



INTERNATIONAL CIVIL AVIATION ORGANIZATION

**TWENTY SEVENTH MEETING OF THE ASIA/PACIFIC
AIR NAVIGATION PLANNING AND IMPLEMENTATION
REGIONAL GROUP (APANPIRG/27)**

Bangkok, Thailand, 5 to 8 September 2016

Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation

3.0: Regional and National Performance Framework

**NEW SOUTHERN SKY – IMPLEMENTATION OF NEW ZEALAND’S NATIONAL
AIRSPACE AND AIR NAVIGATION PLAN**

(Presented by New Zealand)

SUMMARY

New Zealand has implemented a ten year plan, the New Southern Sky Programme, to deliver aviation system modernisation. Now into Stage 2, year 3 of the programme, measurable benefits are starting to be delivered.

Strategic Objectives:

- A: **Safety** – Enhance global civil aviation safety
- B: **Air Navigation Capacity and Efficiency**—Increase the capacity and improve the efficiency of the global aviation system
- E: **Environmental Protection** — minimize the adverse environment effects of civil aviation activities.

1. INTRODUCTION

1.1 The New Zealand National Airspace and Air Navigation Plan (NAANP) was approved by the New Zealand Government June 2014 to enable the introduction of technology solutions that will mean shorter journeys, improved safety and lower carbon emissions in the aviation sector. The plan is aligned with the ICAO Aviation System Block Upgrades (ASBUs) and the Asia Pacific Regional Seamless ATM plan. The plan is being implemented over ten years, in three Stages, as the ‘New Southern Sky’ programme and is currently in Stage 2, and year three of delivery.

1.2 New Southern Sky is a sector wide collaborative programme led by the Civil Aviation Authority of New Zealand. It is overseen by a Governance Group made up of the Ministry of Transport, Civil Aviation Authority, the Airways Corporation (ANSP) and an independent member.

1.3 This is an aviation stakeholder delivered transition from ground-based to modern satellite-based navigation and surveillance technologies, digital information and communication systems, and streamlined air traffic control.

2. DISCUSSION

2.1 New Southern Sky takes a whole of system approach to modernization, based on a sound understanding of the key technology: the Global Navigation Satellite System (GNSS). The first major programme deliverable was a GNSS ‘Sole Means’ Report.

2.2 For the purposes of the report, *GNSS sole means* was defined as:

Instrument navigation and positioning for any phase of flight using GNSS as the only source of lateral navigation data input.

2.3 The report concluded that GNSS (GPS) sole means navigation is feasible in the New Zealand Flight Information Region with certain conditions applied to maintain safety. However, unlimited sole means navigation was not recommended due primarily to the risks of loss of GNSS and the consequent impacts on aviation system safety.

2.4 The other two major deliverables are System Safety Criteria (on which all following projects are based), and a New Zealand aviation system Concept of Operations (CONOPs) for 2023 which provides a view of the system at the end of the programme from a stakeholder perspective.

2.5 Thirteen projects were completed by stakeholders in Stage 1, including RPAS rules, four meteorological projects and the introduction of Airport Collaborative Decision Making (ACDM). There are 28 separate projects and tasks in Stage 2. Key amongst them are a Ground Based Navigation Aid strategy which determines a Minimum Operating Network (MON) of navigation aids for New Zealand, a national Performance Based Navigation (PBN) implementation plan and a Future Surveillance Project which delivers ADS-B infrastructure, supported by new civil aviation rules for system implementation.

2.6 New Southern Sky performance and safety metrics have been developed to quantify and validate the economic, safety and environmental benefits outlined in the NAANP. The metrics have already demonstrated, through a case study based on Auckland International Airport that economic and environmental benefits are being delivered through PBN.

2.7 The NAANP and CONOPs are available at the New Southern Sky website: <http://www.nss.govt.nz>.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

- a) Note the information contained in this paper; and
- b) Discuss any relevant matters as appropriate.

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