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### Regulating Aerial Photography and Videography Proportionately: Some Thoughts on the SAL Seminar “Droning on About Journalism – Remotely Piloted Aircraft, Newsgathering, and Law”

Siyuan CHEN

*Singapore Management University*, [siyuanchen@smu.edu.sg](mailto:siyuanchen@smu.edu.sg)

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## **Regulating Aerial Photography and Videography Proportionately: Some Thoughts on the SAL Seminar “Droning on About Journalism – Remotely Piloted Aircraft, Newsgathering, and Law”**

Chen Siyuan (Assistant Professor, Singapore Management University)

Singapore Law Blog, 01-Nov-2014, <http://www.singaporelawblog.sg/blog/article/53>

In July 2014, NCMP Gerald Giam raised in Parliament the question of whether the Singapore government had any plans to provide “a clearer regulatory framework so as to accommodate a possible growth” in the “commercial drone industry”. Minister for Transport Lui Tuck Yew replied that a framework would duly be rolled out for public consultation, but the proposed legislation is still in the process of being ironed out. Though not referred to explicitly, both MPs must have been referring to the use of remote-controlled aircraft for the specific purpose of aerial photography and videography, where great opportunities have been opening up for hobbyists and professionals to document, in new perspectives, hitherto unreachable places in both motion and still formats with breath-taking results. Here, I intend to briefly highlight some possible issues that ought to be considered in greater detail when redrafting the legislation. I should add that this piece was prompted in part by the recent SAL seminar “Droning on About Journalism – Remotely Piloted Aircraft, Newsgathering, and Law”. Along the way, I will refer to some of the points raised by the speakers at that seminar: Dr David Goldberg, Dr Jack Lee, and Mr Gilbert Leong.

The concept and practice of aerial photography and videography have been around for some time. But it was only in the last few years that such media production via remote means has achieved mainstream use. The convergence of cutting-edge technological developments in gyroscopic gimbals, far-range wireless transmissions, GPS-enablement in stabilisation, compact devices producing digital image quality and so forth has led to the proliferation of affordable camera-carrying “drones” that even hobbyists can pilot reasonably well with ease. Thus far, there have not been any reports of serious mishaps involving the use of these rotor-propelled copters. However, the controversial appellation inaccurately attached to such tools has generated considerable public concern and even more considerable public misconception, particularly that relating to privacy, safety, and the protection of commercial interests. But lost in the paranoid cacophony is a question that warrants proper thought and analysis: how can the use of such tools be regulated in a way that is proportionate and appreciative of their often unarticulated benefits?

The starting point is to examine existing regulations, which at the outset must be said was never meant to address modern recreational aviation. Under paragraph 64C(1) of the Air Navigation Order (1992 Rev Ed), which is subsidiary legislation, “a person shall not fly or operate any model aircraft ... (a) at any altitude within 5 kilometres of any aerodrome; or (b) at an altitude higher than 200 feet above mean sea level in any place beyond 5 kilometres of any aerodrome.” According to paragraph 64I, “model aircraft” refers to “any aircraft that weighs not more than 7 kilogrammes without its fuel and that is capable of being flown without a pilot” while according to paragraph 2 “aerodrome” refers to any “defined area on land (including any building, installation and equipment) used or intended to be used, either wholly or in part, for the arrival, departure and surface movement of aircraft”. Notably, most mainstream rotor-propelled copters used to carry cameras have payloads far below 7 kilograms.

A person may apply for a written permit granted by the Chief Executive of the Civil Aviation Authority of Singapore to be exempted from paragraph 64C(1), but the latter is at liberty to impose any conditions as he thinks fit. The application has to be done at least 7 working days before the date on which the activity in question is intended to be carried out. Apart from the twin conditions in paragraph 64C(1), paragraph 64C(5) states that a person “shall not fly or operate a model aircraft ... unless he is reasonably

satisfied that the flight of the model aircraft ... will be conducted safely and will not pose a hazard to any person, aircraft or property.” In other words, under the Air Navigation Order, there are at least three conditions to be adhered to for a hobbyist aerial photographer or videographer in Singapore.

At first blush, the prohibition of flights within 5 kilometres of any aerodrome seems reasonable and proportionate. However, the definition of “aerodrome” is very broad, and would include not just airports, airbases, and airstrips but even helicopter landing pads as well. As Singapore only runs 40-odd kilometres from east to west and 20-odd kilometres from north to south and there are quite a number of places that would theoretically qualify as aerodromes under the Air Navigation Order, this essentially means, according to Mr Leong’s estimations, that it is impermissible to fly any model aircraft in almost all of Singapore. Either the radius should be reduced, or more sensibly, the definition of “aerodrome” should be narrowed down to cover only airports and airbases. Then there is the question of whether flying indoors, even within 5 kilometres of airports and airbases, should be prohibited. Clearly, the legislation should be amended to clarify this by answering in the negative. Any threat presented by a potential crash is clearly limited to the indoor environment in question.

The height limit of 200 feet above mean sea level is also restrictive, though not as disproportionately so as the preceding restriction. 200 feet is roughly equivalent to 60 metres, or a short building by Singapore standards. The purpose and utility of aerial photography and videography are immediately defeated. A more reasonable and technology-agnostic restriction would be 500 feet, considering that when this restriction is coupled with the 5 kilometre prohibition, there is no real threat to the flight trajectories of commercial or military aircraft. If the concern is the loss of line of sight, first-person-view and OSD technology is now relatively reliable and is improving quickly by the day. If the concern is the loss of control, path-preprogramming and homing technology is also relatively reliable and improving quickly by the day. Built-in speed caps can also be made mandatory since speed is seldom the key to any aerial photo or video project. For completeness, the distance limitation should not be confined to height: it is generally unwise to remotely fly a model aircraft from kilometres away, even if at a low height. Moreover, flight-times are unlikely to increase exponentially in the near future.

The current requirement for reasonable satisfaction of safety is fair. But this also means that attempts to impose further restrictions will be unduly oppressive on a person’s freedom to express, create art, or even gather news (which, as Dr Goldberg notes, in this day and age has even greater meaning given the vast technological empowerment of the common citizenry). The argument from safety will always seem compelling because the imagination of an object dropping from the sky will always create a visceral effect. However, paragraph 64C(5) of the Air Navigation Order is already very clear, not to mention a general duty of care already exists under tort law. What should be done instead that hobbyists should be educated on flight safety, such as avoiding flights in bad weather or where there are crowds in the vicinity. Some system accreditation may help, but most aerial photography and videography projects are very straightforward and not at all complex. Bureaucracy should therefore be avoided and not adopted just to assuage illusory fears. As to the permissibility of banning flights in certain areas for certain events (such as creating a no-fly zone in the Marina Bay area during the NDP or F1 Night Race), this is generally unobjectionable if there are legitimate safety concerns.

The argument from privacy (notwithstanding Dr Lee’s point that it is not a right explicitly recognised in Singapore) fails immediately if one understands the inherent physical limitations of aerial photography and videography. First, the copters generate a lot of noise that can be heard from great distances. They are far from ideal for spying. Secondly, for the quieter copters, they are smaller in size but because of that, they can only be fitted with wide or ultra-wide lenses that are completely incapable of capturing meaningful detail of isolated subjects. At best they can be used (and are used) for landscape sweeps or

stitches. For telephoto optics or just better optics generally, much bigger copters will be required, and louder sounds will be generated. Thirdly (and as noted by Dr Goldberg), there is simply no proof that hobbyists and moviemakers will spend thousands or tens of thousands of dollars to utilise the most inappropriate of equipment to spy when there are far cheaper and more effective options to do so. Finally, in dense areas (where privacy concerns usually come into sharp focus), there is almost always a lot of wireless interference and it is almost impossible to pilot a copter with enough control and precision for the purposes of spying.

Ultimately, as Dr Goldberg suggested, what is needed first and foremost is a mind-set shift. Many of the irrational fears that are conjured up by the thought of “drones” can be dispelled easily if one is able to dispassionately try to understand the features of the technology and the benefits that it brings. As Dr Goldberg further warned, it is far too easy to go down the path of no return and regulate blindly and disproportionately, as has already been done in other jurisdictions to their own detriment. Just as unacceptable will be a default prohibition scheme, where even recreational or basic use is on a licence basis. There is of course always the possibility of liberalising use but increasing penalties for non-adherence. Again, a proportional approach will be necessitated if indeed that is the preferred compromise.