U.S. Department
of Transportation
**Federal Aviation
Administration**

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

June 11, 2015

Exemption No.11799
Regulatory Docket No. FAA–2015–1021

Mr. José R. Torres Morales, PE
Vice President Projects and Risk Management
Caribbean Project Management
Corporate Office Park, CPM Plaza, Suite 200
Road 20, Km 2.6
Guaynabo, PR 00966-3177

Dear Mr. Morales:

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 April 7, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Caribbean Project Management (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial inspections of construction sites.

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 2.

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 collection[1]. 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, Caribbean Project Management 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, Caribbean Project Management 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 2 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 five 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 attached 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.ntsb.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 June 30. 2017, unless sooner superseded or rescinded.

Sincerely,

/s/
John S. Duncan
Director, Flight Standards Service

Enclosures

April 7, 2015

U.S. Department of Transportation
Docket Management System
1200 New Jersey Ave., SE
Washington DC, 20590

Regarding: CARIBBEAN PROJECT MANAGEMENT REQUEST FOR EXEMPTION UNDER TITLE 14 CFR, SECTION 333

Dear Sir or Madam;

Since 1991, Caribbean Project Management (CPM) has been privileged to work on some of the most recognizable and high-profile commercial buildings and industrial projects in the Caribbean. Our works includes projects in the expanding healthcare system, pharmaceutical, infrastructure and public projects.

As a Construction Manager, CPM is required to perform different inspections on the outside of existing buildings. These inspections validate the construction techniques and procedures and often require our employees to be put in situations that require CPM to accept risk. We have found that by using a "***small Unmanned Aircraft System" (sUAS)*** with a high resolution camera mounted on it, often times we can accomplish the same inspections and alleviate the need to put our employees in danger.

CPM shares Congress's goal of getting sUAS flying commercially in the United States safely and soon. In the FAA Modernization and Reform Act of 2012, Congress directed the FAA "to safely accelerate the integration of civil unmanned aircraft systems in the National Airspace System and under section 333 of the law, gave the FAA power to grant innovators "expedited operational authorization" to do so.

By this petition, Caribbean Project Management (CPM), is seeking authorization to conduct operations with a "***small Unmanned Aircraft System" (sUAS)*** on our own construction sites in

CARIBBEAN PROJECT MANAGEMENT, PC
PO Box 9024051, San Juan, PR 00902-4051
Corporate Office Park, CPM Plaza, Suite 200, Road #20, Km 2.6, Guaynabo, PR 00966-3177
787.999.4000 tel / 787.999.4010 fax / infopuertorico@grupocpm.com / www.grupocpm.com

order to improve the safety of our employees and ensure quality assurance for the facilities we are inspecting.

Pursuant to section 333 of the FAA Modernization and Reform Act of 2012 ("FMRA") and 14 CFR Part 11, Caribbean Project Management, ("Petitioner"), requests exemption from several provisions of the Federal Aviation Regulations ("FAR"). Specifically, portions of 14 CFR Parts 21, 27, 45, 61 and 91 to allow, among other things, the use of the sUAS – ***DJI Phantom***, in the National Airspace System (NAS) by knowledged individuals in all regulations and operations of aircraft according to FAA regulations.

A. Petitioner Information

CARIBBEAN PROJECT MANAGEMENT – CPM
Corporate Office Park, CPM Plaza, Suite 200
Road 20, Km 2.6, Guaynabo, PR 00966-3177
Phone: (787) 999-4000
Fax (787) 999-4010

B. Specific section or sections of 14 CFR from which CPM seeks exemption

a. 14 CFR Part 21 Subpart H
b. 14 CFR Part 27
c. 14 CFR § 45.23(b)
d. 14 CFR § 45.27
e. 14 CFR §§ 61.113(a) and (b)
f. 14 CFR § 91.119
g. 14 CFR § 91.121
h. 14 CFR § 91.151(a);
i. 14 CFR § 91.203(a) and (b)
j. 14 CFR § 91.405(a)
k. 14 CFR § 91.407(a)(1)
l. 14 CFR §§ 91.409(a)(1) and (2)
m. 14 CFR §§ 91.417(a) and (b)

C. The reasons CPM seeks relief

If granted the above exemptions, CPM will operate the sUAS with the property owner's permission. CPM intends to use the sUAS for the following activities;

a. Surveying hard to reach areas of buildings
b. Roof top inspections
c. Building Exterior Envelope Inspections
d. Visual Documentation of Existing Site Conditions before Construction
e. Visual Documentation of Existing Site Conditions during Construction
f. Visual Documentation of Existing Site Conditions after Construction
g. Quality Control / Quality Assurance Inspections

D. The Aircraft

Caribbean Project Management specifically proposes to conduct UAS operations using small UAS including the DJI Phantom 2. The DJI Phantom is a multi-rotor aircraft built with a carbon airframe. The DJI Phantom has a maximum takeoff weight of 1 kg (2.21b. The DJI Phantom is powered by a 3-Cell Lithium Polymer battery with 5200 mAh, which provides 10-15 minutes of flight. The DJI autopilots features auto-takeoff and landing, auto go home and landing, GPS waypoint navigation, direction lock, and GIS Mapping.

Specifications include: DJI Phantom:

- Diameter: 350 mm (1.15ft)
- Maximum Weight: 1 kg (2.2 lb)
- Number of Motors: 4
- Power of Motors- 114 W
- Maximum Cruise Speed: 10 m/s (19 kts)
- Maximum Climb Rate: 6 m/s (-1200 fpm)
- Maximum Wind Speed: 8 m/s (15.6 kts)

Caribbean Project Management agrees that the UAS will include, at minimum: flights not to exceed a maximum altitude ceiling of 400' AGL, flight programming capabilities, a flight termination link available to the operator to prevent a "fly away," and safe abort procedures. If the UAS loses communications or its GPS signal, the UAS will return to a pre-determined location and land or be recovered in accordance with the Operations Manual. The UAS will have markings identifying the serial number and identification (N-number) markings as large as practicable. Further, CPM's UAS operation will comply with all manufacturer Safety Bulletins. The UAS to be used will weigh less than 25 pounds and would be specifically

E. Operating Parameters

a. Petitioner proposes that the exemption requested herein apply to civil aircraft that have the characteristics and that operate with 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 operations conducted with conventional aircraft. Further details about the aircraft and operating procedures are available in the Operations and Training Manual.

b. The limitations and conditions to which CPM agrees to be bound when conducting operations with sUAS include;

   i. UAS Pilot and Observer

      1. Completed FAA Private Pilot Ground school instruction and passed the FAA Private Pilot written exam.
      2. All UAS operations must utilize a visual observer ("VO").
      3. The pilot-in-command ("PIC") and VO must be able to communicate verbally during all operations. If unable to maintain two-way communication, or if any condition occurs that may otherwise cause the operation to be unsafe, the operator will immediately conclude the operation.

   ii. Operational Parameters

      1. Aircraft will not carry pilots or passengers, and aircraft will not carry explosive materials or flammable liquid fuels.
      2. UAS must be operated within visual line of sight of the pilot at all times.
      3. UAS may not be flown at ground speeds exceeding 30 knots.
      4. Flights will be operated at an altitude of no more than 400 feet above ground level.
      5. Each sUAF operation will be completed within 20 minutes flight time or 25% battery power remaining, whichever occurs first. At 30% battery the sUAS will enter a return and land sequence, at 20% it will land immediately.
      6. The UAS flight will be aborted in the event of unpredicted obstacles or emergencies in accordance with the Operations Manual.
      7. Operations will be limited to sparsely populated areas under the land owners consent.

8. The operator must obtain a Certificate of Waiver of Authorization (COA) prior to conducting any operations under this grant of exemption.
9. Before conducting operations, the radio frequency spectrum used for operation and control of the sUAS will comply with the FCC or other appropriate government oversight agency requirements.
10. sUAS operations will not be conducted during night, as defined in 14 C.F.R. § 1.1. All operations will be conducted under visual flight rules (VFR).
11. The sUAS will not be operated by the PIC from any moving device or vehicle.
12. The sUAS will 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.
13. The sUAS will not operate in class B, C, or D airspace without approval from the FAA. The sUAS will not operate within 5 nautical miles of the geographic center of a non-towered airport as denoted on a current FAA published aeronautical.
14. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operation area defined by the applicable COA will be reported to the FAA's office within 24 hours. Accidents will be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTBS web site; www.ntsb.gov.
15. The operator will follow the procedures as outlined in its Operation Manual.
16. The Operations Manual will be made available upon request.
17. Prior to each flight, the pilot will inspect the sUAS to ensure it is in condition for safe flight. If the inspection reveals a discrepancy, the aircraft will be prohibited from operating until the necessary maintenance has been performed and the sUAS is found to be in a condition for safe flight.
18. All maintenance and alterations will be properly documented in the aircraft records.
19. Petitioner will institute a rigorous maintenance program to ensure airworthiness of the sUAS. Operator will follow the

manufacturer's sUAS aircraft/component, maintenance, overhaul; replacement, inspection, and life limit requirements.

20. Operator will develop procedures to document and maintain a record of the UAS maintenance, preventative maintenance, alterations, status of replacement/overhaul component parts, and the total time in service of the UAS. These procedures will be added to the Operations Manual.

Specific Sections of C.F.R. from which Petitioner SeekS an Exemption

Caribbean Project Management requests exemption from the following Federal Aviation Regulations (FARs) to the extent necessary to enable the requested sUAS operations for the reasons detailed below;

1. *14 C.F.R. Part 21 Subpart H Airworthiness Certificates*

Subpart H, entitled Airworthiness Certificates, establishes the procedural requirements for the issuance of airworthiness certificates. Given the size and limited operating area associated with the aircraft to be utilized. An exemption from Part 21 Subpart H meets the requirements of an equivalent level of safety under Part 11 and Section 333 of the Reform Act. The Federal Aviation Act and Section 333 of the FMRA both authorize the FAA to exempt aircraft from the requirement for an airworthiness certificate, upon consideration of the size, weight, speed, operational capability, and proximity to airports and populated areas of the particular UAS. In all cases, an analysis of these criteria demonstrates that the UAS operated without an airworthiness certificate, in the proposed environments and under the conditions proposed will be at least as safe, or safer, than a conventional aircraft (fixed wing or rotorcraft) operating with an airworthiness certificate without the restrictions and conditions proposed.

The DJI Phantom is to be operated hereunder is less than 25 pounds each including payload, carries neither a pilot nor passenger, carries no explosive materials nor flammable liquid fuels, and will operate exclusively within the parameters stated in the Operations Manual. Unlike other civil aircraft, operations under this exemption will be tightly controlled and monitored by both the operator and under the requirements and in compliance with local public safety requirements, to provide security for the area of operation. Finally, these UAS, as a result of its size, weight, speed; operational capability and operation within visual sight will not create a hazard to users of the national airspace system or pose any threat to national security.

2. *14 C.F.R. Part 27: Airworthiness Standards: Normal Category Rotorcraft*

14 CFR Part 27 sets forth the procedural requirements for airworthiness certification of normal category rotorcraft. To the extent the Petitioner's DJI Phantom would otherwise require certification under Part 27, as a rotorcraft, Petitioner requests an exemption from Part 27's airworthiness standards for the same reasons identified in the exemption request from item A. 14 CFR Part 21, Subpart H.

3. *14 C.F.R. § 45.23(b) Display of Marks; General; 14 C.F.R. § 45.27 Location ofMarks; Non-Fixed Wing*

Aircraft Section 45.23(b) requires markings in letters not less than 2 inches nor more than 6 inches high the words such as "limited, "restricted," and "experimental," as applicable. Section 45.27 requires that each operator of a rotorcraft must display on that rotorcraft horizontally on both surfaces of the cabin, fuselage, boom, or tail the marks required by§ 45.23.

Given the size of the UAS, two-inch lettering will not be feasible. The sUAS will also have no entrance to the cabin, cockpit, or pilot station on which the applicable words can be placed. An equivalent level of safety will be achieved by having any required words displayed on the aircraft, as applicable, in letters of legible size, in a location where the pilot, observer, and others working with the sUAS will see the identification. The FAA has issued exemptions to § 45.23 in Exemptions Nos. 10700, 8738, 10167, 10167A and 11062. The FAA issued an exemption to 45.27 in Exemption No.8496B.

4. *14 C.F.R. §§ 61.113(a) and (b) Private Pilot Privileges and Limitations*

Sections 61.113 (a) and (b) limit private pilots to non-commercial operations. Because the UAS will not carry a pilot or passengers, the proposed operations can achieve the equivalent level safety of current operations by requiring the PIC operating the aircraft to have completed FAA Private Pilot Ground school instruction and passed the FAA Private Pilot written exam to operate this small UAS. Unlike a conventional aircraft that carries the pilot and passengers, the UAS is remotely controlled with no living thing on board. The area of operation is controlled and restricted, and all flights are planned and coordinated in advance as set forth in the Operations Manual. The level of safety provided by the requirements included in the pilot's certificate operating a conventional aircraft. The risks associated with the operation of the UAS are so diminished from the level of risk associated with commercial operations contemplated by Part 61 when drafted, that allowing operations of the UAS as requested with a private pilot as the PIC

exceeds the present level of safety achieved by 14 C.F.R.§§ 61.113 (a) and (b). The FAA issued an exemption to this regulation in Exemption No. 1 1062.

5. 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. As this exemption is for a sUAS that is a helicopter and the exemption requests authority to operate at altitudes up to 400' AGL. As set forth herein, except for the limited conditions stated in the Manual, the sUAS will never operate at altitudes higher than 400' AGL. It will however be operated in an area with perimeter, where buildings and people will not be exposed to operations without their pre-obtained consent. The equivalent level of safety will be achieved given the size, weight, 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. Compared to flight operations with aircraft or rotorcraft weighing far more than the maximum 25lbs proposed herein and the lack of flammable fuel, any risk associated with these operations is far less than those presently presented with conventional aircraft operating at or below 400' AGL. In addition, the low-altitude operations of the UAS will ensure separation between these small UAS operations and the operations of conventional aircraft that must comply with Section 91.119. The FAA issued an exemption to this regulation in Exemption No. 11062.

6. 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. The sUAS will have a barometric altimeter for measuring relative altitude changes, but the displayed altitude on the ground station will be GPS measurements, therefore an exemption may be needed. An equivalent level of safety will be achieved by the operator, pursuant to the Operations Manual, confirming the altitude of the launch site shown on the GPS altitude indicator before flight. The FAA issued an exemption to this regulation in Exemption No. 11062

7. 14 C.F.R. § 91.151(a) Fuel requirements for flight in VFR conditions

Section 91.151 (a) prohibits an individual from beginning a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing, and, assuming normal cruising speed- (1) During the day, to fly after that for at least 30 minutes; or (2) At night, to fly after that for at least 45 minutes." Complying with the 30 minute reserve requirement in 14 C.F.R. § 91.151, would unnecessarily

limit the length of Caribbean Project Management's sUAS flights. The batteries powering the DJI Phantom provide approximately 15 minutes of flight time. To meet the 30 minutes reserve requirement in 14 C.F.R. § 91.151, the sUAS flights would not be possible. Given the limitations on the UAS's proposed flight area and the location of its proposed operations within a predetermined area, a longer time frame for flight in daylight conditions is reasonable. Operating the small sUAS in a tightly controlled area where only personnel and property owners will be present does not engender the type of risks that§ 91.151(a) was intended to alleviate given the size and speed of the small sUAS. Caribbean Project Management believes that an equivalent level of safety can be achieved by limiting flights to 12 minutes or 25% of battery power, whichever happens first. The FAA issued an exemption to this regulation in Exemption No.1 1062 and 10673.

8. *14 C.F.R. §91.203 (a) and (b) Carrying Civil Aircraft Certification and Registration*

The regulation provides in pertinent part;

a. Except as provided in § 91.715, no person may operate a civil aircraft unless it has within it the following:
    i. An appropriate and current airworthiness certificate
b. No person may operate a civil aircraft unless the airworthiness certificate required by paragraph (a) of this section or a special flight authorization issued under §91.715 is displayed at the cabin or cockpit entrance so that it is legible to passengers or crew.

The UAS fully loaded weighs no more than 25 lbs. and is operated without an onboard pilot. As such, there is no ability or place to carry certification and registration documents or to display them on the UAS. An equivalent level of safety will be achieved by keeping these documents at the ground control point where the pilot flying the UAS will have immediate access to them, to the extent they are applicable to the UAS. The FAA has issued numerous exemptions to this regulation. A representative sample of other exceptions includes Exemption Nos. 9565, 9665, 9789, 9789A, 9797, 9797A, 9816A, and 10700.

9. *14 C.F.R. § 91.405(a) Maintenance Required; 14 C.F.R. § 91.407(a)(1) Operation After Maintenance, Preventive Maintenance, Rebuilding or Alteration; 14 C.F.R. §§ 91.409(a)(1) and (2) Inspections; 14 C.F.R. §§ 91.417(a) and (b) Maintenance Records*

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 in 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 the Petitioner. Maintenance will be accomplished by the operator pursuant to the Operations Manual. An equivalent level of safety will be achieved because these small UAS 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 UAS can land immediately and will be operating from no higher than 400' AGL. As provided in the Operations Manual, the operator will ensure that the UAS is in working order prior to initiating flight, perform required maintenance, and keep a log of any maintenance performed. Moreover, the operator is the person most familiar with the aircraft and best suited to maintain the aircraft in an airworthy condition to provide the equivalent level of safety. The FAA issued an exemption to these regulations in Exemption No. 11062.

10. Such Other Relief as the FAA Deems Appropriate

Caribbean Project Management also requests exemption from such other FARs as the FAA Grant of Exemption issued pursuant to this Petition, the FAA issues interim or final rules for small UAS, Caribbean Project Management requests that it be relieved of the requirements of any conditions and limitations of said exemption and allowed to comply with any less burdensome applicable regulations that may have become effective.

CONCLUSION

Based on the satisfaction of the criteria provided in Section 333 of the FMRA regarding size, weight, speed, operating capabilities, proximity to airports and populated areas, operation within visual line of sight, and national security, Caribbean Project Management requests that the FAA grant it the necessary exemptions under Section 333 of the FMRA as requested herein to allow the use of small UAS aircraft for inspection of construction projects.

If you need additional information, don't hesitate to contact us at 787-999-4000.

Cordially,

José R. Torres Morales, PE
VP Projects and Risk Management