Regulatory Impact Statement: *Salmonella* Enteritidis Long Term Regulatory Framework

Purpose of Document	
Decision sought:	Approval of proposed policy options for the long-term regulatory framework to detect and manage *Salmonella* Enteritidis in New Zealand's commercial chicken producer and primary processor flocks.
Advising agencies:	Ministry for Primary Industries
Proposing Ministers:	Minister for Food Safety
Date finalised:	17 June 2022

Problem Definition

Salmonella Enteritidis (SE) was recently detected in New Zealand's commercial chicken producer and primary processor flocks. Although SE is not new to New Zealand, it is new to our commercial chicken flocks which presents risks to human and animal health as well as to our international trade. SE will continue to be a problem without consistent and enforceable controls.

Executive Summary

- Detection of a transovarian strain of SE in March 2021 in the commercial chicken sector changed New Zealand's SE-free reputation. It was not a public food safety risk and had provided a market access advantage for our export poultry markets.
- Epidemiological investigation linked this SE strain to an ongoing SE outbreak first notified in May 2019. As on 6 June 2022, 127 human illness cases have been linked to this outbreak. While SE is not new to New Zealand, some SE strains can cross the ovarian barrier into eggs (transovarian) which can cause foodborne illnesses especially where raw or lightly cooked eggs are consumed.
- New Zealand's commercial chicken producers and primary processors are currently regulated under the temporary *Animal Products Order: Emergency Control Scheme – Managing* Salmonella *Enteritidis in Commercial Chicken Flocks 2021* (ECS) which is due to permanently expire on 5 October 2022.
- SE export legislation introduced in July 2021 to manage risks to our exported chicken and egg products will not expire. Alignment between the new regulatory framework and continuing export legislation will be required to avoid any disruption to exports for commercial chicken producers and primary processors who supply both domestically and overseas.
- Government intervention is required to impose consistent and enforceable controls to ensure risks to public health and trade are addressed and reduce the risk of SE becoming prevalent in the commercial chicken sector. Earlier parts of the supply chain which precede egg-laying and processing have subsequently been identified as key points of transmission to wider parts of the industry.
- The objectives of a SE long term regulatory framework are applicability to the appropriate commercial chicken producers and primary processors, and a balance of food safety, market access, cost, and enforcement, while also being aligned with industry needs.

- Three options are considered against assessment criteria that reflect the overarching objectives. The options are (1) status quo - use of existing legislative framework when the ECS expires, (2) risk management programmes (RMPs) and a monitoring and surveillance programme, and (3) regulated control schemes (RCSs). An indicative analysis of costs and benefits from the proposed regulatory frameworks has been prepared (Table 4, page 16).

Summary of preferred option: Risk management programmes and a monitoring and surveillance programme for New Zealand commercial chicken producers and primary processors

Under the Animal Products Act 1999 (APA 1999), a risk management programme (RMP) is prepared by a business which shows how they meet food safety requirements. It contains documented procedures which identify, control and monitor hazards as well as remedial actions to be taken when things go wrong.

RMPs offer a proven approach to effectively manage risks in animal products and animal materials and provides for building the risk management relative to the risk of SE. The option of a regulated control scheme under the APA 1999 was also considered as it achieves the same food safety outcomes as an RMP regulatory framework. However, an RMP's key benefit is that it is legislatively easier to change requirements as new issues arise.

RMPs have the flexibility to meet industry needs in the following ways:

Breeders and hatcheries: These operations can design an RMP that will manage their high risk of disseminating SE if present.

Egg laying rearers (integrated): An egg processor may amend their existing RMP to be a multi-business and/or multi-site RMP. They will be accountable for egg-laying chicken rearers with whom they have a contractual relationship and close oversight of day-to-day operations.

Egg laying rearers (independent): Independent egg-laying chicken rearers will be responsible for their own RMP, but the process can be simplified with a template RMP created by MPI.

Broiler rearers (integrated): A chicken processor may amend their existing RMP to be a multi-business and/or multi-site RMP. They will be accountable for broiler rearers with whom they have a contractual relationship and close oversight of day-to-day operations.

A monitoring and surveillance programme is enabled by Part 8 of the Animal Product Regulations 2021 for the purposes of detecting SE. It can be designed by way of a supplementary notice.

RMPs and the monitoring and surveillance programme can be co-designed by the poultry industry and MPI.

Analysis Limitations and Constraints

Key gaps in data and knowledge

- Until the introduction of the ECS, breeders, hatcheries, and rearers of egg laying and broiler chickens, had little regulatory oversight, leading to a paucity of data.
- In July 2021, an environmental testing delimiting survey was conducted to determine the extent and prevalence of the transovarian SE strain. The delimiting survey gave a partial picture of SE presence. Data gathered from the ECS is helping inform us of SE's status.
- The cause of the SE outbreak in chickens to date is unconfirmed, though a range of risk sources has been hypothesised.
- The true extent of SE-related illness is unknown. Foodborne cases of human salmonellosis are not always reported by the public. It is not always possible to associate salmonellosis with a definitive food source and not all cases can be attributed to egg or chicken meat products. There was also a pause in information gathering due to limited ability to phage-type in October 2019.
- Consultation outreach was limited, particularly for solo operations who have limited time and resources to engage with these proposed changes, and operators whose interests may not be represented by the Poultry Industry Association of New Zealand and the Egg Producers Federation of New Zealand. A limited consultation timeframe of two-weeks may have also potentially impacted the number of submissions received.
- Potential presence of businesses that have not yet listed or registered with MPI. Listing requirements for breeders, hatcheries, rearers of egg layer and broiler chickens were not required before the ECS except if listed as an exporter. Extra work was conducted during the implementation of the ECS to identify those not already listed with MPI to reduce risk however there may be very small, low profile operators yet to be identified.
- Costs of the future programme are unable to be fully indicated at this early stage of policy development. The poultry industry is sensitive to ongoing or additional compliance costs.

Time constraints

Analysis has been constrained by the limited time available before the ECS expires in October 2022. SE safety measures are still required because it is an ongoing food safety issue risk.

Diversity of the commercial chicken producers and primary processors

The commercial chicken producers and primary processors in New Zealand are diverse and complex in nature. The risk profile from a human health and industry disease dissemination perspective also varies depending on the position in the chicken supply chain. This diversity needs to be accommodated for when developing a long-term SE regulatory framework.

Responsible Manager

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Manager
Food Safety Regulation
Ministry for Primary Industries

Date that document was signed out: 30 June 2022

Quality Assurance	
Reviewing Agency:	The MPI Regulatory Impact Analysis Panel has reviewed the *Regulatory Impact Statement: Salmonella Enteritidis Long Term Regulatory Framework* produced by MPI dated 10 June 2022. The review team considers that it partially meets the Quality Assurance criteria.
Panel Assessment & Comment:	The *Regulatory Impact Statement: Salmonella Enteritidis Long Term Regulatory Framework* (RIS) produced by MPI is a clear document that sets out the feasible options and provides a clear recommendation. As acknowledged in the RIS, the time constraints to complete this work have limited the consultation that was able to be undertaken. In addition, there are recognised gaps in the available information that create uncertainty around the potential impacts of each option considered. Where these limitations occur, they have been set out and addressed appropriately given the available information.

Section 1: Diagnosing the policy problem

Context

Most chicken meat and eggs processed in New Zealand are for the domestic market. New Zealanders consume on average 237 eggs annually. Chicken meat is the most favoured meat with New Zealanders eating on average 43kg chicken meat per capita in 2021. The estimated domestic market worth was NZD$143 million for chicken meat and NZD$467 million 1.2 billion eggs in 2021.

In terms of exports, New Zealand's day-old chicks, hatching eggs, and chicken products (meat and table eggs) export market totalled approx. NZD$109 million[1] in March 2022 with the Pacific Islands, Australia, Singapore and Hong Kong being key markets. A *Salmonella* Enteritidis (SE) -free reputation provided New Zealand commercial chicken producers and primary processors a market access advantage for our exported products.

In March 2021, SE was detected at a large New Zealand chicken meat processor, and shortly thereafter at a hatchery and associated rearer. Although SE is not new to New Zealand and can be found in humans, other animals, and the environment, it was new to commercial chicken flocks. Further epidemiological investigation linked this strain to an ongoing SE outbreak which has been ongoing since 2019.

Some SE strains can cross the ovarian barrier into eggs (transovarian). While SE can be easily killed through normal cooking of chicken meat and eggs, overseas experiences show outbreaks of human salmonellosis can occur through the consumption of contaminated raw or lightly cooked egg products such as aioli. This presents risks to public health and international trade. SE is present in many overseas egg and chicken meat industries which has economic ramifications and public health risks, as shown in the European Union (EU). Between 2017 and 2020, contaminated eggs affected 15 EU member states and led to 656 confirmed human cases, 202 probable cases and the recall of affected products.

[1] Poultry exports made up 0.55% of total exports for March 2022 quarter which was NZD$19.8 billion. https://www.stats.govt.nz/information-releases/international-trade-march-2022-quarter#:~:text=Total%20exports%20of%20goods%20and,in%20the%20March%202021%20quarter.

Subsequently, MPI and industry established a formal SE Response in 2021 which successfully identified and managed the outbreak. It led to an environmental testing delimiting survey on New Zealand egg-laying operations.

Regulatory measures for domestic and export legislation were also introduced to manage SE risks. SE Overseas Market Access Requirements (OMARs) were introduced in July 2021 to manage risks to international trade. The *Animal Products Order: Emergency Control Scheme – Managing Salmonella Enteritidis in Commercial Chicken Flocks* (ECS) was introduced in October 2021 to temporarily impose domestic controls. The ECS is a temporary regulatory measure and will permanently expire on 5 October 2022. SE export legislation will not be expiring.

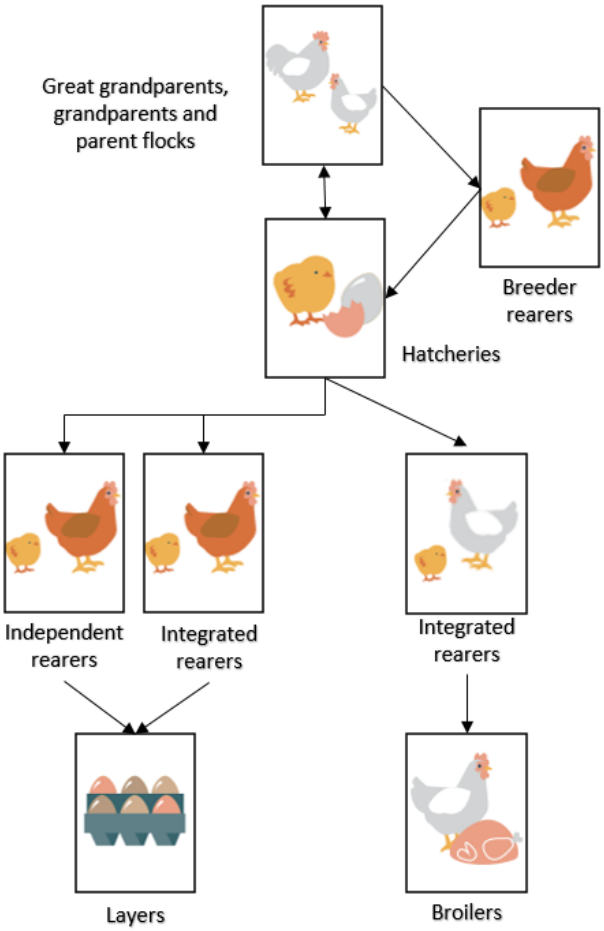
Industry structure

The commercial chicken industry in New Zealand is a highly diverse sector. The Poultry Industry Association of New Zealand (PIANZ) is the industry body that represents four of the five commercial chicken meat processors and commercial egg producers are represented by the Egg Producers Federation of New Zealand (EPF).

The commercial chicken producer and primary processor industry is highly diverse and complex in nature. The size and scale of businesses vary from family-owned operations to multinational corporations. There are 158 operators across approximately 500 farms with varying operational management systems. The supply chain consists of breeder farms, hatcheries, rearing (growing) farms of egg-layer and broiler chickens, through to egg and chicken meat primary processors.

The following diagram is a representation of the domestic chicken industry structure. It shows the sources of broiler or egg layer chickens that input into the commercial egg and chicken meat supply chain.

Diagram 1: Structure of New Zealand's domestic chicken and egg industry



Current regulatory requirements

Chicken primary processors (egg-layers and broiler chicken processors) are already required to operate under an RMP which are sufficient to manage the risks SE poses. It was due to routine microbiological testing under the National Microbiological Database (NMD) programme which initially detected SE in chicken meat in 2021. NMD testing is conducted by primary processors as part of their RMP.

However, the SE detection highlighted a regulatory gap, that commercial chicken producers (breeders, hatcheries and rearers of egg-layer or broiler chickens) were not captured within permanent domestic regulations under the APA 1999. This was remedied by the introduction of the ECS, although commercial chicken producers who export poultry products were already regulated under export legislation. The following table demonstrates these groups' current regulatory requirements:

Table 1: Commercial chicken producers and primary processors current regulatory requirements

Group	Current regulatory requirements
Breeder Breeder chickens are multiplier flocks that lay fertilised eggs reared for genetic stock. There are approx. seven breeding and associated breeder rearing farms in New Zealand owned by four companies. Breeder rearers are operators who rear great-grandparent, grandparent, and parent breeder chickens.	**Domestic:** Previously no requirements until introduction of ECS 2021. Currently covered by the ECS until October 2022. **Exports:** Animal Products Notice (APN): 19DXP Day-Old Chicks and Hatching Eggs – Additional Disease Requirements for Specified Markets APN: Export-Approved Premises (EAPs)[2] APN: Official Assurances Specifications for Animal Material and Animal Products. APN: Individual importing country overseas market access requirements.
Hatcheries Fertilised eggs are incubated and hatched before being supplied as rearer chicken chicks to become broiler chickens for domestic meat production or for egg laying (for breeding flocks or commercial egg production). Hatcheries are closely linked and, in most cases, controlled by the same companies controlling the breeder flocks. There are 5 major company hatcheries of which each may have one or more associated hatcheries.	**Domestic:** Previously there were no requirements until introduction of ECS 2021. Currently covered by the ECS until October 2022. Some hatcheries have RMPs to enable the sale of table eggs. **Exports:** APN: 19DXP Day-Old Chicks and Hatching Eggs – Additional Disease Requirements for Specified Markets APN: Export-Approved Premises APN: Official Assurances Specifications for Animal Material and Animal Products. APN: Individual importing country overseas market access requirements.
Rearers (egg-laying) Rearers grow live chicks until they are ready to become egg layer chickens. Integrated egg-layer rearers (closed system) - egg operators who have complete oversight	**Domestic:** Previously no requirements until introduction of ECS 2021. Currently covered by the ECS until October 2022. **Exports:** Not applicable.

[2] Export-approved Premises (EAPs) is a listing system for premises approved to export animal material or animal products under the APA 1999.

and management of the rearing farm(s) where layer chicks are raised until the point of lay. Independent rearers (open system) – self-managed rearers that are contracted to produce live layer chicks to one or more egg-laying operations.	
Egg layer primary processors Operators that have more than 100 laying hens producing table eggs for sale to a distributor or directly to retail for the purpose of human consumption. There are approx. 142 commercial egg layers[3] nationwide.	**Domestic:** RMP under the APA 1999 **Exports of table eggs:** APN: Official Assurances Specifications for Animal Material and Animal Products. APN: Individual importing country overseas market access requirements.
Rearers (broilers) Broiler rearer farms are contracted to produce live chicks for a broiler processor and raise them until presentation for slaughter and processing. Processing companies have complete oversight and management of all broiler rearer farms (integrated system). There are an estimated 260 farms.	**Domestic:** Broiler rearer farm operators are subject to a whole flock health scheme to the broiler processing premises. **Exports:** Not applicable.
Broiler chicken primary processors Receives chicks from broiler rearer farms for slaughter and primary processing. There are 18 primary processing sites producing chicken meat (broilers) for commercial sale which are managed by five major companies.	**Domestic:** RMP under the APA 1999 **Exports of chicken meat:** APN: Official Assurances Specifications for Animal Material and Animal Products. APN: Chicken and Chicken Products – Additional Salmonella Enteritidis Requirements for Specified Markets APN: Individual importing country overseas market access requirements.

Regulatory environment

Other regulatory impacts have placed pressure on New Zealand commercial chicken producers and primary processors, particularly public animal welfare to meet new social standards. For example, under the Code of Welfare for Layer Hens 2012, farmers cannot install new battery cages and must begin decommissioning existing battery cages from 2018.

Impacts of ECS

Since the introduction of the ECS in October 2021, it has successfully identified and managed SE outbreaks and assisted industry to eliminate SE from commercial chicken flocks.

Currently, 158 commercial chicken and egg operators are required to comply with the ECS. It introduced interim requirements to ensure that chicken products for human and animal consumption are free of SE, to assist operators in eliminating SE from commercial chicken flocks and to maintain access to export markets. The ECS therefore currently covers the entire

[3] Any entity selling to a distributor, or with more than 100 laying hens-producing eggs for sale, is classed as a commercial egg layer.

chicken supply chain and fills the regulatory gap of chicken producers having no previous requirements unless exporting.

Since introducing the ECS, 38 egg RMP operators have surrendered their RMP stating that additional compliance costs and higher than normal costs from events (e.g., Covid-19), have been particularly challenging for smaller operators.

Key stakeholders

Key stakeholders are the commercial chicken producers and primary processors affected by the current ECS, domestic and international consumers, exporters and overseas importers of New Zealand live poultry, chicken meat and egg products, MPI's overseas counterparts and other government agencies such as the Ministry of Health.

Stakeholder consultation and engagement

MPI has had close engagement with the Poultry Industry Working Group (Working Group) throughout the design and implementation of the ECS, and currently with development of the long-term SE regulatory framework. The Working Group comprises representatives from PIANZ, EPF, breeder, hatchery, rearers of egg-laying and broiler chickens, egg layers and broiler processing sectors.

Consultation was held on proposed options for a long-term SE regulatory framework between 29 April 2022 and 15 May 2022 with 560 emails sent to industry bodies, export hatcheries, and chicken and egg producers and primary processors currently operating under the ECS. Six submissions were received by the closing date. Possible reasons for the relatively low number of submissions received could have been the short two-week consultation timeframe, solo operators who have limited time and resources to engage with these proposed changes, and operators whose interests may not be represented by PIANZ and EPF.

All submitters were from the Working Group and the preferred option was an RMP regulatory framework due to its flexibility to change requirements in a timely manner, and a monitoring and surveillance programme. Industry supported the RMPs with the understanding that parent RMP companies are accountable for integrated egg-laying rearers and broiler-rearers, and the removal of duplication between domestic and export requirements.

Industry's concerns surrounded the design, costs and implementation of the future regulatory framework which would ideally enable it to be cost and risk proportionate with scope to reduce level of monitoring as SE detections decline. They also would like to see the framework extended to other Salmonella enterica serovars of public health concern.

What is the policy problem?

Problem definition

SE was recently detected in New Zealand's commercial chicken producers and primary processors. Although SE is not new to New Zealand, it is new to our commercial chicken flocks which presents risks to human and animal health as well as to our international trade. SE will continue to be a problem without consistent and enforceable controls.

Nature and scale of the problem

Extent of SE in commercial chicken producer and primary processing industry

Environmental testing results in late-2021 provided a partial picture of SE contamination which was present in a small number of commercial egg-laying operations. An environmental testing delimiting survey to determine the extent and prevalence of the transovarian SE strain was conducted on 20% of New Zealand egg-laying operations which represented 80% of the eggs produced domestically. No positives were detected. Note that testing was confined to large scale commercial egg laying operations and cannot draw conclusive inferences of the extent of SE in small scale egg producers, or other chicken production systems such as broiler chicken flocks

Since the environmental testing delimiting survey, testing of commercial chicken producer and primary processor flocks conducted through the ECS has shown that 0.3% of tests are positive

SE detections. This indicates that there is a low level of detection of the disease however is not conclusive due to the limitations of the survey outlined above.

Risk to public health

Since 2019 and as of 19 May 2022, 127 human cases have been reported and epidemiologically linked to the 2019 SE outbreak. An SE outbreak could be detrimental to public health considering that chicken meat and egg consumption is a staple food item for many New Zealand households. This means there could be potential contamination of the estimated 215 million kilograms of chicken meat (NZD$143 million) and 1.2 billion eggs consumed (NZD$467 million) domestically in 2021.

SE infection can come from a wide range of sources. Infection from chicken products is usually associated with inadequate cooking of chicken meat, consumption of raw or lightly cooked egg products, or cross-contamination from these products. It results in gastroenteritis where symptoms include stomach pains, diarrhoea, nausea or vomiting, or even death in some cases. While the hospitalisation rate for salmonellosis in New Zealand is approx. 20 percent, more than 40 percent of New Zealand cases infected by this strain of SE have been hospitalised, which suggests it is a Salmonella strain causing more severe illness, although this may be a detection bias. According to a 2010 study, the estimated economic cost of salmonellosis illnesses for New Zealand in 2009 was $15.41 million[4].

Potential impacts on New Zealand exports

Exports of day-old chicks, hatching eggs, and chicken products (meat and table eggs) are a relatively small component of the New Zealand primary industry compared to exports of other primary products. Day-old chicks and hatching eggs provides the greatest value of all chicken products exported from New Zealand. New Zealand's annual trade of live poultry and poultry exports was worth NZD$109 million in 2021.

Although exports of chicken products are relatively small, there are a number of Pacific nations and trade partners that depend on New Zealand trade for hatching eggs and day-old chicks to supplement their chicken supply and production systems. If we exported SE, that could affect our trade reputation as a responsible exporter of high-quality product and export market access.

Risk profile and position in supply chain

The risk profile from a human health and industry disease dissemination perspective varies depending on the position in the supply chain. Those earlier in the supply chain (breeders, hatcheries, rearers of egg layer or broiler chickens) pose the greatest risk of disseminating disease through to wider industry, whilst egg laying and chicken meat primary processors pose the greatest risk to human health. The extent of regulatory requirements will be implemented according to the risk profile of the business sector.

In particular, the recent SE detections has highlighted that breeding, hatching and rearing functions preceding egg laying and processing were not captured within permanent domestic regulation under the APA 1999. In general, there are a lack of microbiological controls for SE across commercial chicken producers and primary processors, and MPI had limited controls to identify and manage SE detections.

Risk of spread of SE

The source of the SE in commercial chicken flocks has not been identified. Until it is identified, and the associated flocks removed, the threat to commercial chicken producers and primary processors remains. SE prevalence and spread are indeterminate without preventative monitoring, surveillance, and prompt 'detection' action controls.

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[4] "The economic cost of foodborne disease in New Zealand" for NZFS by Applied Economics, https://www.mpi.govt.nz/dmsdocument/25814-The-economic-cost-of-foodborne-disease-in-New-Zealand

International approaches to managing SE

SE is present in many overseas egg and chicken meat industries and has been linked to human case outbreaks in the United Kingdom, EU, Canada and Australia from consumption of contaminated chicken meat and eggs.

Australian regulators responded to an outbreak associated with egg consumption in 2018-19 by undertaking an interstate programme of sampling layer flocks and introducing biosecurity measures to prevent SE spread. A national response management plan was developed with industry and no on-farm SE detections have been reported since March 2020.

The Canadian government responded to two separate chicken related outbreaks of SE that occurred in 2010 and 2015. Farmers established a self-insurance programme, and the government introduced a monthly testing programme for egg layer breeders. Canada continues to report outbreaks of Salmonellosis associated with eggs.

The EU initiated an extended control program for zoonotic diseases, including *Salmonella*, in 2003. Between 2007 and 2010, the UK *Salmonella* National Control Programme was implemented according to the requirements of Regulation (EC) No. 2160/2003. Broiler, laying and pullet rearing operations are required to routinely test for *Salmonella*. Since its implementation, laboratory reports of non-typhoidal *Salmonella* across the chicken supply chain have decreased from 7.27 per 100,000 population in 2009 to 4.04 in 2016 with the main responsible species being SE.

Section 2: Developing policy options

Objectives

MPI's overarching objective is to manage public health and trade risks by producing safe and suitable food.

The following objectives to manage SE in commercial chicken flocks are to:

- achieve safety and suitability of food for sale;
- maintain confidence in New Zealand's food safety regime;
- assist the commercial chicken industry in the elimination of SE;
- provide certainty for the commercial chicken industry in relation to a cost-effective and fit-for-purpose framework that can be adapted to suit a diverse sector.

The below criteria will be used to assess proposed options and are derived from the objectives:

- *food safety* - any new framework will aim to achieve the objective of safety and suitability of food for sale, provide for risk-based measures that minimise and manage risks to public health, and consequentially protect New Zealand's reputation as a supplier of safe food;
- *maintain, migrate or modify* - where appropriate, build upon existing safety measures currently contained in the ECS and Animal Products Regulations 2021;
- *certainty* - by providing a framework that is easily implemented and scaled to suit a diverse sector and to assist industry in the detection and management of SE and future food safety risks; and
- *Cost-effectiveness* - an option that is economically feasible for industry.

Regulatory Scope

Various primary legal frameworks were considered in the development of policy options as outlined in Table 2.

The APA 1999 is assessed as the most appropriate primary legal framework because the Act's legislative purposes align with the overarching policy objective of managing public health and trade risks of safe and suitable food.

The Act's legislative purposes are:

- to ‘minimise and manage risks to human or animal health arising from the production and processing of animal material’ and ‘ensuring so far as is practicable that all traded animal products are fit for their intended purpose’, and
- to ‘facilitate the entry of animal material and products into overseas markets’ and ‘safeguard official assurances for entry into those markets.’

SE poses serious human health risks from potential consumption of contaminated animal products and poses risks to market access. The APA provides an appropriate legal basis for use in a long-term SE regulatory framework.

Table 2: Assessment of Appropriate Primary Legal Frameworks

What is in scope?	What is out of scope?
Use of provisions under the Animal Products Act 1999 due to SE being assessed as primarily a food safety and export concern. Amendment to Animal Product Regulations 2021 which commence on 1 July 2022.	Amendments to the Food Act 2014 (FA 2014) or Food Regulations 2015. The risks identified are within the production and primary processing of animal material under the APA 1999. The aim of the FA 2014 is to regulate secondary processing and the safety and suitability of food for sale. It is thus unsuitable as it does not cover the entire poultry supply chain, particularly the earlier parts identified as higher risk. Inclusion of SE under the Biosecurity Act 1993 (BA 1993). The BA 1993 deals with exotic organisms. As SE is endemic in New Zealand in species other than poultry, it is not covered by this Act. Amending the National Animal Identification and Tracing (NAIT) Act 2012 to include chicken. NAIT is not a tool for ensuring safe and suitable food making it inappropriate. Identifying individual chickens is not possible like it is with cattle further eliminating this option.

Proposed policy options

MPI has explored three policy options in proportion to the defined risks on human health and the dissemination of SE within the industry.

These options focus on chicken producers (breeders, hatcheries and rearers of egg-laying and broiler chickens) who have been identified as high risk because, if present, SE has the potential to disseminate more widely as animal material moves down the supply chain. Chicken primary processors (egg-layers and broilers (chicken meat)) pose the greatest risk to human health if SE is present on the product. They already operate under an RMP which, in conjunction with a regulated supply chain that can be traced back to breeder chickens, is expected to be a sufficient existing mechanism.

Option One – Status quo: Greater use of existing legislative framework, but still with limited regulatory oversight

After the ECS expires on 5 October 2022, breeders, hatcheries and rearers will revert to a situation with limited regulatory oversight under the APA 1999 unless already covered by export legislation which will not expire.

Under the APA 1999, an emergency control scheme is a temporary regulatory measure in emergency or urgent situations where there is time deficiency to deal with the situation e.g., amending regulations. It expires six months after its date of publication. The SE ECS was extended in April 2022 as safety measures were still required to manage ongoing food safety risks and will expire in October 2022 at which point it cannot be extended a second time.

Without an ECS, chicken producers will not be mandated to follow SE safety measures however the existing legislative framework can be utilised to continue requiring them to follow certain SE safety measures without any regulatory changes. Part 8 of the AP Regulations 2021 provides for a monitoring and surveillance programme being implemented to continue testing and sampling requirements under the current ECS. Other SE ECS safety measures cannot be mandated by the existing legislative framework without regulatory changes, such as requiring them to list for identification purposes or to be verified.

In the absence of existing ECS safety measures to regulate the entire supply chain, SE could spread throughout commercial chicken flocks. Therefore, this option does not meet any of the criteria of providing certainty for industry, maintaining current safety measures in the ECS, or maintaining New Zealand's reputation as a trusted source of safe and suitable food.

Option Two – *Risk Management Programmes + Monitoring and Surveillance Programme under Part 8 of AP Regulations 2021* (MPI-preferred option)

Requiring chicken producers to have an RMP and a monitoring and surveillance programme under Part 8 of the AP Regs 2021 is the preferred option. It provides a regulatory framework to enable MPI to apply existing food safety regulations to commercial chicken producers who were previously not captured. This would support the primary processors already operating under an RMP by adding assurance to supply source.

Increasing the regulation of producers would reduce foodborne illnesses in the estimated 215 million kilograms of chicken meat and 1.2 billion eggs consumed domestically in 2021 (worth NZD$610 million). It also protects New Zealand's annual trade of live poultry and poultry exports worth NZD$109 million. RMPs provide the legislative flexibility option three (RCS) does not, as RMPs can be crafted for individual businesses, or have a multi-business or multi-site focus applicable to the supply relationships.

Who would be affected?

The RMP framework and monitoring and surveillance programme would apply to the entire commercial chicken industry e.g. breeders, hatcheries, export hatcheries and rearers of egg-laying and broiler chickens, egg-layers, broiler primary processors. The number of operators affected would be the 158 operators operating under the ECS and seven exporters operating under SE OMARs and EAPs. Note that some operators who supply both domestically and overseas are operating under both the ECS and export legislation. There is a risk that there may be small, low profile operators yet to be identified by MPI that would be affected because chicken producers were not required to list before the ECS except if listed as an EAP. The risk of a large group of unknown affected operators is low as extra work was conducted during the implementation of the ECS to identify those not already listed with MPI.

RMPs are not expected to be entirely new to the commercial chicken producer sector. Chicken producers who are EAPs follow similar requirements to what is in an RMP. Other chicken producers have some form of existing food safety procedures to support their supply relationship with primary processors. MPI can assist to relieve administrative burden by providing template RMPs for those parts of industry that might find it difficult to develop their own. All operators identified above are already carrying out SE testing and sampling activities that can be continued under the monitoring and surveillance programme.

Alignment is required between domestic and export legislation to avoid duplication in requirements. For example, instead of being required to register twice under both domestic and export legislation, the RMP domestic legislation would serve as the base food safety document. Any additional export requirements not covered in an RMP would be in export legislation.

Risk management programmes

Under the APA 1999, an RMP is a document prepared by a business which demonstrates to MPI or a recognised third party, how they meet food safety requirements. It contains procedures which identify, control and monitor hazards as well as actions to be taken when things go wrong. RMPs are only needed for animal material and products that are for human or animal consumption.

The early stage of the chicken supply chain, chicken producers (breeders, hatcheries, and rearers of egg-laying and broiler chickens), prior to egg-laying and broiler meat primary processing requires greater controls as they have been identified as posing the greatest risk of disseminating SE to wider industry. Section 15 of the APA 1999 allows an Order in Council to be made to require chicken producers to have an RMP. This would bring them into the RMP framework and make them comparable to those processing chicken products.

Processors of chicken meat and eggs present the greatest human health risk if SE is present on product. These processors are already managed under a full RMP, which is appropriate to detect and manage the risks posed by SE. This was demonstrated by SE being initially detected in chicken meat in 2021 through routine testing under the National Microbiological Database programme. The programme requires primary processors to sample and test for microbiological hazards on animal material and animal product. Testing is an important component in the current ECS which can be enabled by an RMP framework and identify foodborne pathogens such as SE.

An RMP framework provides for creating programmes to fit the various parts of the supply chain, including MPI drafting template RMPs for those parts of industry that might find it difficult to develop their own. Such templates outline the operation of specific elements needed for an RMP to satisfy MPI's risk management requirements. The specific controls of RMPs will focus on the risk posed to producers and less onerous than those of primary processors.

Template RMPs are guided "fill-in-the-form" type documents developed by MPI to help operators meet their RMP requirements, and appropriate where activities are largely the same across businesses. This is in comparison to a bespoke custom RMP where the operator develops it themselves. Benefits of template RMPs:

a. reduces cost of creating RMPs by each operator;
b. to make it easier for a business to engage with the RMP process;
c. documents expectations of acceptable industry practices and procedures;
d. ensures relevant legal requirements are met; and
e. does not have to be individually evaluated like a bespoke RMP.

Effective engagement with industry helped them overcome initial concerns about integrated broiler-rearer and layer-rearer contractors being required to develop individual RMPs as it would significantly increase cost and complexity. The use of multi-business RMPs for these producers are firmly supported by industry. Multi-business RMPs allow one operator's RMP to apply to all or part of other businesses. Additionally, there can be multi-site RMPs for those operating multiple sites of its own. A multi-business or multi-site RMP can relieve egg-layer and broiler chicken rearer producers from an administrative burden that is more appropriately delegated to their parent company. The RMP framework allows the operator sufficient control, authority, and accountability for all matters covered by the programme in relation to the other businesses/sites.

Monitoring and Surveillance programme under Part 8 of Animal Products Regulations 2021

Part 8 of the AP Regulations 2021 provides for monitoring and surveillance programmes to be conducted for risks from animal products or materials. Monitoring means ongoing sampling and testing to detect for the presence of a contaminant. If a contaminant is detected, surveillance in the form of a further sampling and testing surveillance plan is established to manage the contaminant.

Monitoring and surveillance activities are fundamental to detecting and managing the presence of a contaminant, SE in this case. The monitoring and surveillance component of the current

ECS can be provided for by Part 8 of the AP Regs 2021 ensuring testing of animal product and animal material.

When assessed against the criteria this is MPI's preferred option because:

Suitable and safe food – RMPs are designed to ensure that the animal product to be produced under the programme will be fit for intended purpose (Section 12 APA 1999). It enables MPI to apply existing food safety regulations applicable to RMP operators (Section 17 APA 1999), such as pest management and other good operating practices. Animal products notices can be drafted to provide technical requirements scaled in relation to the different commercial chicken producer and primary processor operations.

Maintain, migrate, and modify existing SE ECS safety measures - An RMP, supported by a monitoring and surveillance programme, maintains the identification and traceability, risk management, pathogen management and verification components of the ECS.

Certainty – While both an RMP and RCS regulatory framework achieve the same food safety outcomes, the main benefit of an RMP regulatory framework is its flexibility. RMPs can be developed to suit the different risks posed throughout the producer portion of the supply chain and diverse nature of the industry and their relationships with processors.

Cost-effectiveness – RMP regulatory framework costs would be much higher than current ECS costs faced by operators, however the benefits significantly outweigh costs and risk to public health and international trade. Current ECS costs are also not an accurate reflection of usual operating costs as costs were not adequately recovered. Template RMPs can ease compliance costs by removing the need for initial evaluation[5] costs and lower registration fees compared to a custom RMP.

Option Three - *Regulatory Control Scheme*

Section 40 of the APA 1999 provides for creating an RCS when:

- 'it is not feasible or practicable for the relevant risk factors to be managed by individual animal product business operators within individual risk management programmes (whether or not those operators would normally be required to have a risk management programme)'; or
- 'having regard to considerations of economic efficiency, or to legal considerations that may require the exercise of statutory authority for the successful management of risk factors, it is necessary or appropriate that the measures be imposed generally rather than being dealt with by way of individual risk management programmes'; or
- 'the measures are additional to those normally required to meet New Zealand animal product standards, and are necessary to meet any export requirements'.

An RCS would achieve the same food safety outcomes as an RMP, however have limited flexibility for operators with unique operations, and limited scope to address new issues in comparison to option two.

Key differences between option two and option three are:

- Time to change requirements – under an RMP regulatory framework, technical detail would be in Notices supplementary to the AP Regs 2021 which can more easily be amended by MPI. Any amendments to an RCS would be required to go through Cabinet processes which is a relatively longer process.
- Who writes the risk-based measure - A single RCS would be imposed by the government on all operators rather than requiring operators to develop individual RMPs that match the risk profile of their business.

[5] Evaluation is the independent assessment of an RMP to ensure it meets the APA 1999, and when implemented will produce animal materials that are suitable for processing and animal products fit for their intended purpose. When registering a custom RMP, businesses are required to submit an initial evaluation report (unless waived) that recognises that the RMP is valid.

- Ability to identify new hazards – An RMP requires an operator to identify hazards (food safety risks) and new hazards, whereas an RCS is usually written by the government based on already identified hazards. This means that under an RMP, there is more scope to be able to identify previously unknown hazards.

When assessed against the criteria this is an acceptable, but limited, option because:

Suitable and safe food - An RCS would achieve the same food safety outcomes as an RMP.

Maintain, migrate, and modify existing SE ECS safety measures - An RCS can be written to mirror the existing ECS.

Certainty – An RCS provides more certainty to industry as the same rules apply to all operators however this 'one-size-fits-all' approach is not appropriate for diverse poultry groups with differing risk profiles. An RMP provides more flexibility to cater to different groups. Further, any changes to update an RCS needs Cabinet approval, and the scope for a primary processor to administer an RCS on behalf of contracted producers does not exist.

Cost effectiveness – RCS regulatory framework costs would be higher than current ECS costs faced by operators, however the benefits significantly outweigh the costs and risks to public health and international trade. Current ECS costs are also not an accurate reflection of usual operating costs as costs were not adequately recovered.

The preferred option is an RMP and a monitoring and surveillance programme under Part 8 of the AP Regs 2021

Unlike option one, the RMP and RCS regulatory frameworks provide legislative mandates requiring operators to ensure that the animal material or animal product produced is fit for intended purpose and safe and suitable for human or animal consumption.

Both option two and three will achieve the same food safety outcomes and ability to maintain current ECS requirements. An RMP and AP Regs 2021 Part 8 Monitoring Surveillance Programme is preferred over an RCS which is summarised in the below table.

Table 3: Comparison between RMPs and RCS'

Option Two: RMP & Monitoring	**Option Three: RCS**
Animal Products Act 1999	**Animal Products Act 1999**
Animal Products Regulations 2021 • Empower Risk Management Programmes • Empower Monitoring and Surveillance Programme	S.40 Empowers Regulatory Control Scheme • Specifications approved by Cabinet
Animal Products Notices • Specifications approved by MPI	
Other benefits • multi-site and multi-business RMPs • Notices can be adapted to identify future pathogens	

Key:

++	much better than the status quo
+	better than the status quo
0	about the same as the status quo
-	worse than the status quo
- -	much worse the status quo

Table 4: How do the options compare to the status quo?

Assessment Criteria	Option One – Status quo (Greater use of existing legislative framework, but still with limited regulatory oversight)	Option Two – Risk management programmes + Monitoring and Surveillance	Option Three - Regulatory control scheme
Food Safety	- When the ECS expires, SE human cases could increase compared to the current situation as SE could become more prevalent in flocks and go undetected.	+ SE human cases likely to decrease as SE industry transmission is controlled.	+ SE human cases likely to decrease as SE industry transmission is controlled.
Maintain, migrate, modify	- ECS expires in October 2022 after which there will be limited regulatory oversight for some breeders, hatcheries and rearers.	0 Requirements would reflect those that were in the ECS.	0 Requirements would reflect those that were in the ECS.
Cost effectiveness	- Compliance costs would reduce as SE ECS-listed groups will not be mandated to continue to monitor for SE. Increased burden of disease on the public health system. Could be more costly for industry and MPI in the long term if a new outbreak occurred in the absence of controls. Some costs may arise due to enforcement action.	- One-off registration cost significantly higher. Evaluation costs for evaluation of custom RMPs, Template RMPs are not required to be evaluated hence no evaluation costs. Testing and sampling costs make up the most of compliance costs. Verification costs dependent on frequency and time required.	- One-off registration cost higher than current ECS, but less than an RMP. RCS' are not required to be evaluated thus no evaluation costs. Testing and sampling costs make up the most of compliance costs. Verification costs dependent on frequency and time required.
Certainty	0 Part 8 of AP Regulations 2021 can provide some certainty for monitoring and surveillance component to detect and manage SE when the ECS expires but lacks the benefit of mandating minimum requirements when producing animals that are fit for purpose.	++ Certainty for industry to detect and manage SE, as well as scalability to suit the different operations and risk profiles. Easier to modify requirements as technical requirements will be in Notices issued by the Director-General. Industry will be able to see changes that improve business operability quicker.	+ Certainty for industry to detect and manage SE, however less scalability to suit the different operations and risk profiles. More time required to modify requirements as will need to undergo Cabinet processes and an Order in Council. It will be slower for industry to see requirement changes. No ability to detect new food safety risks / hazards as RCS' are specifically written by

		Ability and obligation on the operator to detect new food safety risks/ hazards as part of routine testing.	the Government for the already identified hazard.
Overall assessment	**0** Option One offers no benefit to industry or food safety and requires no additional costs.	**++** Option Two provides a similar or moderately improved benefit to industry and food safety and related compliance costs, however the main benefit is flexibility.	**+** Option Three provides a similar or moderately improved benefit to industry and food safety and related compliance costs, with less flexibility compared to an RMP.

Table 5: Costs and benefits of MPI's preferred option

There is a level of uncertainty around total monetised costs/benefits due to information gaps e.g., industry profit margins, updated figures on SE human case societal impacts. Monitoring and surveillance programme implementation costs and verification frequencies are also yet to be determined. Estimated costs have been provided as an indicator. We are seeking more information to inform our analysis to better understand the impact of a RMP regulatory framework on chicken producers and primary processors.

Affected groups	Comment	Impact	Evidence Certainty
Additional costs of the preferred option (Option 2 – RMP + Monitoring and Surveillance) compared to taking no action			
ECS-regulated groups (Breeders, Hatcheries, Layer-rearers, Broiler-rearers)	Ongoing compliance costs of operating an RMP compared to limited regulatory requirements after October 2022.	*Major impact* • Transition to an RMP framework would have a major impact as operators will need time and personnel capability to set up RMP systems, particularly for smaller operators. MPI could help with administrative burden by providing template RMPs. • Approx. 158 operators will need RMPs. This is an indicative number only as some regulated persons can be included under their parent company's RMP, some may have more than one RMP or one RMP could cover multiple businesses or sites. More information will become available during implementation. • The poultry industry operates on low profit margins and some operators could find the increased operating costs infeasible. Since introducing the ECS, 38 egg RMP operators have surrendered their RMP stating that additional compliance costs and higher than normal costs from events (e.g. Covid-19) have been particularly challenging for smaller operators. • An indicative cost for template RMPs and custom RMPs is outlined below. The figure is likely to be higher as it is based on one-off registration costs, annual verification fees, evaluation and ECS sampling costs (outlined below). It does not include implementation costs which will vary widely:	*Medium certainty* .

		- Template RMP cost: approximately $2,420 to $4,000+.depending on the operation size. - Custom RMP costs: approximately $2500 to $4195 + + evaluation costs for initial evaluation or significant RMP amendments depending on the operation size • A one-off RMP registration fee of $310 for a template RMP is more than the current SE ECS listing fee of $77.63. Note that ECS listing fees are not an accurate reflection of standard registration fees as ECS costs were not adequately recovered. • Annual verification costs depend on the verification frequency level and time required to verify a business. Verification rates are approx. $270 per hour and can take between three to nine hours depending on the operation size and complexity. Egg-layer RMP operators are currently verified every 18 months, and exporters are verified every three months. Verification responsibilities can be delegated to minimise verification burden to regulated persons. • Surveillance sampling costs will vary depending on the monitoring and surveillance programme as it is yet to be developed. Costs depend on number of samples, group risk profile and production area which could range anywhere from $50 to $800.	
Regulators	Resources required to implement RMP registration, monitoring and surveillance programme, and develop competency of recognised agencies.	*Moderate to major impact* Ongoing resources required to develop template RMPs, review and update notices, data reporting and additional training and resourcing of animal products officers. This would be part of ongoing work not requiring additional FTEs.	*High certainty*
Consumers	Potential for increased operating cost to be passed on to consumers of egg and chicken products which includes exporters	*Moderate to major impact* Poultry meat products prices have increased by 11 percent and eggs by 10 percent since April 2021[6]. The average cost of animal products has increased by nine percent. These increases are driven by a range of factors largely unrelated to compliance costs.	*Medium certainty*

[6] Food Price Index April 2022, https://www.stats.govt.nz/topics/food-price-index

	and overseas importers.		
Total monetised costs		**Insufficient data available at this stage of policy development.**	**N/A**
Non-monetised costs		**Moderate to Major Impact**	**High certainty**
Additional benefits of the preferred option compared to taking no action			
ECS-regulated groups (Breeders, Hatcheries, Layer-rearers, Egg-Layers, Broiler-rearers, Broiler primary processors)	Safeguard against potential factors affecting industry reputation. Ability to influence changes to technical requirements in a time-efficient process to amend tertiary legislation.	*Major impact* Regulatory oversight can provide assurance to domestic and international consumers. This protects New Zealand's domestic chicken meat and egg sales of NZD$610 million and live poultry and poultry exports worth NZD$109 million.	*High certainty*
Regulators	Time taken to amend technical requirements tertiary legislation will be less than secondary legislation level.	*Moderate impact* Less agency resources required to amend RMPs, and Monitoring and Surveillance supplementary notices compared to amending RCS regulations.	*High certainty*
Consumers	Higher assurance that the egg and chicken products they purchase are safe and suitable.	*Moderate impact* Less foodborne illnesses and any society flow-on effects such as taxation losses from illness. The estimated economic cost of salmonellosis illnesses for New Zealand in 2009 was $15.41 million. Less SE human cases have been reported since July 2021.	*High certainty*
Total monetised benefits		**Insufficient data available at this stage of policy development.**	N/A
Non-monetised benefits		**Moderate - Major Impact**	**High certainty**

Section 3: Implementation and evaluation

How will the new arrangements be implemented?

Most commercial chicken producers and primary processers have been complying with ECS requirements since October 2021. Initially there was low compliance due to Covid-19 and supply issues, however compliance with ECS registration and verification requirements reached close to 90% in May 2022. Compliance with ECS sampling requirements is 77%. A medium to high level of compliance is expected to continue with a RMP regulatory framework. The compliance and enforcement regime offences and penalties will correspond and align with those already in the APA 1999.

A mandatory requirement would be made through Section 15 of the APA 1999 by Order in Council to require commercial chicken producers, (breeders, hatcheries, rearers of egg-layer and broiler chickens) to have an RMP by October 2023. RMP requirements would subsequently be applicable. This is the requirement to register with MPI, good operating practices and verification. Section 14 of the APA 1999 allows exemption of certain parts of the supply chain from some RMP requirements to match the level of risk which could ease administrative burden and costs on businesses. Technical RMP requirements would be specified in supplementary notices such as the *Animal Products Notice: Production, Supply and Processing* set to commence in July 2022.

Monitoring and Surveillance Part 8 of the AP Regs 2021 would be amended through an Order in Council to clarify that monitoring activities for chicken include environmental testing for contaminants (it is currently limited to the testing of animal material and animal product compared to surveillance activities which enables testing of places where contamination can occur). A new notice to supplement Part 8 will be created to specify operational testing and sampling requirements.

Export legislation for commercial chicken producers and primary processors would need to be amended to include additional requirements not already captured under an RMP. All attempts will be made to align and avoid duplication between domestic and export legislation.

MPI received industry feedback during ECS implementation that operators struggled with the large guidance document and its lack of readability. Guidance to ensure industry compliance would comprise of:

- working with industry to co-design template RMPs and operational guidance (written and/or video) to assist businesses to understand and meet their requirements;
- MPI workshops for verifiers and businesses at the time of introduction of a mandatory requirement;
- advisers to assist with ensuring compliance (inbox enquiries, direct calls to operators update webpage[7] information); and
- Continuing consumer education on food safety behaviour surrounding chicken meat and egg handling[8].

The APA 1999 requires that animal products businesses are independently verified (checked) at regular intervals by third-party verifiers or MPI Verification Services. The intervals vary according to the type of business, its food safety risks, and the businesses' performance and are set in animal products notices. Resourcing and competency maintenance would be needed for the new RMP regulatory framework, and consideration to

[7] Official MPI webpage for SE-related information is https://www.mpi.govt.nz/food-business/chicken-egg-processing-requirements/chicken-farming/managing-salmonella-enteritidis-in-commercial-chicken-flocks/

[8] MPI provided precautionary advice around food safety behaviour on egg handling in June 2021: https://www.mpi.govt.nz/news/media-releases/new-zealand-food-safety-places-precautionary-controls-on-north-island-egg-producer-after-detection-of-salmonella-enteritidis/

whether there needs to be additional Animal Products Officer resourcing such as MPI verifiers. There are verifier implications with MPI Verification Services potentially required to acquire current third-party verification activities.

Any costs associated with implementing the regulatory framework will be met from within MPI's baseline funding or cost recovered.

Expectations for design of regulatory system

The proposed regulatory framework should be robust enough to prevent the entry and provide of the control of other future food safety risks such as other strains of *Salmonella* or *Campylobacter.*

Alignment of domestic and export requirements is required to relieve businesses of administrative burden. It is generally expected that a food safety framework that is suitable for the New Zealand population will be accepted by our trading partners.

Proposed interim period and interim regulations

The interim regulations would come into effect on 6 October 2022 following expiry of the ECS on 5 October 2022. A monitoring and sampling regime can be designed and implemented before the ECS expires.

An interim period of one year for RMPs is proposed to allow breeders, hatcheries and rearers of egg-laying and broiler businesses sufficient time to register their RMPs and ensure their systems and processes are in line with RMP requirements, and for related export legislation to be amended. Operators will also need to ensure their verifier is appropriately recognised to verify RMPs.

During the interim period, MPI proposes to introduce temporary amendments to the Animal Products Regulations 2021. These interim regulations legislate the current SE control measures of registration / listing, record-keeping, reporting and good operating practice requirements that producers have been following under the expiring ECS.

A consequential amendment to the Animal Products (Fees, Charges, and Levies) Regulations 2007 would be required to set a charge of $135 per application for each application to list or renew listing under Part 10 of the Animal Products Regulations 2021 for chicken producers (breeders, hatcheries, and rearers of egg-laying and broiler chickens).

Implementation risks

Current export requirements in tertiary legislation could result in duplication and conflicts with the new domestic approach if not resolved by the end of the interim period e.g. hatcheries who supply both domestically and overseas could face duplication in requirements if export legislation is not amended. This risks additional registration and verification costs to industry.

Risk that multi-business/multi-site RMP operators do not understand the possible consequences if an egg-layer or broiler rearer is not compliant and its impact on the overall RMP.

How will the new arrangements be monitored and evaluated?

The new arrangements will be monitored and evaluated as prescribed by the Animal Products Regulations 2021, supplementary notices, and individual RMPs. Technical operational requirements would be reviewed in an ongoing manner in consultation with industry to ensure requirements are fit for purpose.

MPI is monitoring ECS implementation to confirm that operators are complying with the ECS requirements. The requirements monitored include registrations/listing, sampling and testing, verification and management of SE detections and non-compliances. We propose using a similar approach to monitor implementation of the long-term SE management framework.

Monitoring SE human cases
MPI will continue to work with the Ministry of Health to monitor the number of SE cases reported and investigate the source of the food-borne illness. Identifying the source of food-borne illnesses would assist in reviewing which parts of the regulatory framework can be modified to meet objectives.