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Via email: regulatoryconsultation@casa.gov.au

Re: Response to Review of RPAS operations Discussion Paper

The National Farmers' Federation (NFF) welcomes the opportunity to make a submission to the Review of RPAS operations Discussion Paper. The NFF strongly supports a system for remotely piloted aircraft (RPA) - commonly referred to as drones that allows farmers to increase productivity and efficiencies on farm while maximising safety. The challenge ahead for Australian agriculture is to continually innovate to meet growing global demand for quality food and fibre. Access to transformative technologies such as RPAs will be a crucial part of our future.

The NFF is the peak national body representing farmers and, more broadly, agriculture across Australia. Operating under a federated structure, individual farmers join their respective state farm organisation and/or national commodity council. These organisations collectively form the NFF.

The relative safety benefits and cost effectiveness of introducing mandatory registration, education and training for all RPAS operators

There is much discussion around the development of drone registration, in a similar way that cars are equipped with number plates. RPA professional operators with a medium to large drone are already heavily regulated by CASA and the NFF has no real concerns over the operating conditions they are effective in. The increasing recreational use of RPAs (of all sizes) however is of concern to farmers, as often these users are not familiar with the standard operating conditions and the regulatory situation for those operators currently makes it difficult to identify the owner and operator of the drone, particularly in the instance where the drone has been purchased online, or the operator is some distance from the drone.

As identified in RIRDC's 2015 report *Rural Industry Futures*[1], transformative technologies such as drones have the capacity to change the way food and fibre are produced. Drones can provide farmers with valuable data to better monitor conditions on farm. These sophisticated tools will enable farmers to manage ever larger areas of land and assist them with decision- making. It is to be expected that digital technologies can improve risk management approaches on farm, predicting weather and yields with greater accuracy.

Drones could, potentially, be used to assist farmers in monitoring fencing or to spray plants. In turn, farmers will spend less time driving through paddocks as they will be able to manage larger areas of land by analysing data. The RIRDC report outlines how agriculture could use drones:

[1] Stefan Hajkowicz and Sandra Eady, *Rural Industry Futures – Megatrends impacting Australian agriculture over the coming twenty years*, Canberra: RIRDC, 2015.

"Low-flying drones, equipped with sensors and digital imaging, such as infrared, X-ray and hyperspectral imaging, can detect water stress, nutrient deficiencies and disease. Orchards can be monitored for flowering, weed invasion can be detected and livestock located."[2]

The NFF welcomes a regulatory system of RPAS that encourages the uptake of drones in everyday farming while, at the same time, ensuring that all staff working on farm are safe, including those using light aircraft for mustering, spraying or other purposes. Particular safety concerns are held for those pilots operating on farm through operating aerial spraying or mustering, as currently there is no way to identify (other than by sight) if a RPA is operating in the same air space as farmers.

The NFF is supportive of CASA increasing its education campaign for recreational users, and would welcome any move to provide specific information for farmers wanting to utilise this technology on farms, or for recreational users wanting to fly over private property. The standard operating conditions of RPAs needs to be further reinforced through a dedicated media campaign targeted at recreational RPA users, and the NFF would welcome a broad reaching multi media campaign that targeted those users.

Specific cost effective, education and training modules for farmers wanting to utilise small to medium drones, would assist in the uptake of drone use on farm. However, the NFF would not support a mandatory training requirement for recreational operators of RPAs, as this measure is impractical due to the increasing number of unregulated (small to medium) drones used, and would not have the desired impact of improving air safety for farmers.

The NFF is supportive of the registration of drones, and believes that this can be done in a relatively cost effective manner, and should be applied retrospectively to those drones already operating in the market. As suggested in the discussion paper, RPA users could easily attach contact information to the drone in addition to registering it with CASA through an online platform. This would go some way towards ensuring that breaches to the standard operating conditions for RPAs can be better addressed.

The relative safety benefits and cost effectiveness of the development of geo-fencing capabilities for RPAS

It is apparent that geofencing software can be used in the private context and would provide farmers with a level of confidence that their RPA is operating within specific confines. The difficulty with geofencing is that it does not create any kind of physical barrier around the area itself, rather, the 'no fly zone' is built into the software that governs the drone. The NFF believe that the use of geofencing on private agricultural land is a potential technology that would provide significant benefits for producers and eliminate the need for the requirement of maintaining a line of sight when operating a RPA. The NFF would endorse CASA relaxing the requirement of line of sight operating, if geofencing was able to be demonstrated to be in use on the property.

In a similar manner, CASA has recently launched an app entitled 'Can I Fly There?' which shows where a drone can be operated under standard operating conditions. At present the app only identifies prohibited areas such as within a certain proximity to airports and helicopter landing sites, but potentially this could be extended to private land if supported by appropriate regulatory reform.

[2] Hajkowicz and Eady, page 80.

The implementation of geofencing technology would create the most fool-proof way to minimise safety concerns arising from recreational users. However, considering how broad-reaching the technology will be required to be, and how restrictive it will become on drone manufacturers it may be a difficult area in which to gain traction.

The effectiveness of CASA's operating model with respect to the regulation of RPAs to ensure it takes into account technology and operational growth of the RPAS community

There is a real need to ensure the balance between the legitimate use of drones and the legitimate interests of farmers. It is clear that there is much uncertainty around how the existing law can protect famer's from unwanted drone interference and there is currently several impediments to them doing so. In such an environment it is almost inevitable that a situation will arise where a farmer suffers from real harm as a result of overbearing drone interference, or risk prosecution trying to prevent drone flight over their property. It is unclear, at this stage, how effective CASA is at investigating and pursuing complaints against RPA operators.

The effectiveness of CASA's operating model with respect to the regulation of RPAs to ensure it takes into account developments in ICAO and other international aviation safety agencies.

The discussion paper clearly outlines the practical difficulties of identifying drone operators and/or linking any breach of the standard operating conditions to an organisation or individual facilitating the breach. The paper also clearly highlights the practical difficulty in having CASA enforce restrictions on the use of drones. With this in mind, the NFF would endorse CASA incorporating into the 'Can I Fly There?' app a mechanism to highlight areas that are suitable for RPA use, areas that may require permission from landholders due to agricultural activity, in addition to the already defined no fly zones.

For further information please contact:

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