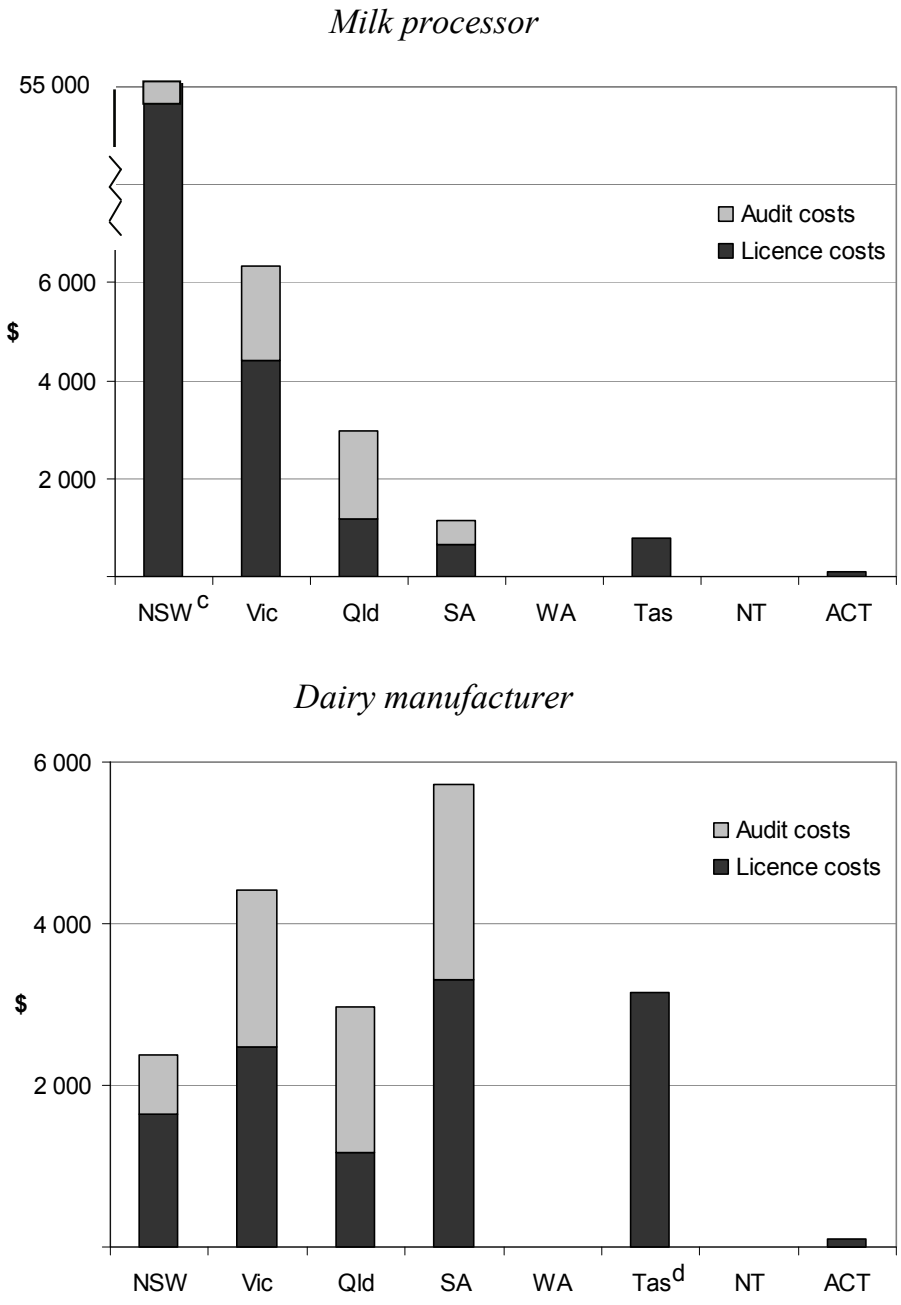
Total annual audit costs were estimated by the Commission, as an example, for a medium-sized dairy milk processor and a medium-sized dairy manufacturer in each jurisdiction (as defined in table 11.5). Overall, given the frequency of audits and the fees charged, annual costs associated with audits and compliance checks for food safety purposes were estimated, at around $2000 in 2008-09, to be highest for dairy milk processors in Victoria and Queensland (except for Queensland processors of butter and fat spreads, which are audited less frequently) and dairy manufacturers in South Australia. Medium-sized dairy processors in South Australia incurred audit fees of around $480 in 2008-09 and dairy businesses (processors and manufacturers) in New South Wales incurred around $735. There was no separate charge for compliance checks in the remaining states and territories. At these levels, the costs to a dairy business of regulatory audits and compliance checks is small in most jurisdictions, relative to the licence costs incurred.

Total compliance costs

As some jurisdictions incorporate (either explicitly or implicitly through cross-subsidisation) the cost of one or more compliance check in the annual licence fee charged to businesses, the cumulative cost of licensing and compliance checks is an important consideration. It was estimated that in 2008-09, the overall cost of licensing and compliance checks for a medium-sized business was highest in New South Wales and Victoria for dairy milk processing, and in Victoria and South Australia for dairy manufacture (figure 11.2).

Figure 11.2 **Annual compliance costs for a medium-sized dairy business by jurisdiction**

Australian dollars, 2008-09[ab]



[a] Estimates are based on the minimal number of audits required of a generally compliant medium-sized dairy milk processor (with approximately 3 million litres of market milk per year) and dairy manufacturer (with approximately 1500 tonnes of throughput or 15 million litres of milk input per year). [b] Licence costs are as reported in table 11.5. Annual audit cost is derived as: $ cost per hour for an audit x average number of hours per audit x minimum number of audits per year. [c] The licence cost estimate for a NSW milk processor includes licence charges for other activities (such as transport and storage) and audit charges for the milk processor's cold stores, farms and vendors. [d] Estimate for Tasmania is based on a medium-sized dairy manufacturer which purchases milk from a source other than a farm.

Data source: Productivity Commission survey of food safety regulators (2009, unpublished).

The dairy authorities in each Australian state also undertake audits on behalf of AQIS for those dairy businesses which export. In practice, audits for domestic purposes may be undertaken in conjunction with the audit for export purposes. The TDIA advised the Commission that they attempt to line up audits for their own purposes with those for export purposes to minimise the compliance burden on dairy businesses (pers. comm., August 2009) — a similar arrangement also exists in Victoria. These arrangements potentially reduce the regulatory compliance burden for dairy exporters through reduced overlap in paperwork and fewer audits per year to verify compliance. To the extent that a marginally longer audit to satisfy two separate regulatory requirements is less costly for businesses than multiple audits (of a shorter duration), business compliance costs may be lower.[5]

The capacity to choose between approved auditors in New Zealand, South Australia and Queensland may also provide businesses with more options to reduce audit costs. In Victoria, DFSV reported to the Commission that use of third party auditors has helped reduce the costs of regulation in that state as the regulatory audit can, for some businesses, be conducted as part of a commercial quality assurance audit.

5 The dairy industry in Australia has, in earlier regulatory reviews, raised the issue of overlap between export regulatory requirements and the dairy PPPS in the ANZFS Code (Dairy Australia 2008). While the export orders reference the ANZFS Code and Australian testing standards, the *Export Order (Milk and Milk Products) 2005* in particular, duplicates substantial aspects of processing hygiene systems regulated under the Australian Dairy PPPS. This issue is discussed further in chapter 14.