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Subject: National Association of Broadcasters, National Cable & Telecommunications Association, and Radio Television Digital News Association Comments to Notice of Proposed Rulemaking, *Operation and Certification of Small Unmanned Aircraft Systems*, Docket No. FAA-2015-0150

To Whom it May Concern:

The National Association of Broadcasters ("NAB"),[1] the National Cable & Telecommunications Association ("NCTA"),[2] and the Radio Television Digital News Association ("RTDNA")[3] are pleased to submit comments on the Federal Aviation Administration ("FAA") Notice of Proposed Rulemaking on Operation and Certification of Small Unmanned Aircraft Systems ("sUAS").[4] NAB, NCTA, and RTDNA appreciate the FAA's efforts in this proceeding to open the door to the commercial use of sUAS. sUAS will expand the possibilities for capturing informative and engaging images, delivering both vital information and captivating entertainment to millions of Americans.

As explained herein, NAB, NCTA, and RTDNA generally support the framework of the FAA's proposed rules—indeed, our organizations welcome the flexibility and breadth of the proposed operations. With some modifications, the proposed rules represent an excellent baseline to foster development of the commercial sUAS industry as technology continues to advance. However, in light of evolving technologies, the final sUAS rules also should establish an efficient and quick waiver process, wherein operators can seek exemptions to the rules when their sUAS operations would achieve a level of safety equivalent to the requirements of the final rules.

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[1] NAB is a nonprofit trade association that advocates on behalf of local radio and television stations and broadcast networks before Congress, the FCC and other federal agencies, and the courts.

[2] NCTA is the principal trade association for the U.S. cable industry, representing cable operators serving more than 80 percent of the nation's cable television households and more than 200 cable program networks.

[3] RTDNA is the world's largest professional organization devoted exclusively to electronic journalism and represents local and network news directors and executives, news associates, educators, and students in broadcasting, cable, and other electronic media in over 30 countries.

[4] FAA, Notice of Proposed Rulemaking, *Operation and Certification of Small Unmanned Aircraft Systems*, 80 Fed. Reg. 9543 (Feb. 23, 2015) ("*NPRM*").

Moreover, the FAA's proposals with respect to the micro UAS category offer our citizens more immediate promise in the form of compelling news and sports coverage and enhanced program content. Micro UAS have the dual benefits of being extremely lightweight and still highly capable of performing operations such as aerial photography, videography and newsgathering. The FAA should unleash the potential of this technology and proceed expeditiously to permit use of micro UAS under a relaxed regulatory framework.

The FAA is on the right path to adopting rules that balance its charge to preserve public safety with the compelling advantages sUAS represent, particularly with respect to newsgathering, sports coverage, and all types of video programming production. NAB, NCTA and RTDNA look forward to working with the agency to ensure adoption of these rules as soon as possible.

I. UNMANNED AIRCRAFT CAN HELP REVOLUTIONIZE NEWSGATHERING, SPORTS COVERAGE, AND ALL TYPES OF VIDEO PROGRAMMING PRODUCTION.

Journalists and video programming producers serve as the eyes and ears of the public, transporting viewers to locations that are ordinary, exotic, and everything in-between. Americans depend on journalists and video programmers to use the power of the picture to bring the pomp and circumstance of a community parade, the devastation and destruction brought on by a natural disaster, educational programming such as documentaries, sports, and scripted and reality entertainment programming into viewers' living rooms, onto their computer screens and, increasingly, to their mobile devices. The use of sUAS will permit safer, less expensive, and better journalism and video production. sUAS will provide television stations in smaller markets with an unprecedented opportunity to offer aerial coverage while also allowing stations in larger markets to supplement, or even replace, their current aerial capabilities, better enabling journalists to inform the public and alert government first responders. sUAS also will facilitate more creative and informative storytelling, enhancing the television and movie viewing experience while, at the same time, making video production safer and more cost-effective. The result will be improved and expanded viewing options with a significant reduction in the level of risk inherent in today's aerial coverage options.

A. sUAS Would Enhance Journalists' Ability to Inform the Public in Entirely New Ways.

In times of need, journalists serve a critical function, gathering news and reporting information in a timely manner. The life-saving role of journalists in the lead-up to a severe weather event is well-documented. In but one recent example, on April 28, 2014, with a powerful tornado ripping through Tupelo, Mississippi, Matt Laubhan, the chief meteorologist for television station WTVA, instructed viewers to seek shelter before dramatically directing his own studio crew to the basement on live TV.[5] After the storm had passed, many residents

[5] *See* Emily Le Coz, *Tupelo Residents Say Weatherman Saved Their Lives*, The Clarion-Ledger (May 4, 2014).

reported that they did not hear the city's warning sirens and only took shelter because of Laubhan's coverage.[6]

Journalists play an equally important role in other breaking news situations. Amidst the protests in Ferguson, Missouri, in response to the deadly shooting of Michael Brown, journalists endured flying projectiles, tear gas, and even arrest to document the community tensions and to record the police response.[7] When two powerful bombs exploded near the finish line of the 2013 Boston Marathon, journalists sprang into action, providing timely and informative coverage of the rescue operation and the ensuing manhunt that placed much of the city on lockdown.[8] And, of course, most Americans will never forget the extensive coverage that journalists provided when terrorists attacked America on September 11, 2001, reassuring the nation by providing information, answers, and comfort.

Incorporating sUAS among their newsgathering tools will enable journalists to provide the public with imagery and insight that extend well beyond current capabilities. In other countries, where the use of UAS is already permissible for journalistic purposes, cameras mounted on UAS have captured dramatic imagery of African wildlife,[9] overhead views of political demonstrations in Thailand and Brazil,[10] and aerial views of the devastation caused by a typhoon in the Philippines.[11] The possibilities for domestic use of sUAS imagery are boundless. Journalists can use sUAS to document the aftermath of tornadoes, hurricanes, and other severe weather events, providing striking aerial views as well as an up-close assessment of specific damages. sUAS also can take journalists and the public to otherwise inaccessible places, such as remote areas that are difficult or impossible to reach by land or places that cannot safely be reached by other means, such as over the site of a hazardous materials spill or a major explosion. In addition, journalists can use sUAS to provide unique perspectives that cannot be captured using existing technologies. For example, in March 2015, CNN, in partnership with the Georgia Tech Research Institute, recorded stunning aerial images of The Edmund Pettus Bridge outside Selma, Alabama, for its coverage of the 50th anniversary of the "Bloody Sunday" march.[12]

Ultimately, permitting journalistic use of sUAS will result in better news coverage. The capabilities of sUAS will improve the accuracy and depth of information to the public during times of emergency or other breaking news situations. Through its geographic reach and unique

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6 *Id.*

7 *See* Casey Nolen, *TV Crews Hit With Bean Bags, Tear Gas*, KSDK.com (Aug. 14, 2014), *available at* http://www.ksdk.com/story/news/local/2014/08/14/crews-hit-with-bean-bags-tear-gas/14042747/.

8 *See* Martin Finucane, *Globe Wins Pulitzer For Breaking News Coverage of Boston Marathon Bombings*, The Boston Globe (Apr. 14, 2014).

9 *See* CCTV Africa, *Africanskycam*, http://www.africanskycam.com/cctv-africa/ (last visited Apr. 18, 2015).

10 *See* Jonathan Head, *Bird's-eye View of Thailand Rally*, BBC News (Dec. 9, 2013), *available at* http://www.bbc.com/news/world-asia-25303252; Jeffrey T. Lewis, *Brazil Media Groups Use Drones to Follow Protests*, Wall St. J. (June 21, 2013).

11 *See* Karl Penhaul, *A Bird's Eye View of Haiyan Devastation*, CNN (Nov. 18, 2013), *available at* http://www.cnn.com/video/data/2.0/video/world/2013/11/18/philippines-drone-camera-penhaul.cnn.html.

12 *See* CNN Newsource, *Unmanned Aircraft Systems in News Reporting*, http://cnnnewsource.com/wp-content/uploads/2015/04/CNN_UAS_Drones_Digital_04_13.pdf (last visited Apr. 18, 2015).

views, sUAS also can provide a perspective that footage taken from the ground cannot. In response to a recent survey by the National Press Photographers Association, several respondents identified specific instances where UAS could have improved their reporting, including:

- One respondent said UAS would allow his station to "safely get close-ups" of ice jams in a river and the threat of flooding that the station could not obtain using a traditional news crew;

- Other respondents identified the possibility of using UAS to expand coverage of wildfires, environmental concerns, and crowd events;

- Another respondent explained that UAS would have allowed his station to capture images of authorities burning down a house filled with explosives;

- Finally, one respondent stated that the affordability of UAS would allow his station to obtain the same aerial footage of major news events as competing stations that have invested in manned helicopters.[13]

Thus, sUAS will serve as an extraordinary tool for journalists to provide information and imagery to the public that is otherwise unavailable given existing barriers (obstructions, safety concerns, police restrictions, hazardous environments, cost, *etc*.). Moreover, sUAS have the potential to assist public safety and local authorities, who might not have immediate access to the same type of imagery (much in the same way that manned aircraft and other forms of newsgathering assist public safety and local authorities today). Finally, permitting journalistic use of sUAS will facilitate the fundamental role of journalists as surrogates of the public and respect the First Amendment protections attendant to gathering and disseminating news.

B. sUAS Would Provide More Compelling and Informative Sports Coverage.

Coverage of live and recorded sports events would be greatly enhanced by the use of sUAS to capture the action and to give viewers greater understanding of the relevant environment. Producers of sports programming can use sUAS to create unique visual perspectives that are not otherwise attainable. For example, sUAS can record golf hole descriptions, giving sportscasters the ability to show a "balls eye" view from tee-to-green in a unique manner not possible using a helicopter. Pre-recorded video from sUAS flights can help provide viewers with a "sense of place," setting the scene of the venue and the city or area where the broadcast originates. Visuals like these would be particularly useful in coverage of major sporting events like the Olympics, the Super Bowl, and the World Series—events that occur in controlled venues where participants and spectators expect their images to be recorded. They also would be extremely helpful and insightful in road races, marathons, cycling, and similar sports. For example, ESPN has used sUAS flights to enhance its coverage of Winter X Games by following skiers and jumpers. sUAS can also expand upon the success of tools such as

[13] *See* Mickey H. Osterreicher, *Charting the Course for Use of Small Unmanned Aerial Systems in Newsgathering* (2014), *available at* http://www.auvsishow.org/auvsi2014/Custom/Handout/Speaker0_Session773_1.pdf.

"Skycam" for football, which have changed how people actually watch and enjoy the game. By eliminating the use of wires, sUAS flights have the potential to provide Skycam-like shots without complicated advance set-ups or obstructing in-stadium views—and even from venues where installation of Skycam is not possible. In short, sUAS can enhance viewers' experience with and enjoyment of sports, one of the most popular types of video programming.

C. sUAS Would Enhance Video Programming Producers' Ability to Capture Unique and Captivating Images to Educate and Entertain.

Other video productions also would benefit from the dramatic aerial perspectives that sUAS-mounted cameras can provide. Video programming producers use aerial photography to complement or replace ground-based cameras, providing unique angles that cannot be replicated using jibs, cranes, dollies, or sliders. Most aerial videography used in video programming is carefully planned and designed to enhance the storyline and better communicate with the viewer by providing a more appropriate visual perspective. For example, aerial videography can be used to capture the beauty of sunrise or sunset, whether over a densely populated city or the barren wilderness, or to provide a wide-angle shot that most accurately captures the activity below. In addition, sUAS can be used indoors and micro UAS are particularly useful for filming in tight indoor spots.

The use of sUAS will enable producers to more safely and efficiently introduce aerial videography into their productions. Today, producers frequently must forego the ideal visuals because obtaining aerial videography using a helicopter or other permitted method is cost prohibitive. In other instances, such as a production in the middle of a desert or over rough terrain, logistical barriers make the use of aerial videography impossible. With sUAS, producers can create compelling aerial images under virtually any circumstances, enhancing the television and movie viewing experience.[14]

D. sUAS Would Allow Newsgatherers and Video Programming Producers to Create High-Quality Content More Safely than Today's Aerial Operations Permit.

Journalists and other video programmers at both the local and national levels have many decades of experience using helicopters and fixed wing aircraft to obtain aerial videography in a responsible manner that balances the public interest in disseminating information and compelling video imagery with reasonable concerns about public safety. Electronic journalists currently employ experienced pilots to fly helicopters over the public to report on breaking news, traffic, and other important stories. News organizations already are familiar with and follow current national airspace rules and regulations, and are prepared to abide by the rules that the FAA adopts in this proceeding. Electronic journalists have well-established procedures for individual operation of manned aircraft and have established systems in place both nationally and locally to

[14] For example, the Travel Channel used UAS to capture stunning aerial images of biker Tyson Swasey riding through the Moab. *See* http://www.travelchannel.com/shows/the-way-i-see-it/video/pov-biker-tyson-swasey (last visited Apr. 18, 2015).

voluntarily pool coverage,[15] in times of emergency or otherwise, where safety and other concerns in the air and on the ground so dictate. As part of that process, journalists regularly coordinate with FAA, law enforcement/first responders, and manned aircraft during emergency or other breaking news situations. As a result of this coordination, law enforcement and first responders frequently praise the news industry's coverage, noting that it contributes to, rather than interferes with, ongoing public safety operations.

Although there is always risk associated with any form of airborne operations, journalists and producers of other types of video programming have an excellent track record of safe and responsible operation—one that certainly will continue and only improve if they are allowed to use sUAS to supplement or replace their existing coverage. Still, even FAA-approved helicopters are not risk-free. Camera-equipped helicopters are quite large, with even lightweight helicopters weighing approximately a ton, and most weighing significantly more.[16] These helicopters are powered by flammable fuel. They also are limited in their ability to fly in certain areas because of the need for a pilot. The safety benefits alone provide a compelling case for permitting use of sUAS by newsgatherers and video programming producers.

In the past ten years, despite the strong commitment of journalists to safe manned aircraft practices, eight individuals tragically have lost their lives in accidents involving journalistic use of manned aircraft. The most serious of these incidents occurred on July 27, 2007, when electronic newsgathering helicopters in Phoenix, Arizona, crashed in mid-air.[17] The pilot-reporter and photographer on board each helicopter were killed. More recently, in March 2014, a news helicopter suddenly crashed to the ground near Seattle's Space Needle, killing both the pilot and the photojournalist on board and injuring the driver of a car struck below.[18] Similarly, in the case of video programming, helicopter crashes are the greatest cause of fatalities on film sets—by a large margin. According to one report, 33 U.S. film and TV workers have been killed in helicopter accidents around the world since 1980, amounting to almost one per year.[19]

In contrast, sUAS, with their light weight, agility, and slower speed, not to mention the absence of persons onboard, reduce the risk to both people and property. sUAS weigh a maximum of 55 pounds, and often much less. The safety advantages of sUAS have been made clear in those foreign countries that permit their use for journalism and video production. In Australia, for example, journalists and video producers have used sUAS with great success to

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[15] Particularly in light of the industry's strong track record of voluntarily coordination, as appropriate, any effort by a government agency to dictate pool coverage or otherwise make decisions about coverage for reasons other than a compelling public safety interest would raise serious constitutional concerns.

[16] One helicopter routinely used for newsgathering has a takeoff weight of almost 5,000 pounds and can have as much as 146 gallons of highly flammable jet fuel on board. *See* Airbus Helicopters, Inc., *AS350 B2 Specifications*, http://airbushelicoptersinc.com/products/AS350B2-specifications.asp (last visited Apr. 22, 2015).

[17] *See* National Transportation Safety Board, *Aircraft Accident Report: Midair Collision of Electronic News Gathering Helicopters KTVK, Eurocopter AS350B2, N613TV, and U.S. Helicopters, Inc., Eurocopter AS350B2, N215TV* 41 (2009), *available at* http://www.ntsb.gov/doclib/reports/2009/AAR0902.pdf.

[18] Jack Broom, Steve Miletich, and Brian M. Rosenthal, *"Unusual Noise" Before Helicopter Crashed Near Space Needle*, The Seattle Times (Mar. 19, 2014).

[19] Julia Llewellyn Smith, *Hollywood's Health and Safety Nightmare*, The Telegraph (Jul. 6, 2014), *available at* http://www.telegraph.co.uk/culture/film/10938938/Hollywoods-health-and-safety-nightmare.html.

provide aerial images of cricket and rugby matches and scenic imagery of Australia for a segment broadcast on Australia Day.[20] sUAS also are typically powered by lithium batteries, further reducing the risk to bystanders in the unlikely event of a ground collision.

The remotely-operated nature of sUAS provides several additional benefits. In many cases, remote sUAS can fly where a pilot cannot, such as over a chemical spill, explosion, or near a volcano or other natural hazard. sUAS can also allow for safer filming of high-risk video programming. sUAS are easier to maneuver than large helicopters, making their operation near buildings, highway overpasses, mountains, and other natural and artificial obstacles far less risky. Thus, by applying the same commitment to safe and secure operation to sUAS that they observe today, journalists and video programming producers will improve public safety while, at the same time, expanding the newsgathering and production benefits of aerial videography.

E. As Recognized in the *NPRM*, sUAS Would Lead to More Efficient Methods of Aerial Video Production.

Beyond the safety benefits, sUAS also will improve reporting and video production quality by enabling more cost-effective video production.[21] Obtaining aerial videography using a helicopter can be an expensive proposition—whether the helicopter is acquired for everyday use or rented for a specific production.[22] In contrast, an all-in-one sUAS system that produces decent images can be acquired for less than $500, with even higher quality equipment ranging from $1,000 to $30,000—a substantial cost savings. As a result, the use of sUAS will enable more extensive coverage and allow for an expansion of newsgathering and video production where it previously has been uneconomical.

The cost savings from using sUAS will provide two important benefits to journalists and video programming producers. First, by lowering the financial barrier to obtaining aerial videography, sUAS will bring the benefits of aerial videography to additional newsgathering operations and video productions, including smaller ones. Second, the cost savings to existing users of aerial videography will enable journalists and all producers of video programming to do far more with their existing budgets, to the ultimate benefit of consumers.

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[20] Mark Corcoran, *Drones Set for Commercial Take-Off*, ABC News (Australia) (May 23, 2013), *available at* http://www.abc.net.au/news/2013-03-01/drones-set-for-large-scale-commercial-take-off/4546556; Drone Journalism Lab (Feb. 9, 2014, 3:12 p.m.), http://www.dronejournalismlab.org/post/76141858909/a-little-good-news-about-journalists-working-with (last visited Apr. 23, 2015).

[21] *See NPRM* at 9577.

[22] Operating a full-time, manned helicopter can cost a television station more than a million dollars per year. *See* Steven Waldman and the Working Group on Information Needs of Communities, *The Information Needs of Communities, The Changing Media Landscape in a Broadband Age* 98 (2011), *available at* http://transition.fcc.gov/osp/inc-report/The_Information_Needs_of_Communities.pdf; George Winslow, *Dollars for Drones (Sidebar)*, Broadcasting & Cable (July 14, 2014), at 25. Renting a helicopter for a video production, meanwhile, can cost several thousand dollars per hour.

II. NAB, NCTA, AND RTDNA GENERALLY SUPPORT THE FAA'S PROPOSED RULES.

NAB, NCTA, and RTDNA commend the FAA's commitment to striking the right balance between ensuring safety and enabling entities to conduct their desired operations. Most of the proposed rules in the *NPRM* successfully strike this balance, and would allow operators in the newsgathering and video programming production industries to safely and effectively use sUAS for these important purposes without being subject to undue restrictions. As such, NAB, NCTA, and RTDNA generally support the proposed rules.[23]

At the outset, the organizations urge the FAA to acknowledge that technology is developing rapidly and advanced technology is becoming less expensive and more attainable. Consistent with existing FAA regulations and procedures, the final rule should expressly recognize that parties may obtain exemptions when they can demonstrate a level of safety equivalent to the requirements of the final rule.[24] This waiver process should be streamlined and efficient, limiting the time that a petition for exemption will remain pending without action being taken. This process will allow the FAA to be nimble and accommodate sUAS uses that can be conducted safely with respect to other users of the airspace and people on the ground.

The *NPRM* establishes limitations on sUAS weight and airspace that are generally sensible and consistent with expectations. First, the FAA defines sUAS as those weighing less than 55 pounds, mirroring the statute directing the FAA to undertake this rulemaking.[25] Second, the *NPRM* proposes to allow uninhibited sUAS operation in Class G airspace; permit operations in Class B, C, D, and within the lateral boundaries of the surface area of Class E airspace with permission from the appropriate air traffic control facility; and prohibit operations in Class A airspace.[26] Third, the proposed rules would prohibit sUAS from reaching an altitude higher than 500 feet above ground level ("AGL").[27] These proposed rules would not, in large part, unduly burden operators. Broadcasters and video programming producers should be able to comply with these requirements in conducting their desired operations.

In addition to these broad boundaries, NAB, NCTA, and RTDNA support several of the *NPRM*'s proposed operational conditions. Specifically, the proposed rules would require operators to conduct a preflight inspection, yield to all aircraft, and operate only one sUAS at a

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[23] NAB, NCTA, and RTDNA acknowledge that sUAS use raises concerns about privacy, and are pleased that the National Telecommunications and Information Administration will facilitate a multistakeholder process to examine this issue. Our organizations have extensive experience working with state and federal lawmakers to achieve the appropriate balance between privacy concerns and fundamental First Amendment protections.

[24] *See e.g.*, 14 CFR Part 11; see also 14 CFR Part 29 and Equivalent Level of Safety memoranda published by the FAA, *available at* http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgELOS.nsf/MainFrame?OpenFrameSet.

[25] *NPRM* at 9546, 9586; *see* Pub. L. 112-95 at §§ 331(6); 332(b).

[26] *NPRM* at 9564, 9587. As discussed in Section III.E., below, NAB, NCTA and RTNDA believe that the FAA should consider a sliding scale for operations that can be safely conducted in proximity to an airport.

[27] *NPRM* at 9588.

time.[28] Operators would be prohibited from operating unless the preflight check reveals that the sUAS is "in a condition for safe operation."[29] Additionally, the proposed rules set a maximum airspeed of 100 mph and prohibit careless or reckless operation that would "endanger the life or property of another."[30] These low-cost requirements will foster safe, consistent practices by sUAS operators, thereby minimizing operational risk.

News organizations and video programming producers using sUAS will benefit from operational flexibility. As such, NAB, NCTA, and RTDNA support the *NPRM*'s proposal to permit operators to extend their line of sight through the use of a visual observer.[31] Visual observers will enable broader newsgathering and video programming production operations without sacrificing safety. As discussed below, however, the FAA should provide additional flexibility on visual line of sight ("VLOS") requirements under certain conditions.

NAB, NCTA, and RTDNA support the FAA's proposal to allow sUAS operations to be conducted by "operators" instead of traditional licensed pilots. The parties commend the FAA for recognizing that, "given the lower level of public risk posed by small UAS operations," requiring a commercial pilot certificate with a Class II airman medical certificate "would be unduly burdensome to small UAS operators."[32] Moreover, as the *NPRM* observes, "the training, testing, proficiency and experience requirements for obtaining a commercial pilot license have limited relevance to the nature of small UAS operations."[33] A unique process to certify operators based on the skillset and aeronautical knowledge they actually need to safely conduct sUAS operations will properly balance the need to standardize and verify operator qualifications without unduly burdening the operators.

Finally, NAB, NCTA, and RTDNA support the *NPRM*'s proposed registration and marking requirements.[34] Broadcasters and video producers should be able to comply with a registration requirement without undue burden. Requiring marking on the aircraft in accordance with the FAA's existing part 45 rules is also manageable provided that the "as large as practicable" language is applied reasonably given the size of the sUAS.[35] The parties suggest, however, that the FAA create an exception to this rule for sUAS used in theatrical and television productions within a confined area. For instance, the extremely limited use of sUAS as a prop in a production obviates the need for registration and marking. In sum, this rulemaking is a promising first step along the path toward sensible, workable rules for sUAS.

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28 *Id*. at 9587. Given the speed at which technology is developing, however, the FAA should be open to considering automated systems that contemplate one person controlling multiple sUAS that, as noted above, demonstrate an equivalent level of safety to the requirements of the final rules.

29 *Id*. at 9586.

30 *Id*. at 9587-9588

31 *NPRM* at 9587.

32 *Id*. at 9567.

33 *Id*.

34 *See id*. at 9589.

35 *See* 14. C.F.R. § 45.29(f).

III. THE FAA SHOULD MAKE A FEW KEY MODIFICATIONS TO ITS PROPOSED RULES.

As detailed above, NAB, NCTA, and RTDNA generally support the FAA's proposed rules. The parties respectfully submit, however, that certain of the proposed rules should be refined so as not to unnecessarily hinder the successful and safe deployment of sUAS for newsgathering, sports coverage, and video production purposes. The FAA should reconsider the limitations on: (a) the prohibition of operation over a person who is not directly participating in the operation of the sUAS; (b) the limitation of sUAS operations to within the VLOS of operators; (c) the limitation on operating sUAS during daylight only; (d) the prohibition of operation of sUAS from a moving vehicle; and (e) the rules related to sUAS and micro UAS operating in the vicinity of airports. Finally, in light of the rapid pace of technological innovation in this emerging industry, NAB, NCTA, and RTDNA encourage the FAA to further increase flexibility by revisiting the rules in response to these technological developments at set intervals over the next few years.

A. § 107.39 Operation Over People

The FAA's proposed rule § 107.39 would prohibit the operation of sUAS over "a person who is not directly involved with the operation" of that sUAS.[36] This rule severely restricts the utility of using sUAS to inform the public of important developments and to create more innovative video programming; as such, it should not be included in the final set of rules for sUAS. This proposed rule would limit the potential of unmanned aircraft to serve the public interest, particularly with respect to newsgathering. For example, it would leave a journalist with sUAS unable to cover a breaking news event where just one member of the public stands below the operating sUAS. Under this rule, it is likely that journalists with sUAS would be unable to cover the vast majority of news events.

In the video programming production context, this proposed rule represents a step back from what the FAA already has permitted in its Section 333 exemptions. The FAA has granted a number of exemptions for aerial photography and filming which have allowed sUAS flights over consenting production personnel.[37] At the very least, the behavior allowed in the exemptions should be the baseline for any enacted rule, and the FAA should provide an exception for sUAS flights over consenting persons. Further, the agency should define "participating in the operation" to include persons who have implicitly consented to the operation of the sUAS overhead by nature of their presence on a set where sUAS filming is occurring. In the sports coverage context, stadiums and golf courses can be viewed as analogous to closed sets, as attendees realize that by attending they are consenting to be on camera. Like a closed set where sUAS operation is limited to a specific area, at sporting events, sUAS operations would be limited to the specific venue. The FAA's rules should consider how attendees at sporting events are already consenting to photography and filming, and permit sUAS operations over the public in this context.

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[36] *NPRM* at 9563.

[37] *See, e.g.*, Exemption Nos. 11270, 11312, 11158.

Alternatively, if the rule is enacted as currently proposed, a few changes would increase the utility of sUAS for newsgathering and video programming production purposes. First, the FAA should clarify that only flights *directly* over non-participating people are barred. The FAA should specify that the rule would still permit sUAS with a camera that is capable of filming—at an angle—an area where people are present. This clarification is warranted in light of the purpose of the rule. The proposed rule is concerned about harm to people standing beneath a sUAS in the event that the sUAS experiences a loss of positive control and returns to the surface. This risk is greatly minimized if sUAS are not operating directly above people.

Second, the proposed rule raises the question of what level of knowledge a reasonable operator can be expected to have. The FAA should clarify that the operator must have a good faith belief that sUAS will not be flying over people. Imposing a higher standard would require the operator to know absolutely that no non-participating persons are below at every moment of flight. This clarification would make clear that an operator is not subject to strict liability under the rules in the event that a person unexpectedly darts out below sUAS in flight.[38]

Third, the FAA should consider relaxing or removing this requirement for sparsely populated areas. In a sparsely populated area such a desert, for example, the risk of sUAS experiencing a loss of positive control and returning to the surface and harming a person is low. The flight limitations proposed in the rules, such as requiring the operator to ensure that all links are working properly before beginning flight and imposing a speed limit of 87 knots, will effectively mitigate against the risk of a loss of positive control. The FAA could also reconsider this rule in light of its rule for certificated aircraft in Part 91.119(c), which states that in sparsely populated areas, aircraft may not be operated closer than 500 feet to any person—a distance requirement as opposed to a minimum altitude requirement.[39] Notably, sUAS due to their small size, weight, and lack of passengers or flammable materials on board pose a far lower safety hazard than other types of aircraft operations, and if a distance requirement were to be imposed, the requirement should be significantly smaller than 500 feet. In sum, relaxing or removing the prohibition on operating over the public in sparsely populated areas would give newsgatherers and video programming producers the freedom to cover events and film entertainment programming with sUAS in areas where the risk to human beings on the surface is extremely low.

If operations over non-participating persons are ultimately permitted, sUAS operators in the news and video production industries will be willing to work with the FAA and first responders to ensure that use of sUAS can occur safely and without impeding public safety efforts. As noted in Section I.D., these industries have a proven track record of covering news events without impeding law enforcement and public safety efforts, including utilizing pool coverage. Through coordination with the FAA and the persons in charge of on-scene response activities, sUAS operators can operate safely, obtaining valuable information for the American public and first responders during an unexpected emergency or catastrophic event.

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[38] Of course media and entertainment companies have every incentive to operate sUAS in as safe a manner as possible under all circumstances.

[39] 14 C.F.R. § 91.119.

NAB, NCTA, and RTDNA are aware that studies are currently being conducted on the use of sUAS for newsgathering and reporting purposes at the Georgia Tech Research Institute.[40] A coalition of media companies also has partnered with Virginia Tech to test real-life scenarios where the news media could use sUAS.[41] This type of real-world testing of sUAS is invaluable. The FAA should use the recommendations coming out of these tests and studies to further refine the sUAS rules and guidelines. The organizations also urge the FAA to increase its efforts to facilitate and encourage use of the existing UAS test sites to (i) expedite UAS research and development, and (ii) develop data and a safety record for unmanned aircraft to support their expanded use for breaking news coverage, sports coverage, and video production, including over populated areas.

B. § 107.31 Visual Line of Sight Aircraft Operation

Section 107.31 of the proposed rules would require the operator or observer to be able to see the sUAS throughout the entire flight with human vision unaided by any device.[42] This proposed rule would limit the effectiveness of using sUAS for newsgathering, sports coverage, and video programming production for many reasons. This restriction could obstruct newsgatherers from capturing footage of important information solely because the sUAS operator cannot get close enough to the event to witness the sUAS through its flight. Indeed, in the event of an emergency, journalists may be unable to physically locate themselves near the scene due to safety considerations or the presence of emergency personnel. In addition, video production scenes and coverage of sporting events can occur over large distances. It would be unreasonable to force production crews to pack up and move a short distance away and re-launch their sUAS every time the aircraft ventures beyond the operator's visual line of sight. Hours of delay would be added to a simple aerial cinematography shot, during which time the lighting and conditions may have changed.

The FAA should provide more flexibility than the proposed rule would permit by allowing flights beyond operator VLOS under the following three situations. First, sUAS devices equipped with vision-enhancing technology, such as first-person view technology, should be allowed to operate beyond VLOS. First person view technology is widely available today from sUAS manufacturers and can aid operators in capturing striking images. Second, the FAA should carve out an exception to allow beyond VLOS flights where the operator cannot safely get close to the subject, such as coverage of a fire, volcano, or natural disaster. Imagery of this type offers a compelling viewpoint to persons who otherwise would not witness events first-hand. Third, the FAA should allow beyond VLOS flights to occur in situations where environmental circumstances effectively mitigate the safety concerns. Such circumstances might occur, for example, at lower altitudes, on private property or a closed set, or using pre-programmed or other autonomous routes. These changes to the proposed rule would allow newsgatherers to capture images from a greater distance and video programming producers to

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[40] Press Release, CNN, CNN Signs UAV Research Agreement with the FAA (Jan. 12, 2015), http://cnnpressroom.blogs.cnn.com/2015/01/12/cnn-signs-uav-research-agreement-with-the-faa/.

[41] Ravi Somaiya, *Times and Other News Organizations to Test Use of Drones*, N.Y. Times, Jan. 15, 2015 at B7, *available at* http://www.nytimes.com/2015/01/16/business/media/10-companies-join-effort-to-test-drones-for-newsgathering.html.

[42] *NPRM* at 9587.

film long-range shots without incurring the risks of additional harm to the public or other aircraft. In addition, as noted in Section II, the FAA should establish an efficient waiver process that would permit operators to fly beyond VLOS where justified in light of the public interest benefits of using sUAS. Such a waiver process would recognize that sUAS operations should be permitted in situations where an equivalent level of safety as that contained in the rules can be achieved.

According to the *NPRM*, the proposed rule would effectively prohibit a relay or "daisy chain" of observers to increase the operational distance of sUAS.[43] The FAA should reconsider this prohibition. A daisy chain formation could be a safe and useful method for increasing the distance of flight operations while always keeping the aircraft within the visual line of sight of a qualified operator or observer. The visual observers would be in instant communication with the operator by radio or other device. In addition, proposed rule Section 107.31 provides that either "the operator or visual observer must be able to see the unmanned aircraft throughout the entire flight" while proposed rule Section 107.33(b) states that when a visual observer is used, "[t]he operator must ensure that the visual observer is able to see the unmanned aircraft."[44] To reconcile these sections, proposed rule 107.33(b) should be revised to require that either the operator or a visual observer be able to see the sUAS at all points during the flight. Changing this rule would not create additional safety risks to other aircraft or the public.

Flexibility with regard to flying beyond VLOS is justified as sUAS already feature safety technology that is continually improving. Today, sUAS can be programmed to return to a start location rather than fly beyond a pre-determined area. If the battery is low or a signal is lost, sUAS can auto-return to the start location or another pre-determined location. sUAS manufacturers have shown both the willingness and capability to develop new safety features as needed. For example, DJI released a mandatory firmware update to its Phantom sUAS products that restricted flight around downtown Washington, D.C.[45] Manufacturers can and will continue to make their products safer using the newest technologies as they are developed.

C. § 107.29 Daylight Operation

The FAA proposes to limit sUAS to daylight-only operations in proposed rule Section 107.29.[46] This limitation is unduly restrictive and would greatly constrain the ability of newsgatherers to capture breaking news that occurs at night. Sporting event coverage would have to end abruptly if a game extended into the night. And video programming producers would likewise be constricted and unable to capture shots that take place outside of daylight hours. Instead, the FAA should permit night flights under conditions that ensure safety. For example, nighttime flights should be permitted if sUAS are operating with lights, or if sUAS are operating in an environment that is well lit, such as a closed set or site of a sporting event.

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43 *Id*. at 9547.

44 *Id*. at 9587.

45 Frank Bi, *Grounded: Drone Manufacturer DJI to Prevent its Drones from Flying over Washington, D.C.*, Forbes, Jan. 28, 2015, *available at* http://www.forbes.com/sites/frankbi/2015/01/28/grounded-dji-to-prevent-drones-from-flying-in-washington-d-c/.

46 *NPRM* at 9561.

If the FAA determines this rule is necessary, the FAA should add some clarity to give sUAS more time in which to operate sUAS. The FAA should specify that "daylight" includes the morning civil twilight and evening civil twilight periods (periods before official sunrise and sunset). In addition, if the FAA institutes this rule, it should be open for reconsideration as technology changes and continues to develop. It may well be that, with further innovations in sUAS technology, this restriction becomes unnecessary.

D. § 107.25 Operation from a Moving Vehicle or Aircraft

The FAA should also reconsider the proposed rule restricting sUAS operations from a moving vehicle or aircraft.[47] News events, sports coverage, and video programming shots are fluid and often mobile. Therefore, the FAA should consider allowing operation from a moving vehicle as long as the sUAS operator himself or herself is not operating the moving vehicle. If the FAA must impose this rule for the time being, the FAA should allow operations from a moving vehicle to occur on a closed set, so long as operations are otherwise in accordance with the rules. The aforementioned Georgia Tech and Virginia Tech studies may provide additional insight on the safety of operations conducted from a moving vehicle or aircraft.

E. § 107.41 Operation in Certain Airspace; Micro UAS 5 Nautical Miles from Airports

Proposed rule Section 107.41(b) states that sUAS may not operate within airspace designated for an airport unless the operator has prior authorization from the Air Traffic Control ("ATC") facility having jurisdiction over that airspace.[48] To avoid unnecessarily limiting the areas in which sUAS can operate, the FAA should consider a sliding scale for operations that can be safely conducted in proximity to an airport. This sliding scale could allow operations of sUAS without ATC permission by lowering the maximum height for sUAS operations closer to an airport. If ATC permission is ultimately required, it should be granted in a quick timeframe to enable sUAS operators to cover breaking news and unanticipated events.

The *NPRM's* micro UAS proposal would require these aircraft to maintain a distance of at least 5 nautical miles from any airport.[49] This rule is unduly restrictive and would unnecessarily prohibit news coverage and video production in urban areas where much newsworthy activity occurs. The FAA should work to ensure that the 5 mile distance requirement from airports does not prohibit micro UAS operation in major cities. For example, Boston's Logan International Airport is about 3.5 miles (3 nautical miles) from downtown, San Diego International airport is about 3.6 miles (3.1 nautical miles) from downtown, and Las Vegas – McCarran International Airport is about 4 miles (3.5 nautical miles) from downtown.[50] Therefore, under the current proposal, operations of micro UAS would be barred completely in

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47 *Id.* at 9587.

48 *Id.*

49 *Id.* at 9557.

50 *See* Richard Florida, *What Cities Gain When Their Airports are Close to Downtown*, CityLab, Apr. 11, 2012 *available at* http://www.citylab.com/commute/2012/04/what-cities-gain-when-their-airports-are-close-downtown/1568/#slide4.

these metropolitan areas and this restriction should be revised. An alternative proposal may be appropriate—for example, perhaps within any airport's Terminal Control Area, micro UAS would be required to remain below an altitude of 250 feet, and stay at least 500 feet outside of the perimeter of the airport.

Indeed, as presently worded, the rule will prohibit micro UAS operation altogether in many areas. The proposed rule applies to "any airport," which the FAA's rules define as "an area of land or water that is used or intended to be used for the landing or takeoff of aircraft, and includes its buildings and facilities, if any."[51] This broad definition would encompass a wide range of locations such as heliports, private airports, and seaplane landing areas that would have to be avoided by micro UAS. The proposed rule is also at variance with the proposed rule permitting operations in Class G airspace.[52] Many airports, as an airport is currently defined, are located in Class G airspace. An airport that has no instrument approach procedures, such as all private airports and most heliports, is typically located in Class G airspace. Eliminating this variance would reduce the adverse impact on micro UAS operations. This rule could be clarified by delineating a specific category of airport, such as "public use airports with a published instrument approach procedure" or "airports having an operational control tower," which would open up a greater area to micro UAS operations without raising safety concerns.

F. Review of Rules

UAS are a fast growing and rapidly changing industry. Any rules the FAA adopts should automatically be reviewed after two years, and on a set schedule thereafter, in light of the quick pace of innovation. Certain rules may need to be reconsidered or even eliminated in light of the technological advances that are likely to occur. NAB, NCTA, and RTDNA further encourage the FAA to increase flexibility in the rules by incorporating procedures that account for advancements in technology and standards as they emerge. These organizations also reiterate that the establishment of an efficient waiver process can enable safe and productive uses of sUAS while the technology, including safety features, continues to evolve.

IV. A MICRO UAS CATEGORY WOULD SERVE THE PUBLIC INTEREST BY INCREASING THE EFFICIENCY AND QUALITY OF NEWSGATHERING, SPORTS COVERAGE, AND ALL TYPES OF VIDEO PROGRAMMING PRODUCTION.

NAB, NCTA, and RTDNA strongly support the FAA's proposal to create a micro UAS classification and develop distinct rules supporting their operation in order to fully capitalize on the benefits these micro UAS have to offer.[53] The parties support several of the *NPRM*'s proposals governing the operation of micro UAS and offer some suggestions to shape the development of these rules.

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51 14 C.F.R. § 1.1.

52 *NPRM* at 9546.

53 *Id.* at 9557.

Establishing the micro UAS category would allow for greater operational flexibility while still achieving the FAA's goals in providing streamlined rules for UAS that "pose a much lower risk to persons, property, and other NAS users" than heavier aircraft operating in a broader range of airspace.[54] NAB, NCTA, and RTDNA believe that, at present, 4.4 pounds is a reasonable weight limit consistent with the approach taken in Canada.[55] Again, the rules as adopted should incorporate the necessary flexibility to allow the FAA to increase the weight limit as safety technology advances.

NAB, NCTA, and RTDNA fully support allowing micro UAS to operate directly over people and agree that the size, altitude, and airspace requirements specified in the *NPRM* would provide appropriate "safety mitigation" for such operations.[56] However, NAB, NCTA, and RTDNA urge the FAA to eliminate the frangibility requirement from the suggested micro UAS category. The *NPRM* identifies frangible materials as including "breakable plastic, paper, wood, and foam."[57] This specification would eliminate almost any rotary-wing designed micro UAS, and would eliminate any micro UAS with a stabilizing gimbal or camera, as such devices are not frangible. The requirement would make photography impossible from micro UAS, thus wholly undermining newsgathering, sports coverage and video production benefits. Eliminating the proposed frangibility requirement not only would expand the commercial potential of micro UAS, but also would be consistent with Canada's micro UAS rules.[58]

Finally, as discussed above, VLOS requirements will continue to hinder micro UAS operations and limit the technology's capability for newsgathering and video programming production. To afford micro UAS optimal operational flexibility, the FAA should consider permitting beyond VLOS operations under the three circumstances described above in Section III.B. To the same end, the agency should also consider making the altitude limitation for micro UAS 500 feet AGL and require a 1,500-foot maximum distance from the operator to be consistent with the sUAS rules.[59] NAB, NCTA and RTDNA urge the FAA to expeditiously adopt its proposal to create a micro UAS category.

V. CONCLUSION

The FAA's proposed rules on operation of sUAS represent a great step forward for enabling commercial use of sUAS by newsgatherers and video programming producers. Americans depend on journalists and video programming producers to advise, alert, and inform

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54 *Id*. at 9558.

55 Transport Canada allows UAS under 2 kilograms (4.409 pounds) to operate with fewer conditions and restrictions than heavier UAS. *Compare* "Exemption from Sections 602.41 and 603.66 of the *Canadian Aviation Regulations*," http://www.tc.gc.ca/civilaviation/regserv/affairs/exemptions/docs/en/2880.htm *and* "Exemption from Sections 602.41 and 603.66 of the *Canadian Aviation Regulations*," http://www.tc.gc.ca/civilaviation/regserv/affairs/exemptions/docs/en/2879.htm.

56 *See NPRM* at 9558.

57 *See id*.

58 *See id*. at 9557; Transport Canada, "Exemption from Sections 602.41 and 603.66 of the *Canadian Aviation Regulations*," http://www.tc.gc.ca/civilaviation/regserv/affairs/exemptions/docs/en/2880.htm.

59 *See NPRM* at 9557.

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them about current topics and breaking news, as well as to entertain. Newsgatherers and content producers alike can take advantage of this groundbreaking technology to capture illuminating and informative content, thrilling sports coverage, and important local, national, and even global news. NAB, NCTA, and RTDNA are pleased with the breadth of operations that the proposed rules would permit, and offer suggestions of rule modifications and clarifications that would make this emerging technology even more useful for news and video production purposes. The FAA should promptly adopt workable, flexible rules for sUAS and micro UAS that would enable greater numbers of users to realize the benefits of using sUAS, while also protecting the safety of aircraft in the skies and people and property on the ground.

Respectfully submitted,

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