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Airspace Policy Team
Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts
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Subject: Support for the Implementation of the Universal ADS-B Mandate in Australia

Dear Airspace Policy Team,

I am writing to formally express Shell's support for the proposed expansion of the Automatic Dependent Surveillance–Broadcast (ADS-B) mandate across all Australian airspace, as detailed in the recent consultation paper.

At Shell, the integration of Remotely Piloted Aircraft Systems (RPAS) into our operations has highlighted the challenges associated with identifying non-ADS-B-equipped airspace users, particularly during Beyond Visual Line of Sight (BVLOS) missions. The universal adoption of ADS-B is, in our view, critical to enhancing situational awareness, increasing airspace capacity, and ensuring the safe integration of RPAS and advanced air mobility platforms.

Shell maintains a significant presence in both crewed and uncrewed aviation, and we anticipate that RPAS operations will continue to expand and become further normalized. Notably, our global operations now record more flight hours with RPAS than with crewed fi fixed-wing aircraft.

Our practices are guided by the IOGP 696 Remotely Piloted Aircraft Systems guidance material, which emphasizes the importance of electronic conspicuity—particularly through ADS-B OUT—and the necessity for RPAS Ground Control Stations to receive ADS-B

IN data, thereby providing RPAS pilots with a comprehensive airspace situational awareness picture.

In addition to supporting the mandate, we respectfully recommend that, especially for RPAS, only systems meeting Technical Standard Order (TSO) requirements be permitted. We have observed instances where crewed aircraft Airborne Collision Avoidance Systems (ACAS) failed to recognize RPAS ADS-B/Mode S signals that were not TSO-rated. Mandating TSO compliance will significantly enhance electronic conspicuity, particularly for smaller RPAS that may be difficult for crewed aircraft to visually detect.

Furthermore, while the proposal notes that there are a number of ways that ADS-B IN can satisfy requirements, we recommend formally acknowledging that the requirement could be satisfied by one of three mechanisms: a) on-aircraft ADS-B IN; (b) Associated Elements that deliver ADS-B traffic to the UAS or operator; or (c) an Automated Data Service Provider (ADSP) that provides assured ADS-B traffic for operational use. Note that the final option would require specifications to be stated to ensure it met minimum requirements, similar to FAA Part 146 requirements.

Regarding exemptions for indoor, tethered, and sheltered RPAS activities, we acknowledge concerns about potential airspace clutter. We are of the view that only systems posing a risk to crewed aircraft should be required to carry ADS-B equipment. The proposal to have ADS-B OUT/Mode S for medium (>25kg) and large (>150kg) RPAS, regardless of altitude, is sensible and allows for the increased risk of these systems unintentionally interacting with crewed aircraft.

However, the requirement for all BVLOS to have an ADS-B IN may be problematic with the increased uptake of Drone in a Box (DiaB) systems that are typically classified as BVLOS. These systems are typically small in nature and have defined routes that may be shielded. Where these systems are used in remote areas in a lower risk environment consideration should be given to also applying a weight category where ADS-B IN is mandatory. A similar result could be achieved by ensuring there is a suitable ground based receiver at the DiaB site.

In high traffic areas, there are devices commercially available that have “Inert & Alert” electronic conspicuity, with transmit function disabled until ADS-B IN function detects another ADS-B OUT aircraft within a defined proximity. Consideration should be given to the use of these devices where ADS-B OUT saturation may be an issue. Mode S only is also an option in this regard.

Thank you for the opportunity to provide feedback. I am confident that a universal ADS-B mandate will deliver substantial benefits for the safety, efficiency, and continued growth of Australian aviation, across both crewed and uncrewed sectors.

Yours sincerely,

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