



U.S. Department
of Transportation

**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

September 25, 2015

Exemption No. 13003
Regulatory Docket No. FAA-2015-2815

Mr. John Cloud
President
Gorilla Kleen, LLC
1663 11th Street
Sarasota, FL 34236

Dear Mr. Cloud:

This letter is to inform you that we have granted your request for exemption. It transmits our decision, explains its basis, and gives you the conditions and limitations of the exemption, including the date it ends.

By letter dated June 2, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Gorilla Kleen, LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct inspections, inventory, photography, and monitoring.

See Appendix A for the petition submitted to the FAA describing the proposed operations and the regulations that the petitioner seeks an exemption.

The FAA has determined that good cause exists for not publishing a summary of the petition in the Federal Register because the requested exemption would not set a precedent, and any delay in acting on this petition would be detrimental to the petitioner.

Airworthiness Certification

The UAS proposed by the petitioner is a DJI Phantom.

The petitioner requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*. In accordance with the statutory criteria provided in Section 333 of Public Law 112-95 in reference to 49 U.S.C. § 44704, and in

consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that the requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*, and any associated noise certification and testing requirements of part 36, is not necessary.

The Basis for Our Decision

You have requested to use a UAS for aerial data collection¹. The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grants of Exemption Nos. 11062 to Astraeus Aerial (*see* Docket No. FAA–2014–0352), 11109 to Clayco, Inc. (*see* Docket No. FAA–2014–0507), 11112 to VDOS Global, LLC (*see* Docket No. FAA–2014–0382), and 11213 to Aeryon Labs, Inc. (*see* Docket No. FAA–2014–0642), the FAA found that the enhanced safety achieved using an unmanned aircraft (UA) with the specifications described by the petitioner and carrying no passengers or crew, rather than a manned aircraft of significantly greater proportions, carrying crew in addition to flammable fuel, gives the FAA good cause to find that the UAS operation enabled by this exemption is in the public interest.

Having reviewed your reasons for requesting an exemption, I find that—

- They are similar in all material respects to relief previously requested in Grant of Exemption Nos. 11062, 11109, 11112, and 11213;
- The reasons stated by the FAA for granting Exemption Nos. 11062, 11109, 11112, and 11213 also apply to the situation you present; and
- A grant of exemption is in the public interest.

Our Decision

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, Gorilla Kleen, LLC is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

¹ Aerial data collection includes any remote sensing and measuring by an instrument(s) aboard the UA. Examples include imagery (photography, video, infrared, etc.), electronic measurement (precision surveying, RF analysis, etc.), chemical measurement (particulate measurement, etc.), or any other gathering of data by instruments aboard the UA.

Conditions and Limitations

In this grant of exemption, Gorilla Kleen, LLC is hereafter referred to as the operator.

Failure to comply with any of the conditions and limitations of this grant of exemption will be grounds for the immediate suspension or rescission of this exemption.

1. Operations authorized by this grant of exemption are limited to the DJI Phantom when weighing less than 55 pounds including payload. Proposed operations of any other aircraft will require a new petition or a petition to amend this exemption.
2. Operations for the purpose of closed-set motion picture and television filming are not permitted.
3. The UA may not be operated at a speed exceeding 87 knots (100 miles per hour). The exemption holder may use either groundspeed or calibrated airspeed to determine compliance with the 87 knot speed restriction. In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer.
4. The UA must be operated at an altitude of no more than 400 feet above ground level (AGL). Altitude must be reported in feet AGL.
5. The UA must be operated within visual line of sight (VLOS) of the PIC at all times. This requires the PIC to be able to use human vision unaided by any device other than corrective lenses, as specified on the PIC's FAA-issued airman medical certificate or U.S. driver's license.
6. All operations must utilize a visual observer (VO). The UA must be operated within the visual line of sight (VLOS) of the PIC and VO at all times. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times; electronic messaging or texting is not permitted during flight operations. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight. The PIC must ensure that the VO can perform the duties required of the VO.
7. This exemption and all documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of exemption, are hereinafter referred to as the operating documents. The operating documents must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operating documents, the conditions and limitations herein take precedence and must be followed.

Otherwise, the operator must follow the procedures as outlined in its operating documents. The operator may update or revise its operating documents. It is the operator's responsibility to track such revisions and present updated and revised documents to the Administrator or any law enforcement official upon request. The operator must also present updated and revised documents if it petitions for extension or amendment to this grant of exemption. If the operator determines that any update or revision would affect the basis upon which the FAA granted this exemption, then the operator must petition for an amendment to its grant of exemption. The FAA's UAS Integration Office (AFS-80) may be contacted if questions arise regarding updates or revisions to the operating documents.

8. Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics, e.g., replacement of a flight critical component, must undergo a functional test flight prior to conducting further operations under this exemption. Functional test flights may only be conducted by a PIC with a VO and must remain at least 500 feet from other people. The functional test flight must be conducted in such a manner so as to not pose an undue hazard to persons and property.
9. The operator is responsible for maintaining and inspecting the UAS to ensure that it is in a condition for safe operation.
10. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the UAS is in a condition for safe flight. The pre-flight inspection must account for all potential discrepancies, e.g., inoperable components, items, or equipment. If the inspection reveals a condition that affects the safe operation of the UAS, the aircraft is prohibited from operating until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight.
11. The operator must follow the UAS manufacturer's maintenance, overhaul, replacement, inspection, and life limit requirements for the aircraft and aircraft components.
12. Each UAS operated under this exemption must comply with all manufacturer safety bulletins.
13. Under this grant of exemption, a PIC must hold either an airline transport, commercial, private, recreational, or sport pilot certificate. The PIC must also hold a current FAA airman medical certificate or a valid U.S. driver's license issued by a state, the District of Columbia, Puerto Rico, a territory, a possession, or the Federal government. The PIC must also meet the flight review requirements specified in 14 CFR § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.
14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be

operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency must be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs (training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

15. UAS operations may not be conducted during night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.
16. The UA may not operate within 5 nautical miles of an airport reference point (ARP) as denoted in the current FAA Airport/Facility Directory (AFD) or for airports not denoted with an ARP, the center of the airport symbol as denoted on the current FAA-published aeronautical chart, unless a letter of agreement with that airport's management is obtained or otherwise permitted by a COA issued to the exemption holder. The letter of agreement with the airport management must be made available to the Administrator or any law enforcement official upon request.
17. The UA may not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.
18. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the private or controlled-access property.
19. The PIC must abort the flight in the event of unpredicted obstacles or emergencies.
20. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for the UA to conduct the intended operation and to operate after that for at least 5 minutes or with the reserve power recommended by the manufacturer if greater.
21. Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA). All operations shall be conducted in accordance with an ATO-issued COA. The exemption holder may apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the enclosed COA.
22. All aircraft operated in accordance with this exemption must be identified by serial number, registered in accordance with 14 CFR part 47, and have identification

(N-Number) markings in accordance with 14 CFR part 45, Subpart C. Markings must be as large as practicable.

23. Documents used by the operator to ensure the safe operation and flight of the UAS and any documents required under 14 CFR §§ 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.
24. The UA must remain clear and give way to all manned aviation operations and activities at all times.
25. The UAS may not be operated by the PIC from any moving device or vehicle.
26. All Flight operations must be conducted at least 500 feet from all nonparticipating persons, vessels, vehicles, and structures unless:
 - a. Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The operator must ensure that nonparticipating persons remain under such protection. If a situation arises where nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations must cease immediately in a manner ensuring the safety of nonparticipating persons; and
 - b. The owner/controller of any vessels, vehicles, or structures has granted permission for operating closer to those objects and the PIC has made a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.

The PIC, VO, operator trainees or essential persons are not considered nonparticipating persons under this exemption.

27. All operations shall be conducted over private or controlled-access property with permission from the property owner/controller or authorized representative. Permission from property owner/controller or authorized representative will be obtained for each flight to be conducted.
28. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office (AFS-80) within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.nts.gov.

If this exemption permits operations for the purpose of closed-set motion picture and television filming and production, the following additional conditions and limitations apply.

29. The operator must have a motion picture and television operations manual (MPTOM) as documented in this grant of exemption.
30. At least 3 days before aerial filming, the operator of the UAS affected by this exemption must submit a written Plan of Activities to the local Flight Standards District Office (FSDO) with jurisdiction over the area of proposed filming. The 3-day notification may be waived with the concurrence of the FSDO. The plan of activities must include at least the following:
- a. Dates and times for all flights;
 - b. Name and phone number of the operator for the UAS aerial filming conducted under this grant of exemption;
 - c. Name and phone number of the person responsible for the on-scene operation of the UAS;
 - d. Make, model, and serial or N-Number of UAS to be used;
 - e. Name and certificate number of UAS PICs involved in the aerial filming;
 - f. A statement that the operator has obtained permission from property owners and/or local officials to conduct the filming production event; the list of those who gave permission must be made available to the inspector upon request;
 - g. Signature of exemption holder or representative; and
 - h. A description of the flight activity, including maps or diagrams of any area, city, town, county, and/or state over which filming will be conducted and the altitudes essential to accomplish the operation.
31. Flight operations may be conducted closer than 500 feet from participating persons consenting to be involved and necessary for the filming production, as specified in the exemption holder's MPTOM.

Unless otherwise specified in this grant of exemption, the UAS, the UAS PIC, and the UAS operations must comply with all applicable parts of 14 CFR including, but not limited to, parts 45, 47, 61, and 91.

This exemption terminates on September 30, 2017, unless sooner superseded or rescinded.

Sincerely,

/s/

John S. Duncan

Director, Flight Standards Service

Enclosures

June 2, 2015

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U.S. Department of Transportation
Docket Management System
1200 New Jersey Avenue, SE
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Re: Exemption request, Section 333 of the FAA Reform Act of the Federal Aviation Regulations from 14 C.F.R. 45.23(b); 14 C.F.R. Part 21; 14 C.F.R. 61.113(a) & (b); 91.7(a); 91.9(b) (2); 91.103(b)(2); 91.109; 119.121; 91.151(a); 91.203(a) & (b); 91.405(a); 91.407(a) (1); 91.409(a) (2); 91.417 (a) & (b).

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the Reform Act) and 14 C.F.R. Part 11, Gorilla Kleen, LLC, a Florida Corporation, and its owner, John V. Cloud hereby apply for an exemption from the listed Federal Aviation Regulations ("FARs") to allow commercial operation of its Small Unmanned Aircraft Systems ("sUAS") for aerial imaging. Gorilla Kleen is an exterior cleaning company and will be utilizing the sUAS for safety inspections, roof inventory, promotional photography and project monitoring. These operations will be conducted within and under the conditions outlined herein or as may be established by the FAA as required by Section 333.

As detailed in this document and the attached Flight Manual, the requested exemption would permit the operation of sUAS under controlled conditions in airspace that is 1) limited 2) predetermined 3) controlled as to access and 4) would provide safety enhancements to the already best practices safety protocols followed by Gorilla Kleen in conducting each of its cleaning and evaluation projects. Approval of this exemption would thereby enhance safety and fulfill the Secretary of Transportation's (the FAA administrator's) responsibilities to "...establish requirements for the safe operation of such aircraft systems in the national airspace system." Section 333 (c) of the Reform Act.

The name and address of the applicant is:

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John Cloud, President
P.O. Box 25427
Sarasota, Florida 34277

Physical address:
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1663 11th Street
Sarasota, Florida 34236

John Cloud
Phone: 941-724-2000
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Regulations from which the exemption is requested:

14 C.F.R. Part 21
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
14 C.F.R. 91.109
14 C.F.R. 91.119
14 C.F.R. 91.121
14 C.F.R. 91.203 (a) & (b)
14 C.F.R. 91.405 (a)
14 C.F.R. 407 (a) (1)
14 C.F.R. 490 (a) (2)
14 C.F.R. 417 (a) & (b)

While for the sake of simplicity I have requested an exemption for 14 C.F.R. 61.113 (a) and (b), I, John Cloud, am a licensed pilot, single engine airplane land and sea, multi-engine land and instrument with over 5,000 hours of piston and turbine flight time. I believe that these credentials, almost more than anything, demonstrates an ability to undertake matters relating to safety and discipline in a prudent manner.

I. Statutory Authority for Exemptions

The Federal Aviation Act expressly grants the FAA authority to issue exemptions. This statutory authority includes exempting civil aircraft, as the term is defined under §40101 of the Act, including sUASs, from the requirement that all civil aircraft must have a current airworthiness certificate.

The administrator may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of this section or any sections 44702-44716 of this title if the Administrator finds the exemption in the public interest. 49 U.C. §44701(f) See also 49 USC §44711 (a); 49 USC §44704; 14 C.F.R. §91.203 (a)(1).

Section 333(b) of the Reform Act assists the Secretary in determining whether sUAS may operate in the National Airspace System (NAS) without creating a hazard to the user, the public, or a threat to national security. In making this determination, the Secretary must consider:

The sUAS size, weight, speed and operational capability

Whether the sUAS operates within the visual line of sight of the operator

Whether the sUAS operates outside of highly populated areas and away from close proximity to airports

Reform Act §333(a). If the Secretary determines that a sUAS “may operate safely in the national airspace system, the Secretary shall establish requirements for the safe operation of such aircraft in the national airspace system.” Id. §333(c).

Gorilla Kleen’s sUAS are multi-rotor vehicles, weighing 5 or fewer pounds, including payload. They operate under normal conditions at a speed of no more than 10 knots and have the capability to hover, and move in the vertical and horizontal plane simultaneously. The sUAS will operate only in the pilot’s visual line of sight at all times and will operate only within the sterile area described in the DJI Phantom One Flight manual, attached as Exhibit 1 (hereinafter “the manual”). Such operations will insure that the sUAS will “not create a hazard to users of the national airspace system or the public.” Reform Act Section 333 (b).

Given the small size of the sUAS involved and the restricted and sterile environment within which they will operate, our application falls squarely within the zone of safety (an equivalent level of safety) in which Congress envisioned that the FAA must, by exemption, allow commercial operations of sUAS to commence immediately. Also due to the small size of the sUAS and the low altitudes and restricted areas in which the sUAS will operate, approval of the application presents no national security issue.

Given the clear direction in Section 333 of the Reform Act, the authority contained in the Federal Aviation Act, as amended; the strong equivalent level of safety surrounding the proposed operations, and the significant public benefit, including enhanced safety, the grant of the requested exemptions is in the public interest. Accordingly, Gorilla Kleen respectfully requests that the FAA grant the requested exemption without delay.

II. Public Interest

This exemption application is expressly submitted to fulfill congress’ goal in passing Section 333 (a) through (c) of the Reform Act. This law directs the Secretary of Transportation to consider whether certain unmanned aircraft systems may operate safely in the NAS before completion of the rulemaking required under

Section 332 of the Reform Act. By granting an exemption the FAA will fulfill Congress's intent of allowing UAS to operate with significant safety precautions in low risk environments.

The use of sUAS to inspect roof and working environments can significantly reduce the risk to workers of falls while inspecting, surveying or monitoring work environments and progress. sUAS can inspect, photograph and collect data on hard to access work areas, inventory the hazards and help us create proper worker protocol and protections prior to entering the work environment.

Additionally, sUAS could replace the use of helicopters and or small aircraft that would otherwise be a logical choice to provide the aforementioned inspection services. The sUAS we propose to fly in this application weigh less than five pounds, and carry no combustible material on board, as opposed to the much larger conventionally powered small aircraft. Shifting to sUAS from helicopters presents a marked safety increase for our workers and the public.

Lastly, sUAS reduce the environmental impact by dramatically decreasing the energy used for aerial imaging and data collection over a job site. Our sUAS use rechargeable lithium ion batteries, as opposed to fossil fuels burned in the operation of small aircraft that are many times heavier.

III. Equivalent Level Of Safety

Gorilla Kleen proposes that the exemption requested herein apply to sUAS that have the characteristics and that operate within the limitations listed herein. These limitations provide for at least an equivalent or even higher level of safety to operations under the current regulatory structure because the proposed operations represent a safety enhancement to the already safe protocols followed on job sites and imaging and surveying operations conducted with helicopters and other conventional aircraft.

Gorilla Kleen will be bound by the following limitation when conducting its sUAS operations under an FAA issued exemption:

1. The sUAs will be less than 10 pounds
2. Flights will be operated within visual line of sight of a pilot
3. Maximum total flight time for each operational flight will be 30 minutes. The UAS calculates battery reserve in real time and will return to its ground station with at least 20% battery power reserve should that occur prior to the 30 minute limit.
4. Flights will normally be operated at an altitude of 200 feet AGL or lower, never exceeding 400 feet AGL.
5. Crew for each operation will consist of the sUAS pilot who will keep the sUAS within his visual line of sight at all times.

6. The sUAS pilot will be trained in flight, operation, and safety procedures as detailed in the flight manual.
7. The sUAS will only operate within a confined "sterile area" as defined in the manual. The manual also requires the establishment of a "Security Perimeter" for the flight operations area.
8. A briefing will be conducted in regard to the planned sUAS operations prior to each day's production activities. It will be mandatory that all personnel who will be performing duties within the boundaries of the safety perimeter be present for this briefing.
9. All onsite personnel will consent to the UAS flyover on site by waiver, and the operator will obtain additional verbal or written consent of all persons who will be allowed within 100 feet of the flight operation.
10. Pilot will have been trained in operation of UASs generally and received up to date information on the particular UAS to be operated as required by Section F of the manual.
11. Written and or oral permission from the relevant property holders will be obtained.
12. All required permissions and permits will be obtained from state, county or city jurisdictions including local law enforcement, fire, or other appropriate governmental agencies.
13. If the sUAS loses communications or loses its GPS signal, it will have capability to enter "loiter mode" and hover, reestablish GPS connection and return to a pre-determined location within the security perimeter, and land.

IV. Description of Specific Regulations

14 C.F.R. 61.113 (a) & (b): Private pilot privileges and limitations: Pilot in command

I, John Cloud, am an FAA licensed pilot, #-----, single engine land and sea, multiengine land and instrument. I have flown over 5,000 hours in both piston and turbine aircraft that I have owned. Despite seeking an exemption under this section for expedience, the same levels of planning, safety considerations and skill that allowed me to acquire 5,000 hours of flight time without a single incident will continue to imbue to the control of, and use of a drone.

Because the sUAS will not carry a pilot or passengers, the proposed operations can achieve the equivalent level of safety of current operations by insuring that the pilot has been well trained and has experience in flying the drone safely. Unlike a conventional aircraft that carries the pilot and passengers, the sUAS is remotely controlled with no living thing or cargo on board. The Phantom 1 sUAS also has an automatic "return to land" function which helps further insure safety (perhaps in much the same way that a parachute provides safety in the Cirrus), which greatly reduces the danger of human error. The area of operation is controlled and restricted, and all flights are planned and coordinated in advance as set forth in the manual.

The sUAS to be operated hereunder is less than 5 pounds fully loaded, carries neither a pilot nor passenger, carries no explosive or flammable liquid fuels, and operates exclusively within a secured area as set out in the manual. Like other civil aircraft, operations under this exemption will be tightly controlled and monitored by the operator pursuant to the manual's requirements, and under the requirements and in compliance with local public safety requirements, to provide security for the area of operation as is currently done on active job sites.

14 C.F.R. 91.103: Preflight Action

This regulation requires each pilot in command take certain actions before flight to ensure the safety of flight. An exemption is needed from this requirement as the pilot will take separate preflight actions, including checking for weather conditions checking flight battery requirements, checking takeoff and landing distances, and all other actions in the preflight checklist in the manual – that are appropriate for this type of aircraft. These actions will provide an equivalent level of safety.

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

Section 91.119 establishes safe altitudes for operation of civil aircraft. Section 91.119 (d) allows helicopters to be operated at less than the minimums prescribed, provided the person operating the helicopter complies with any route or altitudes prescribed for helicopters by the FAA. This exemption is for a multi-rotor craft that flies similarly to a helicopter, with vertical take off and vertical landing, which will typically operate at altitudes of 200' AGL or below, so an exemption may be needed to allow such operations. The sUAS will never operate at an altitude higher than 400' AGL and will be in a restricted area with security perimeter, where buildings and people will not be exposed to operations without their pre-obtained consent. See manual for detailed procedures.

The equivalent level of safety will be achieved given the size, weight and speed of the sUAS as well as the location where it is operated. No flight will be taken without the permission of the property owner or local officials. Because of the advance notice to the property owner and any onsite personnel as outlined in the manual all affected individuals will be aware of the planned flight operations. Unlike flight operation with aircraft or rotorcraft weighing far more than the maximum 10 pounds proposed herein, our sUAS will not carry flammable fuel. In addition, the low altitude operations of the sUAS will ensure separation between sUAS operations of conventional aircraft that must comply with section 91.119.

14 C.F.R. 91.121: Altimeter Settings

This regulation requires each person operating an aircraft to maintain cruising altitude by reference to an altimeter that is set “....to the elevation of the departure airport or an appropriate altimeter setting available before departure.” sUAS's do

not have a barometric altimeter so an exemption is needed to this section. Instead, they do not fly until they are coordinated with up to 6 GPS satellites that provide any altitude data that they require to fly safely. The sUAS will only be flown in the line of site and as such, it is not necessary to know the exact altitude as it would be for a piloted plane.

14 C.F.R. 91.151 (a): Fuel requirements for flight in VFR conditions.

Section 91.151 (a) outlines fuel requirements for beginning a flight in VFR conditions. Our sUAS is limited to operations in sterile and controlled environments as outlined in the manual, and has a limited range and flight time which require an exemption from 14 C.F.R. 91.151 (a).

Piloted aircraft require 30 minutes of reserve fuel as that is a logical and safe amount of fuel to allow for safe transit to an appropriate alternate landing site.

sUAS's are capable of landing essentially anywhere within the area in which they will be operating because they are small, light and capable of vertical landing. They can be landed in a matter of 30 seconds or less in most instances. Warning systems on the aircraft provide warning when approximately 20% of the flight time remains, which provides more than a substantial margin of time in which to safely land the aircraft.

Gorilla Kleen believes that an exemption from 14 C.F.R. §91.15 (a) falls within the scope of prior exemptions. See explanation 10673 (allowing Lockheed Martin Corporation to operate without compliance with FAR 91.151 (a)). Operating the small sUAS in a tightly controlled area where only people and property owners or official representative that have signed waivers will be allowed, with less than 30 minutes of reserve fuel, does not engender the type of risks that Section 91.151 (a) was intended to alleviate given the size and speed of the small UAS.

An equivalent level of safety can be achieved by limiting flights to 30 minutes, or enough battery reserve to ensure that the sUAS lands at the ground station with at least 20% of battery power (as determined by the onboard monitoring system and the pilot), whichever happens first. This restriction would be more than adequate to return the sUAS to its planned landing zone from anywhere in its limited operating area.

Similar exemptions have been granted to other operations, including Exemptions 2689F, 5745, 10673, and 10808.

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

These regulations require that an aircraft operator or owner "shall have that 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..." and others shall inspect or maintain the aircraft in compliance with part 43.

Given that these sections and Part 43 apply only to aircraft with an airworthiness certificate, these sections will not apply to Gorilla Kleen. Maintenance will be accomplished by the operator pursuant to the flight manual and operating handbook as referenced in the manual. An equivalent level of safety will be achieved because these small sUAS are very limited in size and will carry a small payload and operate only in restricted areas for limited periods of time. If mechanical issues arise the sUAS can land immediately and will be operating from no higher than 400' AGL. As provided in the manual, the pilot will ensure that the sUAS is in working order prior to initiating flight, perform required maintenance, and keep a log of any maintenance performed. Moreover, the pilot is the person most familiar with the aircraft best suited to maintain the aircraft in an airworthy condition to provide the equivalent level of safety.

Pursuant to 14 C.F.R. Part 11, the following summary is provided for publication on the Federal Register, should it be determined that publication is needed:

Applicant seeks an exemption from the following rules: 14 C.F.R. §21, subpart H; 14 C.F.R. 45.23(b); 14 C.F.R. §§61.113(a)&(b); 91.79(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); 91.409(a)(2); 91.417(a)&(b) to operate commercially a small unmanned vehicle (55 pounds or less) in monitoring and evaluating cleaning operations.

Approval of exemptions allowing commercial operations of a sUAS in the cleaning industry enhances safety while reducing risk. Manned aircraft monitoring and surveying creates a greater risk because the craft are much larger, have combustible fuel, and carry an onboard human pilot. In contrast, a sUAS weighing fewer than 10 lbs. and powered by batteries eliminates virtually all of that risk given the reduced mass and lack of combustible fuel carried on board. The sUAS will carry no passengers or crew and, therefore, will not expose them to the risks associated with manned aircraft flights.

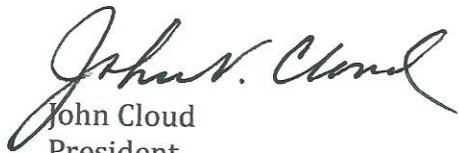
The operation of small sUAS, weighing less than 10 lbs., conducted in the strict conditions outlined above, will provide an equivalent level of safety supporting the grant of the exemptions requested herein, including exempting the applicant from the requirements of Part 21 and allowing commercial operations. These lightweight aircraft operate at slow speeds, close to the ground, and in a sterile environment and, as a result, are far safer than conventional operations conducted with turbine helicopters operating in close proximity to the ground and people.

Privacy

All flights will occur over private or controlled access property with the property owner's prior consent and knowledge. Images taken will be of individuals who have consented to being filmed or otherwise have agreed to be in the area where aerial photography will take place.

Satisfaction of the criteria provided in Section 333 of the Reform Act of 2012 – size, weight, speed, operating capabilities, proximity to airports and populated areas and operation within visual line of sight and national security – provide more than adequate justification for the grant of the requested exemptions allowing commercial operation of applicants sUAS in the cleaning industry pursuant to the manual appended hereto.

Sincerely,



John Cloud
President
Gorilla Kleen