

31 January 2014

Aviation Safety Regulation Review
Department of Infrastructure and Regional Development
GPO Box 594
Canberra ACT 2601

Dear Sir/Madam

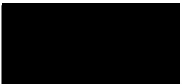
Re: Submission from Sydney Airport

Attached for your information is a submission from Sydney Airport concerning the Aviation Safety Regulation Review.

Sydney Airport would welcome an opportunity to meet with the review panel to discuss the issues raised in our submission in more detail.

If you would like any further information, please feel free to contact Mr Ted Plummer, Head of Government and Community Relations on (02) 9667 6182.

Yours sincerely



Kerrie Mather
Chief Executive Officer

**Sydney Airport
Corporation Limited**
ABN 62 082 578 809

Locked Bag 5000
Sydney International
Airport NSW 2020

Central Terrace Building
10 Arrivals Court
Sydney International
Airport NSW 2020
Australia

T 61 2 9667 9111
www.sydneyairport.com.au

Submission from Sydney Airport

Aviation Safety Regulation Review

Background

Sydney Airport: Creating jobs and economic activity

Sydney Airport supports or facilitates significant economic activity. A recent study by Deloitte Access Economics into the economic impact of Sydney Airport measured the airport's economic and social benefits. This study found that Sydney Airport generates or facilitates:

- **Jobs.** Direct and indirect employment of 283,700 jobs (equivalent to 8 per cent of NSW employment), including 160,000 direct jobs (28,000 directly on airport)
- **Economic activity.** Direct and indirect economic contribution of \$27.6 billion (equivalent to 6 per cent of the NSW economy and 2 per cent of the Australian economy)
- **Household income.** Direct and indirect contribution of \$13.2 billion

It is forecast that the economic activity generated or facilitated by Sydney Airport will increase to over \$42 billion in 2033. Total employment will increase to over 400,000 jobs by 2033.

Growth in aviation activity at Sydney Airport

During 2013, Sydney Airport exhibited for community and stakeholder comment a Preliminary Draft Master Plan (PDMP).¹ The PDMP, which covers the 20-year planning period to 2033, included aviation activity forecasts. These forecasts were independently prepared for Sydney Airport in consultation with airlines.

These forecasts show that:

- Airline passengers are forecast to grow from around 37 million passengers in 2012 (around 100,000 a day) to 74.3 million passengers in 2033 (around 200,000 a day)
- Total fixed wing aircraft movements are forecast to increase from 322,000 movements in 2012 to 409,000 movements in 2033
- Air freight is forecast to increase from 615,000 tonnes in 2012 to 1.011 million tonnes in 2033.

Sydney Airport's commitment to aviation safety

Sydney Airport is committed to maintaining a safe, secure and reliable airport operating environment through robust management frameworks.

A Safety Management System (SMS), which is required by Regulation 139.250 of the *Civil Aviation Safety Regulations 1998*, is in place and is operating effectively at Sydney Airport. The SMS outlines the processes for effectively managing safety and is audited annually by the Civil Aviation Safety Authority (CASA). Sydney Airport regularly updates the SMS, and is implementing an updated SMS in 2014 to take account of new work, health and safety legislation and continuous improvement initiatives.

¹ The PDMP was on exhibition between 5 June and 30 August 2013. The 148 submissions received were considered and the PDMP was, where appropriate, amended to produce a Draft Master Plan. This was submitted to the Deputy Prime Minister and Minister for Infrastructure and Regional Development, the Hon. Warren Truss, MP, for consideration on 2 December 2013.

The SMS provides the system by which long term and daily safety management can be planned, implemented and reviewed in a continuous cycle of improvement. The following safety improvement initiatives have been or are being undertaken:

- Installation of transmissometers (which provide pilots with an accurate and reliable determination of the Runway Visual Range)
- Installation of stop bars (which assist in preventing runway incursions)
- Installation of Advanced Surface Movement Guidance and Control System
- Security infrastructure and technology, such as a ground-based radar to detect intrusions to the airport boundary
- Installation of High Intensity Approach Lighting for Runway 34L for low visibility operations
- Upgrade of High Intensity Approach Lighting for Runway 16R (underway).

The Draft Master Plan (currently being considered by the Australian Government) includes a range of further safety-related initiatives including:

- Enhancement of the airfield taxiway system to improve taxiing aircraft flows
- Reduction in potential taxiing aircraft conflicts and points of congestion
- Low visibility enhancements
- Aprons with dual taxilanes
- Reduction in towed aircraft runway crossings.

Sydney Airport would like to commend CASA's input into the implementation of many of the projects listed above.

Inconsistencies and variations from International Civil Aviation Organisation (ICAO) standards

CASA's Manual of Standards (MOS) includes a number of variations to ICAO's international recommendations. While it is accepted that local factors may result in a need to vary from these international recommendations, it is important to note that, in general terms, Australian conditions are relatively low risk compared to those of Europe and North America (due to significantly fewer aircraft in a similarly sized airspace and Australia's generally better weather conditions). For example, a runway end safety area at Sydney Airport was built in 2008 to meet ICAO's minimum 90 metre dimension (which was consistent with the MOS 139 requirement) rather than ICAO's recommended 240 metres. This variation was justified because of Sydney's generally good weather conditions and the proximity of a large river to the runway end.

However, in some cases, the requirements in MOS 139 are different to ICAO's recommendations and these differences cannot, in our view, be substantiated by local factors. Variations from the international recommendations make the provision of aerodrome components in Australia more costly due to local recertification requirements and due to the small size of the Australian market and increase risk by diverging from international best practice. This also potentially limits the range of equipment that suppliers are able to offer.

On other occasions, CASA's MOS requires variations to ICAO's recommendations that could be challenged using a recommended risk assessment process.

Sydney Airport recommends that where there is potential for confusion between the standards applied to Australian international airports and those applied to International airports elsewhere, the ICAO standards are assessed and if suitable adopted to reduce the potential risk of confusion to pilots and enhance aviation safety.

Additionally, it is Sydney Airport's view that some areas of the MOS are too prescriptive and do not adequately address the requirements of larger aircraft ground operations. This is especially relevant in the area of line marking where in many instances there is no ability to enhance the line marking to cater for the visibility constraints of cockpits on larger aircraft such as the B-747.

The following examples illustrate where differences between international recommendations and those outlined in the MOS may bring about confusion.

Runway edge lighting

ICAO prescribes the runway lighting that must be applied to precision approach runways. It includes a requirement that a section of edge lighting near the end of the runway be coloured yellow, which warns pilots they are nearing the runway end. However, CASA has not followed this ICAO requirement and has instead prescribed in the MOS that precision approach runways at Australian airports should provide circling guidance lighting when operating in good weather conditions. The relevant standard for these lights precludes the use of yellow warning lights near the end of each runway.

A risk assessment would reveal that operating a precision approach runway in accordance with the MOS could introduce a risk that an aircraft could overrun the runway because of the lack of yellow edge lights at its end. The risk would be heightened for the crews of international airlines because they are more exposed to ICAO-compliant airports in other countries than are the crews of Australia's domestic airlines.

In the Australian environment, runway lighting configuration changes depending on weather conditions, further producing an inconsistent presentation to flight crews.

Sydney Airport has three runways and, in terms of lighting, one is compliant with ICAO's standards and the other two are compliant with CASA's MOS. The ICAO compliant runway is subject to an exemption from CASA when, in international terms, it is the only runway that meets international standards.

Lighting requirements for circling guidance are unique in comparison with world standards. Australian standards require major airports to carry two sets of edge lights at a considerable cost to industry. Application of the ICAO recommendations enables international airports to provide for circling guidance through the provision of a single light fitting.

Runway markings

For Category II operations (i.e. landings down to 350 metres visibility), the width of the runway centreline markings needs to be doubled from the standard width that is applied for operations down to 800 metres visibility. Sydney Airport's runway markings are all compliant for landings down to 350 metres. However, MOS Part 139 requires the width of markings on two runways be halved, despite the fact all runways facilitate departures in visibility conditions of 350 metres. A risk assessment would indicate that the safety benefit of wider centrelines is applicable to both arriving and departing aircraft in low visibility conditions, and that compliance with the MOS requirements does not produce a better safety outcome.

Inconsistencies associated with airport inspections

In general, CASA inspectors work on a state-by-state basis. Therefore, each inspector has responsibility for one major airport and a multitude of other airports (including smaller country airports). This has resulted in the inconsistent application of standards across airports of a comparable nature. This could be minimised if CASA appointed inspectors to audit major capital city airports, with other inspectors appointed to audit the smaller airports.

CASA exemption process

Part 11 of the *Civil Aviation Safety Regulations* allows CASA to issue exemptions against existing standards for a period of no more than three years. The purpose of an exemption is to facilitate short periods during which the non-compliance can be rectified. At the end of the three year period, an aerodrome operator may apply for a further exemption stating why an extension is required.

In a number of cases airfield limitations have required airports to submit safety arguments to support an alternative means of compliance based on a safety case. Such cases have traditionally been facilitated through by the issuing of an exemption. However at the time of assessment it is clear that these arrangements will extend beyond the three year period supported by the exemption process.

Sydney Airport notes that CASA is starting to address these matters by issuing authorisations after successfully demonstrating an alternative means of compliance and would encourage further development of this process.

Within MOS Part 139, there are requirements that are qualified by the statement “except if it is not practicable to do so”. As a specific example, the location of on-airport wind indicators states that the facility shall be located on the left hand side of the runway for a landing aircraft unless it is not practicable to do so.

In the case of Sydney Airport, there are locations where there is no other option but to locate the facilities on the right hand side of the runway and it can be demonstrated beyond any doubt that it is not possible to do otherwise.

The CASA process currently requires the airport to submit a case to CASA, which is then responsible for issuing an exemption for a period of no more than three years.

Sydney Airport recommends that, when in such cases, CASA provide a statement acknowledging that it is not practicable for the airport to meet the MOS requirement and that the exemption process not be repeatedly triggered every three years.

CASA’s enforcement arrangements

CASA's primary function is to conduct the safety regulation of civil air operations in Australia. While CASA actively engages with Sydney Airport regarding relevant on-airport issues, Sydney Airport’s experience is that its engagement with off-airport stakeholders whose activities can potentially impact on airport operations and aviation safety is limited.

For example, there is an expectation that airports will comply with the MOS requirements *and* other relevant guidelines, such as those contained in the National Airports Safeguarding Framework (NASF).

The NASF – which was approved by the Australian, State and Territory Governments in 2012 – is a national land use planning framework that, in part, aims to improve aviation safety outcomes. It aims to achieve this by ensuring aviation safety requirements are recognised in land use planning decisions (both on- and off-airport) through guidelines being adopted by governments for various safety-related issues. CASA was a member of the group that developed the NASF.

A number of these guidelines deal specifically with aviation safety issues, including:

- Guideline B: Managing the Risk of Building Generated Windshear and Turbulence at Airports
- Guideline C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports

- Guideline D: Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation
- Guideline E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports
- Guideline F: Managing the Risk of Intrusions into the Protected Airspace of Airports

To ensure aviation safety, proposed off-airport developments (including buildings or other structures), existing objects (such as cranes or trees) should, in most cases, be required to comply with these guidelines.

Sydney Airport believes CASA's role in managing these off-airport aviation safety issues needs to be clarified. We would support CASA being more proactive in ensuring the NASF guidelines are adhered to by off-airport stakeholders (including state and local governments and developers). To facilitate a more proactive role, CASA could be empowered to restrain any breach of, or non-compliance with, the guidelines or issue orders that non-compliances be rectified.

This is particularly important for the NASF Guideline F, which deals with the protection of airspace. Protecting airspace is critical to the viability of airport operations. The role of CASA and the way in which it interacts with off-airport stakeholders remains unclear. Sydney Airport would suggest that CASA's role and responsibility within this framework be reviewed and that consideration should be given to empowering CASA to proactively manage the protection of airspace around airports. Sydney Airport has raised this matter with CASA.