

# *R v. Shah* – Lessons learned from Canada's first drone case

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Few judicial decisions exist in Canada relating to the operation of drones or remotely piloted aircraft systems (RPAS). In *R v. Shah*, the Provincial Court of Alberta released its decision on the first reported case on drones in Canada.<sup>1</sup> Although the key charging section in this case has since been revised, and this case was decided before the most current regulations came into force, the decision in *Shah* offers valuable insight into the unique risk factors associated with drone operations. The discussion in *Shah* has significant implications relating to airspace safety as drones continue to integrate into Canada's airspace.

## Facts and law

On the night of January 17, 2017, Mr. Shah was operating a drone in a park located close in proximity to the Calgary International Airport (YYC). A member of the air support unit of the Calgary Police Service noticed the blinking lights of the drone while patrolling the surrounding area.

The police were concerned that the drone was being illegally operated in the restricted area near the airport. The police seized the drone and charged Mr. Shah with a summary offence under section 602.45 of the *Canadian Aviation Regulations* (CARs). The regulation prohibited the flight of a model aircraft "in a manner that is or is likely to be hazardous to aviation safety."<sup>2</sup> Under the current regulations, a comparable prohibition under section 900.06 states that "no person shall operate a remotely piloted aircraft system in such a reckless or negligent manner as to endanger or be likely to endanger aviation safety or the safety of any person."

## Risks to aviation safety

The Court heard expert evidence provided by Mark Wuenennberg, a Civil Aviation Inspector with Transport Canada. The testimony was necessary to understand the interrelationship between drones, and the landing and departing aircraft at the Calgary International Airport.<sup>3</sup> Not only was Mr. Wuenennberg a licensed pilot with more than 4000 flying hours, he also had extensive experience with drones. He had previously authored advisory circulars on drones as a subject matter expert for Transport Canada.<sup>4</sup>

Mr. Wuenennberg identified two primary risks associated with drone operations: (i) loss of link; and (ii) "fly away":

1. Loss of link occurs where a drone loses connection with the device controller.<sup>5</sup> Some models are equipped with special features that deal with loss of link by automatically returning the drone to its point of origin in the event of loss of link; and
2. "Fly away" refers to a situation where the device experiences a total loss of control and does not behave predictably.<sup>6</sup> Interestingly, this type of problem occurs more often than may be expected. Mr. Wuenennberg testified that the occurrence rate for such instances could be as high as 40 percent with certain types of drones.

Evidently, these situations can be extremely dangerous. An operator losing control of their device without the proper safety features could potentially pose a significant risk to aviation safety. This is especially true in cases such as *Shah* occurring in close proximity to airports.

## Factors of significance

Mr. Wuenennberg acknowledged three additional factors of significance in *Shah* that are applicable to the general safety and everyday operation of drones:

**Night Operations:** Because the incident occurred at night, the depth perception of both the operator and pilots of manned aircraft could have been negatively impacted. Darker conditions make it difficult for drone operators to accurately estimate the height and relative distance of their own aircraft, as well as other aircraft nearby. Furthermore, pilots of manned aircraft in the area would experience similar difficulties.

**Cold Air:** The air temperature in a cold winter's night can also play a role in safely operating a drone. Colder temperatures increase the density of the air, and consequently, the efficiency of the propellers on a drone.<sup>7</sup> Colder air enables a device to operate at even higher altitudes, which could lead to interference with other aircraft in the area. This factor is of particular concern when operating a drone close to an airport, due to increased air traffic where planes are departing and landing frequently.

**Airworthiness issues:** Many drones available to the public are not built or designed in compliance with any recognized standards.<sup>8</sup> Though the incoming drone regulations (which come largely into force on June 1, 2019) require that drones used in commercial operations comply with certain manufacturing specifications, many drone flights will still be able to take place with drones that adhere to specific standards.

## Insight into drone regulatory offences

Transport Canada stated that in 2015, the number of reported incidents more than doubled from 2014 to a total of 86. In 2016, 148 incidents occurred specifically near aerodromes alone. A great majority of the incidents have been from recreational and non-compliant drone operators, and occurring within 5NM (9.25 km) of the center of aerodromes and at excessive altitudes. Thus, although the charging provisions in *Shah* have since been reformed, the decision discusses several risks and circumstantial factors that are unique to drones. Indeed, the emphasis on safety and operations at excessive heights or within a certain distance of an aerodrome is a significant focus of the recent amendments to Canada's drone regulations that will soon be in force.

## Key takeaways for drone operators

The discussion in *Shah* regarding strict liability offences provides valuable insight into how courts may consider and decide drone regulatory offences, particularly the offences pertaining to flying a drone within a certain distance of an aerodrome or other area. For strict liability offences, the Crown only needs to prove beyond a reasonable doubt that an act violates the regulations. However, once the act is proven, the defendant can establish a due diligence defence or reasonable excuse on a balance of probabilities.

Drone operators must comply with the rules for operations as set out in the regulations and other applicable laws; they should also consider whether their conduct is reasonable in the circumstances. As drones become even more commonplace in Canada's airspace, more cases will be decided and will provide more guidance to drone operators on how to comply with the current drone regulations.

For more information on this topic, please feel free to contact **Kathryn McCulloch** or any member of Dentons' Aviation team.

*A special thank you to Michael Britton for his assistance with this article.*

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1. *2017 ABPC 259 [Shah].*↵
2. *Ibid at para 3.*↵
3. *Ibid at para 10.*↵
4. *Ibid at para 11.*↵
5. *Ibid at para 21.*↵
6. *Ibid.*↵
7. *Ibid at para 23.*↵
8. *Ibid.*↵

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