



**Structure, Tower &
Antenna Council**
**Conseil des structures,
pylônes et antennes**

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Via email: carrac@tc.gc.ca

Chief, Regulatory Affairs
Civil Aviation, Safety and Security Group
Department of Transport
Place de Ville – Tower C
330 Sparks St.
Ottawa, ON
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Re: Canada Gazette, Part 1, July 15, 2017, Regulations Amending the Canadian Aviation Regulations (Unmanned Aircraft Systems)

1. The Structure, Tower & Antenna Council (STAC) is the recognized authority on Canadian communication towers as well as the occupational health and safety and other needs of the communication tower industry in Canada. It is administered by the Canadian Wireless Telecommunications Association (CWTA) and represents companies involved in all aspects of the communication tower industry, including site owners, tower engineers, manufacturers, and tower construction and maintenance companies, among others. STAC is filing these comments on behalf of its members.
2. STAC Members use unmanned aerial systems (UAS) for communication tower inspections, including to ensure a tower's safety prior to workers climbing and to identify factors that can lead to reduced propagation of communications signals. In both cases, a UAS is used to alleviate unnecessary burden on physical laborers and to reduce their exposure to potential hazards, including those related to working at heights.
3. STAC supports Transport Canada's stated objectives of improving regulatory predictability to foster a stable and agile regulatory environment, and of reducing burden on UAS enterprises. STAC's comments are designed to align with these priorities as they apply to the communication tower industry, including for current and anticipated applications of UAS technology in the industry. STAC's comments may also reflect its own commitment to promoting safe worksite practices, as well as the "Overarching safety issue" identified in the *Canada Gazette* notice of July 15, 2017.
4. STAC's submission does not supersede any comments that STAC member companies or organizations provide to the Department through individual responses submitted in relation to this consultation.

Proposed Regulation 900.01 (built-up area)

5. STAC has significant concern with the proposed definition of a *built-up area* and its use of the currently undefined term *developed area*. Using this undefined term in such an important definition undermines the Department's objective of improving regulatory predictability, as it will undoubtedly leave would-be operators struggling to determine whether they are outside of the distance requirements from built-up areas in order for their operations to qualify as Small (Limited) operations.
6. STAC proposes that Transport Canada adopt a definition of a *developed area* as defined in the United States *Code of Federal Regulations (CFR)* [as per *44 CFR 59.1* (Title 44 - Emergency Management And Assistance; Chapter I - Federal Emergency Management Agency, Department Of Homeland Security; Subchapter B - Insurance And Hazard Mitigation; Part 59 - General Provisions; Subpart A – General)]. This definition reads as follows:

Developed area means an area of a community that is:

- (a) A primarily urbanized, built-up area that is a minimum of 20 contiguous acres, has basic urban infrastructure, including roads, utilities, communications, and public facilities, to sustain industrial, residential, and commercial activities, and



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- (1) Within which 75 percent or more of the parcels, tracts, or lots contain commercial, industrial, or residential structures or uses; or
- (2) Is a single parcel, tract, or lot in which 75 percent of the area contains existing commercial or industrial structures or uses; or
- (3) Is a subdivision developed at a density of at least two residential structures per acre within which 75 percent or more of the lots contain existing residential structures at the time the designation is adopted.
 - (b) Undeveloped parcels, tracts, or lots, the combination of which is less than 20 acres and contiguous on at least 3 sides to areas meeting the criteria of paragraph (a) at the time the designation is adopted.
 - (c) A subdivision that is a minimum of 20 contiguous acres that has obtained all necessary government approvals, provided that the actual “start of construction” of structures has occurred on at least 10 percent of the lots or remaining lots of a subdivision or 10 percent of the maximum building coverage or remaining building coverage allowed for a single lot subdivision at the time the designation is adopted and construction of structures is underway. Residential subdivisions must meet the density criteria in paragraph (a)(3).

Proposed Regulation 900.13 (Visual Line-of-sight)

7. STAC submits that proposed visual line-of-sight (VLOS) requirements are sufficient as proposed because they provide for the use of observers to mitigate difficulties posed by obstacles, as well as for the opportunity for more expansive beyond visual line-of-sight operations (BVLOS) through the existing special flight operations certificate (SFOC) regime. However, STAC also submits that anticipated technological advances and the increasing use and application of UAS technologies in the years to come will likely result in a significant increase in commercial operators’ desires to utilize BVLOS UAS operations. As such, STAC recommends that the Department adopt the VLOS and BVLOS regulations as currently proposed but subject this aspect of the regulations to review within five years from the date the regulations come into force to determine whether the existing VLOS and BVLOS regulations remain sufficient to support innovative new uses of UAS technologies.

Proposed Regulations 902.11, 902.18(1) and 902.56(1) (Lateral Distance)

8. While STAC is generally supportive of proposed regulations requiring that UAS operations of different classifications maintain specific prescribed distances from people who are not involved in those UAS operations, the Council submits that the application of these regulations may become overly restrictive based on Transport Canada’s stated definition of “other person involved in the operation” for the purposes of exempting individual persons from triggering these requirements.
9. In an email communication dated September 6, 2017, STAC was informed by Transport Canada staff that an “other person involved in the operation” would be limited to those individuals who are required to support the UAS operation. It was indicated that the definition would not include individuals vital to a larger process or project of which the UAS operation is a part, or those individuals whose particular skillsets or expertise may be deemed necessary to support the UAS operation. STAC submits that this limited interpretation of “other person involved in the operation” will severely restrict the use and benefits of UAS operations in a wide variety of industries, as it would require would-be operators to essentially halt all other related operations in the vicinity during any and all UAS operations.
10. In the communication tower industry, the effect of this narrow definition would be drastic, as tower crews would in most cases be required to evacuate a tower site during UAS operations and only permitted to return once those operations were complete. Upon returning to the site, those same workers would then need to receive briefing on the UAS operations’ findings before identifying how to respond to any hazards or other concerns identified during the UAS operation. The resulting incremental



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costs related to transportation of individuals to and from a site, as well as those relating to lost manhours, would in many cases eliminate the efficiencies sought through the use of UAS technologies. Similar effects would seem to be applicable to other areas of the construction and infrastructure maintenance industries in particular, and may be applicable to any number of additional industries that require UAS operations as a small component of larger projects or operations.

11. To rectify this concern, STAC submits that Transport Canada should provide an expanded definition of “other person involved in the operation” within the amended regulations. STAC recommends that any such definition include individuals who are required to support the UAS operation directly or any ancillary operation of which the UAS operation is a part, and who have received a safety briefing that is specific to the planned UAS operation in question.

Proposed Regulation 902.17 (Minimum Distance from Built-up Areas)

12. STAC has potential concerns about the proposed distance requirement from built-up areas for Small (Limited) operations, though it is notably difficult to quantify this concern due to our members’ inability to determine what would constitute a *built-up area* (as a result of the use of the undefined term *developed area*). Simply put, if the Department adopted an expansive definition of *developed area* – thus expanding the scope of a *built-up area* – the requirement that Small (Limited) operations only occur outside of 0.5 NM (0.926 km) of any built-up areas may render the Small (Limited) operations option null.
13. A large number of Canadian communication towers are located within 0.5 NM of rural roads or highways, though not within 0.5 NM of any populated homes or businesses. As per the *Canada Gazette* notice cited above, this would appear to be the type of “rural” location Transport Canada had in mind when proposing the Small (Limited) operations classification (see *Canada Gazette* notice of July 15, 2017 at “Executive Summary”), as operations in this scenario would pose minimal – if any – hazard to persons or property. However, should the Department adopt an expansive definition of the term *developed area* that includes any/all rural roadways or manmade structures, for example, any UAS operation near a communication tower would classify as a Small (Complex) operation, placing undue regulatory burden on the UAS operator(s).
14. For the reasons cited here, STAC reaffirms its position that Transport Canada should develop and codify a formal definition of *developed areas* as defined in the United States *Code of Federal Regulations (CFR)*, and as listed in paragraph 6 above. Should the Department choose to leave this term undefined or should it choose a more expansive definition, STAC would request additional opportunity to provide further comment on this proposed regulation.

Proposed Amendment 9 – Amendment to Section 202.16 of the Regulations

15. While STAC commends the Department’s effort to require that any UAS used in a Small (Complex) operation uphold certain safety standards, STAC Members expressed concern that the proposed exemption for any UAS purchased prior to December 15, 2017, could mitigate the effect of this requirement. Specifically, STAC believes this proposed amendment is aimed at ensuring the safe operation of UAS used in urban environments and other built-up areas, including by mitigating hazards caused by “flyaway” vehicles. However, STAC Members note that flyaway issues are more common among older UAS, and that allowing the continued use of older UAS in urban areas for an extended period of time would undermine this objective.
16. STAC recommends that Transport Canada impose a limit on the length of time that this exemption will be applied to UAS purchased before December 15, 2017, after which any operator using a UAS purchased before this exemption cutoff date be required to produce a statement of conformity in order to use that UAS for Small (Complex) operations.

General Comments

17. Finally, STAC submits that the harmonization of commercial and recreational UAS regulations and the rapidly expanding commercial and recreational use of UAS technologies is likely to lead to an increased number of people in Canada who will be affected by the proposed regulations, including those who have less in-flight or flight training experience. As such, STAC recommends that Transport Canada ensure that all units of measurement cited in the final regulations be converted to metric



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measurements – either as the primary unit as measurement or in parenthesis – so as to mitigate potential confusion among less experienced operators. This includes all references to “feet” and “nautical miles,” in particular.

Conclusion

18. As UAS technologies continue to advance in the years ahead, commercial and recreational UAS operators in Canada will benefit from a stable and predictable regulatory regime that reflects easily identifiable safety objectives, such as mitigating potential harms to persons or property. If permitted to operate within a reasonable and predictable regulatory regime that strikes the correct balance between opportunity and hazard reduction, Canadian businesses will continue to find new and innovative ways to apply UAS solutions to their business needs, potentially providing immeasurable benefit to Canadian productivity and the Canadian economy.
19. STAC applauds Transport Canada’s proposed regulations and the Department’s efforts to strike this balance. The Council believes that the proposed regulations, coupled with the amendments outlined in this submission, will help ensure Canadian businesses and the Canadian economy reap the potential benefits of UAS technologies.
20. Thank you for the opportunity to submit our comments.

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