

# Civil Aviation Authority Submission

## on the

### Health and Safety Task Force Consultation Document

---

#### Background Information about the Civil Aviation System

The Civil Aviation Authority was established in 1990 to provide regulatory oversight of the civil aviation system. In summary, civil aviation regulation operates as a 'closed' system. People, products and organisations must meet specified standards prior to participating in the system. Civil Aviation Rules (tertiary legislation) articulate the safety and security performance sought. The Rules are a mixture of prescriptive standards (e.g., an aircraft may not fly below 1,000 feet above a built up area) and outcome or performance based requirements (e.g., the operator of an aircraft must ensure that it is maintained in an airworthy condition).

In addition to Rules, Advisory Circulars are produced by the Authority. Advisory Circulars describe acceptable means of compliance to achieve the requirements (outcomes) specified in Civil Aviation Rules. Further, participants can:

1. Propose to use alternative means of compliance, providing they demonstrate to the satisfaction of the Director that their proposed approach is capable of achieving the outcomes prescribed in relevant Civil Aviation Rules; and/or
2. Seek to have an exemption from particular Rule requirements, providing safety is not compromised.

The 'closed' nature of the civil aviation system means that the privilege to operate in the system is conveyed by the issue of an aviation document (e.g., a licence, certificate, authorisation) issued by the Director of Civil Aviation. In general, if an activity is not enabled or permitted by a Rule, or one of the privileges conveyed in an aviation document, then the activity cannot be undertaken.

The civil aviation system, unlike most regulatory systems, is thus not permissive in the classical policy sense. Many regulatory systems allow activities to be undertaken, so long as they are *not* prevented by legislation or the rules in place. Thus, in a policy sense, the civil aviation system is a restrictive regime.

The use of alternative means of compliance and the provision for exemptions are mechanisms that introduce an element of flexibility, without compromising the focus and thrust of a particular Civil Aviation Rule.

The Civil Aviation Act clearly places the 'public interest' as the primary consideration for decision making when applying Civil Aviation Rules. Thus, the purpose of the civil aviation system is to ensure the safety and security of civil aviation activity regardless of whether one is a passenger, operator, employee or member of the public. In paragraph 232 of the Task Force report, it states:

*“...the focus of these regimes [aviation and rail] is primarily on passenger and community safety rather than the safety of workers in these work places.”*

The CAA considers that this statement is incorrect. The focus of the civil aviation safety regulatory system is on the protection of those engaged in aviation activity and those that may be affected by it. Rules exist to protect pilots, crew and passengers irrespective of the employment relationships involved. The fact that employment relationships are not specified in the Civil Aviation Act, and thus, the protection afforded to all engaged in civil aviation is *equally* paramount, cannot logically lead to a conclusion that the focus of the regime is primarily on passenger and community safety rather than the safety of workers.

Having said that the Civil Aviation system is not permissive, it is flexible. By focusing on outcomes, Civil Aviation Rules enable businesses of differing sizes and complexity to scale their policies and procedures to ensure the outcomes are met by appropriate means. Advisory Circulars provide guidance about how those requirements can be met, and thus how risks can be managed.

Finally, the civil aviation system sits within an international framework established under the Chicago Convention. The framework includes standards and recommended practices that a State (signatory country to the Convention) is expected to abide by with respect to its own Civil Aviation Rules. The International Civil Aviation Organisation provides oversight of how well a State is implementing the framework and associated practices and standards.

## **Health and Safety in Civil Aviation**

Currently, a split obligation for the over-sight and enforcement of the Health and Safety legislation exists between the Labour branch of the Ministry of Business, Innovation and Employment, and the Civil Aviation Authority. Simplistically, health and safety oversight for a civil aircraft in operation (i.e., once the aircraft doors are closed and the aircraft is in flight, till the time the aircraft is stationary and the doors are open) is the responsibility of the Authority, by Ministerial delegation. Health and safety for all other aspects of a civil aviation workplace (e.g. an airfield or a maintenance hanger, etc.), is the responsibility of the Ministry.

The underlying logic of the CAA being responsible for health and safety in an aircraft whilst it is in operation relates to the requirements imposed on aircrew and passengers by civil aviation rules, with respect to the way in which they conduct their activities. The restrictive nature of civil aviation rules impose significant duties and obligations on aircrew during flight and determine many aspects of the work place practices brought into play during the aircrafts operation.

In the Authority's view, there are significant benefits to an integrated oversight of both civil aviation requirements and health and safety issues within an aircraft while it is in operation. These benefits are underlined by the outcome focus of Civil Aviation Rules, and the non-permissive nature of those Rules, when allied to the 'all practical steps' philosophy of current health and safety legislation. To separate the two may well lead to an increase in 'safety' risk for both aircrew and passengers, as the respective regulatory systems would potentially become less integrated or aligned at critical points.

## Military Aviation

Military aviation is not overseen by the CAA in either a civil regulatory sense, or with respect to health and safety issues. However, the military use civil systems for the transport of goods and personnel.

## Critical Issues with the Current Health and Safety Framework

From the CAA's perspective, the following are critical issues either for the health and safety regulatory framework itself, or its application/operation/oversight:

- I. The need for clarity of role for the agencies involved in oversight of health and safety in the work place
- II. The integration and compatibility of the regulatory tools used by differing regulatory regimes and the alignment of the regimes
- III. The capacity and capability of the regulatory agencies to undertake the degree of over-sight expected, especially in high-risk industries
- IV. The establishment of an appropriate balance between outcome-based and prescriptive frameworks/requirements that is scalable and adaptive to change, especially in technology driven industries.

Addressing points 'I' and 'II' is a necessary pre-cursor for effective management of the high-risk environment of civil aviation. There needs to be a clear articulation of the roles of the respective regulators, and how their activities integrate; and appropriate integration of the respective regimes to ensure that risks are appropriately identified and managed. Two methods are available for addressing the issue of integration:

1. *Disaggregated or distributed delivery of oversight, where appropriate, because of the nature of the activity (generally high risk and technically complex).*

A single regulator that exercises oversight of a sector in an integrated way has benefit. The 'gaps' between regulatory systems, and hence generation of unidentified and un-managed risk, can be minimised.

The CAA is of the view for the civil aviation sector at least, this approach is highly beneficial, as it enables a one-stop-shop approach to oversight of the high risk elements of civil aviation (that is the operation of an aircraft) in a reasonably seamless and integrated way. This approach also ensures that the depth of technical knowledge (both in terms of Rules and technical knowledge of aviation) exist in sufficiently in one agency. In other words, sufficient critical mass exists to understand the operational issues that give rise to risk, be they health and safety or otherwise.

2. *A dedicated Health and Safety regulatory agency that covers all industries/sectors.*

Such an agency would need to establish effective working relationships with other 'sector regulators'; have sufficient technical knowledge to understand the operational factors that may give rise to risk in an industry (workplace); and understand the differences between its regulatory approach and those of other regulatory regimes.



The CAA is of the view that a single health and safety regulator would be less effective for some high risk and technologically complex industries (e.g., aviation, maritime, etc.), simply because of the issues associated with having sufficient industry-centric knowledge, the differences in approach that may arise from different regulatory systems, and the probable duplication of effort between and by regulators.

A single health and safety regulator could have the ability to delegate some oversight functions to other regulatory agencies. Such an approach may resolve issues associated with 'critical mass'; however, the logical question then posed relates to whether the perceived benefits of a single regulator are achieved when compared to a distributed or disaggregated regulatory service delivery model.

The CAA does not support the formation of single health and safety regulator, as it does not see the likely safety performance benefits outweighing the effective management of risk in some sectors (such as aviation).

Point 'III' relates to knowledge and understanding of the sector, particularly a technical understanding of systems, procedures and technology. Civil aviation is a high risk environment, which has become highly reliable through the use of systems and technology. Failure points, however, do exist and change in character as systems and technology change. To regulate civil aviation requires a substantial investment in capability and capacity to keep up with change and to understand the associated implications from a safety perspective.

One example of the implication of changing systems and technology relates to cockpit resource management. Modern passenger aircraft use complex control systems. By and large, these systems are designed to reduce the work-load of aircrew during critical phases of flight (e.g., landing and take-off).

However, a number of accidents show that the 'flood' of information aircraft control systems generate when something goes wrong, can overwhelm aircrew by bombarding them with complex information rapidly. The systems are complex; the impact on how to manage a flight (flight operations) is complex. To understand the implications for the way in which a flight is conducted, especially if something goes wrong during the flight, requires a deep understanding of the systems, issues of human behaviour, and the interaction between these elements. Such knowledge and understanding is scarce; yet it is critical in both a health and safety context, and flight operations context.

Point 'IV' relates to the concept of 'one-size' does not fit all. In civil aviation, many Rules prescribe the outcome that is sought. In some cases, Rules also include detail about things such as minimum systems redundancy (e.g., two radio systems that are independent; dual and independent control systems; aircraft design and performance requirements; etc.), as a means of minimising a single point failure. In addition to Rules, Advisory Circulars provide more detail about how an operator could achieve compliance with the requirements of a Rule. Advisory Circulars provide guidance only; they do not provide definitive or exclusive ways of achieving compliance with Civil Aviation Rules.

Similarly, there are operations of many different types, (e.g., agriculture operations compared to passenger carrying operations for tourist flights compared to airline transport operations). By using a combination of outcome focused Rules (sometimes with significant detail about safety critical elements) and Advisory Circulars, the civil aviation regulatory system is attempting to achieve a mix of:

- prescribed minimum requirements with respect to some safety critical elements
- prescribed outcomes
- flexibility to enable operators to make their systems and procedures as complex and sophisticated as they need to be for the nature of the business they undertake
- provision of guidance about acceptable means of compliance with Rules requirements.

The approach is not perfect; it does enable some flexibility whilst being clear and precise about the outcomes sought. Where more detailed prescription is required, existing civil aviation rules provide this.

The CAA is of the view that a similar approach for health and safety would have benefits. Not all employers need complex and sophisticated systems to identify and manage risk — they need to develop systems that will work effectively in their environment and encourage behaviours that are consistent with risk minimisation and harm prevention. A mix of prescription, outcome focus and guidance helps encourage more proactive risk management practices.

Oversight needs to embody a healthy mix of encouragement, surveillance and enforcement. The CAA uses all three approaches to:

- actively build awareness and share information (e.g., targeted education programmes, social marketing, seminars, etc.)
- determine whether an operators policies, procedures and systems are both in compliance with the regulatory requirements, and achieving desired outcomes (or safety performance)
- where operators (or individuals) are flagrantly not meeting required standards or performance, then administrative or enforcement action is taken (with the strongest action being the revocation of privilege and exit from the civil aviation system).

In the CAA's view, health and safety outcomes would be aided by a similar approach. The passive approach of Codes of Practice and other resource material is a useful start. However, active engagement with employees and employers is more likely to achieve shifts in behaviour that are conducive to better identification and management of work-place risk.

## **Information Sharing**

The Civil Aviation Authority risk profiles many of the operators within the civil aviation system. The profile information is used to help determine the depth and focus of surveillance activity. The profiles are based upon

the information the Authority can access through the reporting requirements placed on those operating within the civil aviation system.

Other information in terms of both health and safety information, or accident compensation claims, or tax compliance, etc., would provide additional insight about an operator, and whether they are exhibiting traits that indicate a higher than desired risk profile — both in the context of a work place and as an operator. Having greater access and transfer of such information between regulatory agencies would enable more co-ordinated and effective management of over-sight. A consequence, at least theoretically, would be stronger encouragement and perhaps incentive for employers and employees to change behaviours positively.

A number of issues need to be addressed to enable better sharing of information, including privacy matters. However, understanding the risk an operator or employer represents with respect to the regulatory regime (and its objectives) is critical to timely and focused intervention. That intervention may be at the level of the operator/employer, or at higher level using other tools such as education and social marketing.

To make information sharing effective, thought will need to be given to ensuring sufficient commonality of core data so that it can support the various functional activities being driven by that information derived from the analysis of that data. This would also require sufficient commonality in the use of key words and concepts (e.g., accident, harm, hazard, etc.), so that individuals and organisations are not confronted with a complex set of concepts, using similar or the same labels, but with very different meanings in different regulatory regimes.

Some systems, such as civil aviation, use globally accepted definitional standards. Creating and establishing domestic definitional standards that are at least compatible with international standards has merit, and is likely to help reduce confusion.

## **Public Interest and Public Expectation**

Of increasing concern to the CAA is the juxtaposition of the concept of public interest with that of the public's expectation. Classical policy constructs around public interest are well developed: where the public may not have sufficient knowledge to make an informed decision, the state has a role to play in safe-guarding the public's interest such that the 'harm' that may otherwise happen is minimised. Public Interest has numerous legal constructs built around it, and has many ways in which regulatory systems seek to either control, influence or manage activities that could result in uninformed decisions being made by members of the public.

This construct is increasingly at odds, in some respects, with the public's expectation. Where regulatory systems seek to share and apportion responsibilities, and yet failure still occurs which causes physical or financial harm, the public (or parts thereof) seek to attribute blame. Attribution of blame is often cloaked as seeking to holding people or organisations to account.

In some cases, individuals may have failed to fully discharge their duties/obligations/responsibilities properly. In such cases, there should be appropriate provisions to hold those individuals to account.

However, such 'accountability regimes' are not always aligned to a regulator's concerns about the public interest. There may be circumstances where, despite best endeavours with respect to rules, standards and



requirements, things simply go wrong. In the CAA's view, it is important to retain a system that enables learning to be derived from failure; and it is important to recognise no regulatory system can eliminate or banish risk.

The desire to always hold a person or organisation to account needs to be held in constructive tension with need to learn from failures (with maximum and voluntary disclosure of information by participants).

Accountability regimes, simply and solely, will not always deliver good public interest outcomes.

## Mind-sets

There is a tension within the New Zealand psyche between *'she'll be right'* behaviours and the expectation that regulation can control a wilful group of actors. Mind-sets need to change such that the value of effective risk identification and management become as deeply inculcated in the NZ psyche as is the *'she'll be right'*, or *'it won't happen to me'* view that appears to be held by many. Regulators, for all their tools and resources, can only be as effective as society wants and/or permits them to be. A broad and sustained effort is required across all regulatory regimes concerned with risk identification and management, to change thinking. Public expectations need to be used to apply as much pressure to change behaviours, such that those behaviours become aligned to sustaining and enhancing the public interest.

Following the Pike River tragedy, some members of the public are calling for greater accountability of regulators where they are perceived to have failed. While such increases in accountability may have merit, it would need to be balanced with the appropriate resourcing and legislative scope to enable a regulator to properly discharge its obligations. Simply put, no system, no matter how well resourced or structured can eliminate risk completely. While increasing accountability might help a regulator to prioritise, it won't necessarily help it achieve the outcomes being sought. The public's expectation may not, in this context, serve the public interest.

## Conclusions

The CAA is of the view that:

- In some sectors, civil aviation being one example, there is no practical way in which to separate the administration of the Health and Safety in Employment Act requirements, from the application of specific safety legislation (e.g., the Civil Aviation Act). From a safety perspective, both sets of legislation have the same objective, yet seek to achieve that objective in different ways. In combination, and utilised by one regulator, the combination of the Health and Safety legislation and Civil Aviation legislation can provide a powerful set of tools to achieve good safety outcomes.
- To effectively manage risk, some high risk activities are likely to require a 'permitting' or 'certification' regime that establishes a standard for entry to a system, and relatively prescriptive safety standards for continued operation. Examples of high risk sectors might be aviation, maritime, mining, petrochemicals, medical, etc..
- The CAA is of the view that in the case of the aviation or maritime sectors, where dedicated safety regulatory regimes exist, a single Health and Safety regulator would result in the duplication of effort,

increased compliance costs for some industries, and an increased likelihood that some risks would fall between the cracks. Thus, the CAA does not support the view that a single health and safety regulator would be beneficial for all sectors. The CAA considers that the existing designations under section 28B of the Health and Safety in Employment Act to the CAA and Maritime New Zealand should remain.

- Significant gains in the performance of health and safety and other regulatory regimes could be achieved through the sharing of data and information, and where practicable using standardised definitions of key words and phrases (e.g., harm, hazard, accident, etc.). Such sharing would enable better targeting of interventions and use of resources to affect changes in behaviour.
- The use, for any particular activity, of an appropriate mix of outcome-based and prescriptive safety regulatory requirements enables scalable risk management systems to be put in place that fit the size and complexity of an individual business. Combined with active education and provision of resources (e.g., guidelines or codes of practice, etc.), such a system provides the right level of regulatory rigour while providing business with some flexibility in the way it meets required standards.
- Regulatory systems, such as civil aviation, need to have sufficient alignment to the international system they operate within. Any changes to health and safety requirements in the civil aviation environment needs to be cognisant of the international requirements and obligations New Zealand is subject to within this international civil aviation system.

## **Contact for Further Information**

John Kay

General Manager, Policy and System Interventions

email:

DDI: