

August 3, 2014

DEPARTMENT OF
TRANSPORTATION
FAA
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United States Department of Transportation
Docket Management System
1200 New Jersey Ave., SE
West Building Ground Floor Room W12-140
Washington, DC 20590

Re: Exemption Request Pursuant To Section 333 of the FAA Reform Act of 2012

Dear Sir or Madam:

We are writing pursuant to the FAA Modernization and Reform Act of 2012 (the "Reform Act") and the procedures contained in 14 C.F.R. 11, to request that Network Media Services, LLC, d/b/a/ as Applied Drone Technologies, an owner and operator of small unmanned aircraft, be exempted from the Federal Aviation Regulations ("FARs") listed below so that Network Media Services, may operate its small unmanned aircraft / lightweight unmanned aircraft systems ("UAS") commercially in airspace regulated by the Federal Aviation Administration ("FAA"); as long as such operations are conducted within and under the conditions outlined herein or as may be established by the FAA as required by Section 333. The conditions identified and proposed by the applicant are drawn from Order 8900.1 CHG 0, Volume 3, Chapter 8-Issue a Certificate of Waiver for Motion Picture and Television Filming.

As identified and described herein, Charles Leonard, and his company Network Media Services, is an experienced, recognized veteran in the broadcast and cable television production industry. Mr. Leonard and his previous production companies have been producing and delivering technical service applications for the broadcast industry for nearly thirty (30) years. Mr. Leonard has also been an avid R/C model flyer for over forty nine (49) years. Mr. Leonard has had extensive production service contracts with many entertainment multi-media conglomerates including; Disney/ABC, FOX Sports, NBC/Universal, Warner Brothers, Discovery Networks, Bravo, IFC, Paramount Studios and many more.

Network Media Services has been actively involved in the technical development of UAS/ UAV service applications to provide high definition film quality by aerial cinematography with small, unmanned aircraft and lightweight UASs. It is currently one of the very few companies that is developing advanced technical applications and abilities for future commercial service applications. Network Media Services has fully equipped each of its small unmanned aircraft for aerial photography and cinematography, primarily for use in the television broadcast industry, though given their stability and maneuverability, they may be used for other cinematography, by law enforcement personnel, search and rescue and by other first responders.

To date, Network Media Services has rejected all offers to work with film, television, commercial television production companies and directors on locations within the United States, to ensure it is in compliance with any applicable FARs. It, like other applicants, has done so despite Judge Patrick G. Geraghty's decision in the Raphael Pirker matter and his reasoning that no FARs prohibit the use of small unmanned aircraft or lightweight UASs like those flown by other peer companies.

Network Media Services exemption request would permit its operation of lightweight, unmanned (remotely controlled in line of sight) UASs in tightly controlled and limited airspace. Predetermined, specifically marked areas of operation, cordoned off locations and corresponding enhancements to current safety controls will allow Network Media Services to operate within current safety parameters and new ones being implemented. As identified, similar lightweight, remote controlled UASs are legally operated by amateurs with no flight experience, safety plan or controls in place to prevent catastrophe. Network Media Services is developing a state-of-the-art client website application to monitor, evaluate and implement all aerial cinematography activities with a pre-flight safety and flight plan system.

Granting Network Media Services request comports with the Secretary of Transportation's (FAA Administrator's) responsibilities to not only integrate UASs into the national airspace system, but to "...establish requirements for the safe operation of such aircraft systems [UASs] in the national airspace system" under Section 333(c) of the Reform Act. Further, Network Media Services will conduct its operations in compliance with the protocols described herein or as otherwise established by the FAA.

Network Media Services respectfully requests the grant of an exemption allowing it to operate lightweight, remote controlled UAS's.

The Specific Sections of Title 14 of the Code of Federal Regulations, Network Media Services Requests Exemption are:

14 CFR 21; 14 C.F.R. 45.23(b); 14 CFR 61.113 (a) & (b); 14 C.F.R. 91, et seq.; 14 CFR 407 (a) (1); 14 CFR 409 (a) (2); and, 14 CFR 417 (a) & (b).

Exemption Request Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations from 14 C.F.R. 45.23(b);14 CFR Part 21;14 CFR 61.113 (a) & (b); 91.7 (a);91.9 (b) (2);91.103(b); 91.109;91.119; 91.121; 91.151(a);91.203(a) & (b);91.405 (a); 91.407(a) (1); 91.409 (a) (2);91.417 (a) & (b).

The Extent of Relief Network Media Services Seeks and the Reason It Seeks Such Relief:

Network Media Services submits this application in accordance with the Reform Act, 112 P.L. 95 §§ 331-334, seeking relief from any currently applicable FARs operating to prevent Network Media Services contemplated commercial cinematic, research and other flight

operations within the national airspace system. The Reform Act in Section 332 provides for such integration of civil unmanned aircraft systems into our national airspace system as it is in the public's interest to do so. Network Media Services lightweight UASs meet the definition of "small unmanned aircraft" as defined in Section 331 and therefore the integration of Network Media Services lightweight UASs are expressly contemplated by the Reform Act. Network Media Services would like to operate its lightweight UASs prior to the time period by which the Reform Act requires the FAA to promulgate rules governing such craft.

The Reform Act guides the Secretary in determining the types of UASs that may operate safely in our national airspace system. Considerations include:

The weight, size, speed and overall capabilities of the UAS; Whether the UAS will be operated near airports or populated areas; and, Whether the UAS will be operated by line of sight.

112 P.L. 95 § 333 (a). Each of these items militates in favor of an exemption for Network Media Services.

Network Media Services UASs utilizes four counter-rotating propellers for extreme balance, control and stability. They each weigh less than 55 pounds, including cinematic or other equipment. Each of Network Media Services small unmanned aircraft are designed to primarily hover in place and operate at less than a 50 knot maximum speed. They are capable of vertical and horizontal operations but operate only within the line of sight of the remote control pilot. In addition to the remote control pilot, Network Media Services uses a spotter and a technician, such that, at minimum, three Network Media Services personnel govern the safe flight of an Network Media Services aircraft at all times.

Utilizing battery power and not combustible fuels, flights generally last between five and twenty minutes. Network Media Services does not operate its UASs with less than twenty five percent battery capacity. Safety systems in place include a GPS mode that allows Network Media Services UASs to hover in place if communication with the radio control pilot is lost and then slowly descend the UAS at twenty five percent battery capacity. Further, Network Media Services fleet is programmed, in some instances, to slowly follow a predetermined set of waypoints to return to a safety point if communications are lost.

Network Media Services does not operate its UASs near airports and generally does not operate them near populated areas. The UAS operating software and GPS navigation systems do not allow any of the Network Media Services UAS vehicles to operate near airports or restricted fly zones. The failsafe software will disable the UAS vehicles from taking off and also limit the UAS systems from operating within specific GPS preset no-fly zones. To date, Network Media Services has only operated its fleet on private sets, cordoned off areas and areas under the control

of Network Media Services clients. Network Media Services only operates its UASs in predetermined areas and only in compliance with well regarded safety protocols such as those contained within the well established and commonly known Motion Picture and Television Operations Manual.

Network Media Services operation of its fleet of small unmanned aircraft will not “create a hazard to users of the national airspace system or the public.” 112 P.L. 95 § 333 (b). Given the small size and weight of Network Media Services UASs, combined with their operation in cordoned off and well-controlled areas, Network Media Services fleet falls within Congress’s contemplated safety zone when it promulgated the Reform Act and the corresponding directive to integrate UASs into the national airspace system. Indeed, Network Media Services UASs have a demonstrable safety record and do not pose any threat to the general public or national security.

The FAA has the authority to issue the exemption to Network Media Services pursuant to the Federal Aviation Act, 85 P.L. 726 (1958), as amended (the “Act”).

Commercial and Public Benefits

Granting Network Media Services exemption request furthers the public interest. First, Congress has already pronounced that it is in the public’s interest to integrate commercially flown UASs into the national airspace system, hence the passing of the Reform Act. Second, Network Media Services conducts research into safe UAS operations every time it flies one of its UASs. Flight data, visual inspections, recorded observations and flight analyses are compiled to further enhance current safety protocols. Allowing Network Media Services to log more flight time directly relates to its research and its ability to further enhance current safety measures. Third, the public has an interest in reducing the danger and emission associated with current aerial cinematic capture methods, namely, full size helicopters. Network Media Services UASs are battery powered and create no emissions. If an Network Media Services UAS crashes there is no fuel to ignite and explode. The impact of Network Media Services lightweight UASs is far less than a full size helicopter, notwithstanding the statistically noteworthy safety record of full size helicopters used in motion picture capture. The public’s interest is furthered by minimizing ecological and crash impacts by permitting motion picture capture through Network Media Services lightweight UASs.

Progression of the arts and sciences has been fundamental to our society since its inclusion in the United States Constitution. Indeed, Congress mandated the integration of UASs into our national airspace system, in part, to achieve progression in this noteworthy, and inevitable, field. Permitting Network Media Services to immediately fly within the United States furthers these goals. Whether it is the amalgam of scientific discoveries applicable to feature film making (including those drawing upon architecture, physics, engineering and cultural inclusiveness) to advancements in publicly usable technologies or advancements in equipment available to law enforcement personnel / first responders that does not cost millions of dollars, granting Network Media Services exemption request substantially furthers the public's interest in ways known and currently unknown.

Reasons Why Network Media Services Exemption Will Not Adversely Affect Safety Or How The Exemption Will Provide a Level of Safety At Least Equal To Existing Rule:

Network Media Services exemption will not adversely affect safety. Quite the contrary, for the reasons stated, *supra*, permitting Network Media Services to log more flight time in FAA controlled airspace will allow Network Media Services to innovate and implement new and as of yet undiscovered safety protocols. In addition, Network Media Services submits the following representations of enhancements to current aerial motion picture capture techniques:

- Network Media Services UASs weigh less than 55 pounds complete with feature length motion picture quality cameras like the Sony NEX VG10;
- Network Media Services only operates its UASs below 400 feet;
- Network Media Services UASs only operate for 5-25 minutes per flight;
- Network Media Services lands its UASs when they reach 25% battery power;
- Network Media Services remote control pilots operate Network Media Services UASs by line of sight;
- Network Media Services remote control pilots have video backup should they somehow lose sight of the UAS;
- Network Media Services staffs each flight with a remote control pilot, technician and spotter with communication systems enabling real time communication between them;
- Network Media Services UASs have GPS flight modes whereby they hover and then slowly land if communication with the remote control pilot is lost or battery power is below 25%;
- Network Media Services actively analyses electronic flight data and other sources of information to constantly update and enhance safety protocols;
- Network Media Services only operates in secured areas that are strictly controlled, are away from airports and populated areas;
- Network Media Services conducts extensive briefings prior to flight, during which safety carries primary importance;

- Network Media Services always obtains all necessary permissions and permits prior to operation; and, Network Media Services has procedures in place to abort flights in the event of safety breaches or potential danger.

Network Media Services provides a level of safety at least equal to existing rules, and in nearly every instance, greater than existing rules. It is important to note that absent the integration of commercial UASs into our national airspace system, helicopters are the primary means of aerial motion picture capture. While the safety record of such helicopters is remarkably astounding, it is far safer to operate a battery powered lightweight UAS. First, the potential loss of life is diminished because UASs carry no people on board and Network Media Services only operates them in specific areas away from mass populations. Second, there is no fuel on board a UAS and thus the potential for fire or explosions is greatly diminished. Third, the small size and extreme maneuverability of Network Media Services UASs allow our remote control pilots to avoid hazards. Lastly, given their small size and weight, even when close enough to capture amazing images, Network Media Services UASs need not be so close to the objects they are focused on. Accordingly, Network Media Services UASs have operated and will continue to operate at and above current safety levels.

A Summary The FAA May Publish in the Federal Register:

A. 14 C.F.R. 21 and 14 C.F.R. 91: Airworthiness Certificates, Manuals and The Like.

14 C.F.R. 21, Subpart H, entitled Airworthiness Certificates, sets forth requirements for procurement of necessary airworthiness certificates in relation to FAR § 91.203(a)(1). The size, weight and enclosed operational area of Network Media Services UASs permits exemption from Part 21 because Network Media Services UASs meet an equivalent level of safety pursuant to Section 333 of the Reform Act. The FAA is authorized to exempt aircraft from the airworthiness certificate requirement under both the Act (49 U.S.C. § 44701 (f)) and Section 333 of the Reform Act. Both pieces of legislation permit the FAA to exempt UASs from the airworthiness certificate requirement in consideration of the weight, size, speed, maneuverability and proximity to areas such as airports and dense populations. Network Media Services UASs meet or exceed each of the elements.

14 C.F.R. 91.7(a) prohibits the operation of an aircraft without an airworthiness certificate. As no such certificate will be applicable in the form contemplated by the FARs, this Regulation is inapplicable.

14 C.F.R. § 91.9 (b) (2) requires an aircraft flight manual in the aircraft. As there are no pilots or passengers, and given the size of the UASs, this Regulation is inapplicable. An equivalent level of safety will be achieved by maintaining a manual at the flight operations center. The FAA has previously issued exemptions to this regulation in Exemption Nos. 8607, 8737, 8738, 9299, 9299A, 9565, 9565B, 10167, 10167A, 10602, 10700 and 32827.

14 C.F.R. § 91.121 regarding altimeter settings is inapplicable insofar as Network Media Services UASs utilize electronic global positioning systems and internal gyroscopes to provide spatial coordination.

14 C.F.R. § 91.203 (a) and (b) provides for the carrying of civil aircraft certifications and registrations. They are inapplicable for the same reasons described above. The equivalent level of safety will be achieved by maintaining such certifications and registrations at the Network Media Services flight operations center.

B. 14 C.F.R. § 45.23: Marking of The Aircraft.

Applicable Codes of Federal Regulation require aircraft to be marked according to certain specifications. Network Media Services UASs are, by definition, unmanned. They therefore do not have a cabin, cockpit or pilot station on which to mark certain words or phrases. Further, two-inch lettering is difficult to place on such small aircraft. Regardless, Network Media Services will mark its UASs in the largest possible lettering by placing the word “EXPERIMENTAL” on its fuselage as required by 14 C.F.R. §45.29 (f) so that the the pilot, technician, spotter and others working with the UAV will see the markings. The FAA has previously issued exemptions to this regulation through Exemptions Nos. 8738, 10167, 10167A and 10700.

C. 14 C.F.R. § 61.113: Private Pilot Privileges and Limitations: PIC.

Pursuant to 14 C.F.R. §§ 61.113 (a) & (b), private pilots are limited to non-commercial operations. Network Media Services can achieve an equivalent level of safety as achieved by current Regulations because Network Media Services UASs do not carry any pilots or passengers. Further, while helpful, a pilot license will not ensure remote control piloting skills, though Network Media Services pilot vetting and training programs will. Further, private pilot licensees will operate Network Media Services UASs with the same skill. Further, the risks attendant to the operation of Network Media Services UASs is far less than the risk levels inherent in the commercial activities outlined in 14 C.F.R. § 61, et seq. Thus, allowing Network Media Services to operate its UASs with a private pilot as the pilot in control will exceed current safety levels in relation to 14 C.F.R. §61.113 (a) & (b).

D. 14 C.F.R. 91.119: Minimum Safe Altitudes.

14 C.F.R. § 91.119 prescribes safe altitudes for the operation of civil aircraft. It allows helicopters to be operated at lower altitudes in certain conditions. Network Media Services UASs will never operate at an altitude greater than 400 AGL. Network Media Services will, however, operate its UASs in cordoned off areas with security perimeters, providing a level of safety at least equivalent to those in relation to minimum safe altitudes. Given the size, weight,

maneuverability and speed of Network Media Services UASs, an equivalent level of safety will be achieved.

E. 14 C.F.R. 91.405 (a); 407 (a) (1); 409 (a) (2); 417(a) & (b): Maintenance Inspections.

The above-cited Regulations require, amongst other things, aircraft owners and operators to “have [the] aircraft inspected as prescribed in subpart E of this part and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter.”

These Regulations only apply to aircraft with an airworthiness certificate. They will not, therefore, apply to Network Media Services should its requested exemption be granted. Network Media Services conducts an extensive maintenance program that involves regular software updates and constant inspection for assessment of any damaged hardware. Therefore, an equivalent level of safety will be achieved. Network Media Services has researched and developed its own designs.

F. Summary

Network Media Services seeks an exemption from the following Regulations: 14 C.F.R. 21, subpart H; 14 C.F.R. 45.23(b); 14 C.F.R. §§ 61.113 (a) & (b); 14 C.F.R. § 91.7 (a); 14 C.F.R. § 91.9 (b)(2); 14 C.F.R. § 91.103(b); 14 C.F.R. § 91.109; 14 C.F.R. § 91.119; 14 C.F.R. § 91.121; 14 C.F.R. § 91.151(a); 14 C.F.R. §§ 91.203(a) and (b); 14 C.F.R. § 91.405 (a); 14 C.F.R. § 91.407 (a)(1); 14 C.F.R. § 91.409 (a)(2); 14 C.F.R. § 91.409 (a)(2); and, 14 C.F.R. §§ 91.417 (a) & (b) to commercially operate its fleet of small unmanned vehicles and lightweight unmanned aircraft vehicles in motion picture or television operations, to conduct its own research and to develop economic platforms for law enforcement / first responders, search and rescue.

Granting Network Media Services request for exemption will reduce current risk levels and thereby enhance safety. Currently, motion picture image capture relies primarily on the use of larger aircraft running on combustible fuel. Network Media Services craft do not contain potentially explosive fuel, are smaller, lighter and more maneuverable than conventional motion picture aircraft. Further, Network Media Services operates at lower altitudes and in controlled airspace. Network Media Services has been analyzing flight data and other information in compiling novel safety protocols and the implementation of a flight operations manual that exceeds currently accepted means and methods of safe flight.

There are no people on board Network Media Services UASs and therefore the likelihood of death or serious bodily injury is significantly limited. Network Media Services operation of its UASs, weighting less than 55 pounds and traveling at speeds lower than 50 knots in cordoned off areas will provide at least an equivalent level of safety as that achieved under current FARs.

Network Media Services respectfully requests that the FAA grant its exemption request without delay. The FAA has the authority to issue the exemption sought by Network Media Services pursuant to the Federal Aviation Act, 85 P.L. 726 (1958), as amended (the "Act").

Sincerely,

A handwritten signature in black ink, appearing to read "Charles H. Leonard". The signature is fluid and cursive, with a large initial "C" and "L".

Charles H. Leonard, CEO
Network Media Services, LLC.
2646 Weatherby Hills Drive SE
Grand Rapids, MI 49546

cc: Robert Papas