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

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

August 5, 2015

Exemption No. 12341
Regulatory Docket No. FAA–2015–1040

Mr. Christon C. Skinner
Babiyo Enterprises, LLC dba Vivid Aerial Ascent
1802 Southwest Beeksma Drive
Oak Harbor, WA 98277

Dear Mr. Skinner:

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 6, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Babiyo Enterprises, LLC dba Vivid Aerial Ascent (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial photography and videography.

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 Vision+.

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, Babiyo Enterprises, LLC dba Vivid Aerial Ascent 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, Babiyo Enterprises, LLC dba Vivid Aerial Ascent 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 Vision+ 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 August 31, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Enclosures

VIVID AERIAL ASCENT
1802 SW Beeksma Drive
Oak Harbor, WA 98277
http://www.vividaa.com

April 6, 2015

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

Attn: Mr. Robert Pappas

RE: Exemption Request Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations

Dear Mr. Pappas :

Please consider this request for exemption from the Federal Aviation Regulations being submitted to you pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA) and 14 CFR Part 11. The specific regulations for which this application is submitted are set out in Appendix A to this letter request.

This request is submitted by Babiyo Enterprises, LLC d/b/a Vivid Aerial Ascent ("VVA"). VVA requests an exemption to allow its to use of the DJI Phantom 2 Vision Plus, Unmanned Aerial System (UAS) in commercial operations for purposes of aerial photography and videography; but only so 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 or Section 49 USC § 44701.

"Vivid Aerial Ascent" is the assumed business name adopted by Babiyo Enterprises, LLC, a Washington limited liability company. The members of Babiyo Enterprises are Christon Skinner, Paul Skinner and Justin Skinner. The address of the company is 1802 SW Beeksma Drive, Oak Harbor, Washington 98277.

As described more fully below, the requested exemption would permit the operation of the UAS by the applicant for commercial uses and purposes that would provide the following benefits:

1. Operations would be performed in an area of operation that limited in size, suitable to the specific use, in advance of flight.

2. The flight would be planned in advance to minimize hazards to persons and property in the air and on the ground.

3. The operator would reasonably limit or control access to provide safety to those not involved in the operation.

4. Operation of a UAS in the particular application intended would provide significant safety, environmental and other enhancements not possible by larger sized aircraft.

5. A member of the company with 80 hours of flight training from a FAA certified instructor would operate the UAS or directly supervise the operation.

6. The exemption will provide a beneficial and currently unavailable service to government organizations such as state and county environmental agencies, planning and community development departments and the general public in a manner that would serve the public interest.

Approval of this exemption will enhance the safe use and operation of unmanned aerial vehicles and their incidental uses 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.

It is possible to operate the UASs so as not to create a hazard to users of the National Airspace System (NAS) and the public; or pose a threat to national security if operation is done safely and responsibly. This applicant has demonstrated a willingness to act safely and responsibly by not previously engaging in unauthorized commercial UAS operations. The applicant has, in fact, worked with, and is a member of, the Academy of Model Aeronautics (AMA) and the Association for Unmanned Vehicles International (AUVSI). In addition, the applicant is a member of the Whidbey Island (Washington) Remote Control Society, our local UAV authority.

VVA proposes that the exemption requested apply to civil aircraft that have the

characteristics of UAS and that operate with the limitations listed herein. These limitations provide for at least an equivalent - or higher - level of safety to operations under the current regulatory structure as the proposed operations and represent a safety enhancement to the already safe aerial commercial photography and survey operations conducted with conventional aircraft. And the cost of providing the proposed photography and videography services through the use of UASs will be substantially less than through conventional fixed wing and rotor aircraft.

Those UAS's that the applicant intends and plans to operate are DJI Phantom 2 Plus rotorcraft weighing 55 or fewer pounds including payload. They would operate, under normal conditions, at a speed of no more than 40 knots. The principal construction material of these UAS craft would be foam and/or plastic. Operations will be performed by a qualified UAS pilot in command ("PIC"), as outlined below, to insure that the UAS will "not create a hazard to users of the national airspace system or the public." Given the small size of the UASs involved and the pre-planned environment within which they will operate, the applicant believes that these operations fall squarely within that zone of safety (and equivalent level of safety) in which Congress envisioned that the FAA must, by exemption, allow commercial operations of UASs to commence immediately. Also, operation in a researched (to include applicable NOTAMs), pre-defined area, will prevent the possibility of a national security issue that might unduly burden law enforcement and other agencies tasked with addressing any breaches or threats in this area. We sincerely believe that the operation of UASs by knowledgeable professionals with experience in the NAS, will actually serve to enhance safety, add to the public benefit and reduce environmental impacts related to current methods of aerial photography and survey, i.e., through the use of conventional aircraft.

The following are the limitations and conditions to which the operator, or it's employees, acting as UAS PIC, agree to be bound when conducting commercial operations under an FAA issued exemption:

1. Safety will be the first and foremost consideration in any UAS operation.

2. The UAS pilot will be a person with at least 80 hours of flight training from an FAA licensed flight training instructor or the UAS pilot will be directly supervised by a person with at least 80 hours of flight training from an FAA licensed flight training instructor.

3. The UAS FAA trained airman will be considered Pilot in Command (PIC), whether flying or supervising, and will be responsible for safe operation of the flight.

4. Flights will be operated within visual line of sight (VLOS) of the PIC or an observer, in accordance with the statutory mandate under Section 333(b)(1) and operated below 400 feet above ground. A spotter/observer

will be used to assist the PIC with constant visual contact of the UAS.

5. The DJI Phantom 2 Vision Plus UAS is designed to operate at speeds no greater than 40 knots.

6. The UAS will weigh less than 55 lbs., total.

7. Flights will be operated during daylight hours in Class G airspace whenever possible. If operation in other airspace is required, the relevant controlling agency will be notified at least 24 hours prior to the operation and, if required, any necessary permission obtained.

8. Flights will be operated under visibility and cloud clearance requirements equivalent to Visual Flight Rules (VFR).

9. VAA does not intend to operate within five miles of any airports. The DJI Phantom 2 Vision Plus, "DJI Vision App" software precludes UAS operation within five miles of any rated airport.

10. The UAS will at all times give way to any aircraft carrying persons.

11. Minimum crew for each operation will consist of the UAS PIC and a spotter or observer. The observer, if required, and PIC will at all times be able to communicate by voice and/or text.

10. Prior to a UAS flight, an area of operation will be established. This area of operation will include a defined lateral and vertical area, where the UAS will operate. Safety procedures will be established for persons, property and applicable airspace within the area of operation.

11. Flight planning will include flight completion with at least 20% battery power remaining as measured by the UAS or appropriate timing.

12. If equipped, and appropriate for the operation, UAS aircraft will utilize GPS navigation, failsafe, return-to-home (RTH) and/or flight abort safety features.

13. A briefing will be conducted in regard to the planned UAS operations prior to operation at each new location. All personnel who will be performing duties within the boundaries of the area of operation will be present for this briefing.

14. All required permissions and permits will be obtained from appropriate state, county or city jurisdictions, including local law enforcement, fire, or

other appropriate governmental agencies.

15. Written, to include electronic, and/or oral permission from the relevant property owners will be obtained prior to an operation.

16. The UAS pilot will be trained in advance for the safe operation of the UAS to be operated. This will include operation of the UAS both in normal and emergency modes of operation, and will include familiarization with the operation manual (or similar) if published by the UAS manufacturer. Training will also include types of maneuvers to be performed and the safe operation in relation to persons, property and applicable airspace.

17. The UAS PIC will establish a working relationship with a representative at the local FSDO with which to annually review safety procedures and other operations to further enhance safety.

18. The Phantom 2 Vision Plus controllers operate at a radio frequency spectrum of 2.4 Ghz and 5.8 Ghz. According to the manufacturer, the UAV's operating RF spectrum fully complies with FCC regulations.

Included with this application you will find a letter from the Executive Director of the Oak Harbor Chamber of Commerce requesting approval of a UAS operation that will aid in the development and promotion of the City of Oak Harbor, Washington's tourism development. This project serves as an excellent example of the benefits of using a UAS. Since no low flying, conventional aircraft will need to be utilized to photograph the area and provide still and video content for editing, this project represents just one example of the enhancement in safety represented by the use of a UAS in certain applications as well as demonstrating a direct benefit to the public interest by providing low cost aerial photography for tourism enhancement and improvement of our local economy.

VAA also intends to provide aerial photography and videography services to private and public organizations monitoring shorelines and other environmentally sensitive areas. Specifically, VAA intends to provide video and still photographic surveys of shorelines, wetlands, wildlife habitat, construction project and development encroachment, and other visual measurements that will aid in the management and regulation of environmentally sensitive areas. VAA is located on an island that is in the northern part of the Puget Sound and which is a gateway to the environmentally sensitive, San Juan Island Archipelago in Washington State. The use of UASs in this particular application is particularly appealing because of its environmentally friendly interaction with sensitive areas and the minimal impact that such operation will have on wildlife, relative to low flying, conventional aircraft.

The members and owners of VAA believe that the minimal size and speed of the UAS combined with its smaller operating environment and the applicant's experience in the NAS, as outlined, all provide an “equivalent level of safety” or better when operating a UAS for the public interest as outlined in Section 333 in the FAA Modernization and Reform Act of 2012

lt is respectfully requested that the FAA grant and exemption to VAA as soon as possible, to enable the Oak Harbor Chamber of Commerce and other similar organizations as well as governmental agencies, to benefit from the reduced cost and increased level of safety afforded by the use of UASs for aerial photography and videography.

Sincerely,

Christon C. Skinner

Appendix A

EXEMPTION REQUESTS AND EQUIVALENT LEVEL OF SAFETY

Babiyo Enterprises, LLC, d/b/a Vivid Aerial Ascent, requests an exemption from the following regulations as well as any additional regulations that may technically apply to the operation of UASs:

14 CFR Part 21

14 C.F.R. 45.23(b)

14 CFR § 61.113(a) & (b)

14 CFR § 91.7(a)

14 CFR 91.9 (b) (2)

14 C.F.R. 91.103

14 C.F.R. 91.109

14 CFR § 91.119(c)

14 C.F.R. 91.121

14 CFR § 91.151(a)

14 CFR 91.203 (a) & (b)

14 CFR § 91.405(a)

14 CFR § 91.407(a)(1)

14 CFR § 91.409(a)(1) & (2)

14 CFR § 91.417(a) & (b)

Vivid Aerial Ascent's request for exemption includes the ability to operate PHANTOM 2 Vision+ quad-copter unmanned aircraft system (UAS), and the PHANTOM "Inspire1" for the purpose of conducting aerial videography and cinematography to assist private and public agencies within the Pacific Northwest area with damage assessment, ecological monitoring, project/land survey, and municipality tourism promotion. In addition, VAA would like to provide videography and photography and related services to real estate brokers and

agents to aid in the presentation of a more detailed and complete overview of listed properties.

VAA seeks exemption via petition to the Federal Aviation Administration (FAA) from part 21, subpart H; and Sections 45.23(b), 61.113(a) and (b), 91.7(a), 91.9(b)(2), 91.103(b), 91.109, 91.119, 91.121, 91.151(a), 91.203(a) and (b), 91.405(a), 91.407(a)(1), 91.409(a)(2), and 91.417(a) and (b) of Title 14, Code of Federal Regulations (14 CFR). As supplemental material, I have included Phantom 2 Vision + (referred to as P2V+ throughout the document)

Part 21 prescribes the procedural requirements for issuing and changing design approvals, productions approvals, airworthiness certificates, and airworthiness approvals.

Section 45.23(b) prescribes that when marks include only the Roman capital letter “N” and the registration number is displayed on limited, restricted or light-sport category aircraft or experimental or provisionally certificated aircraft, the operator must also display on that aircraft near each entrance to the cabin, cockpit, or pilot station, in letters not less than 2 inches nor more than 6 inches high, the words “limited,” “restricted,” “light-sport,” “experimental,” or “provisional,” as applicable.

Section 61.113(a) and (b) prescribes that— (a) no person who holds a private pilot certificate may act as a pilot in command of an aircraft that is carrying passengers or property for compensation or hire; nor may that person, for compensation or hire, act as pilot in command of an aircraft. (b) a private pilot may, for compensation or hire, act as pilot in command of an aircraft in connection with any business or employment if: (1) The flight is only incidental to that business or employment; and (2) The aircraft does not carry passengers or property for compensation or hire.

Section 91.7(a) prescribes that no person may operate a civil aircraft unless it is in an airworthy condition. Section 91.7(b) prescribes that the pilot in command of a civil aircraft is responsible for determining whether that aircraft is in condition for safe flight and that the PIC shall discontinue the flight when an airworthy mechanical, electrical, or structural conditions occur.

Section 91.9(b)(2) prohibits operation of U.S.-registered civil aircraft unless there is available in the aircraft a current approved Airplane or Rotorcraft Flight Manual, approved manual material, markings, and placards, or any combination thereof.

Section 91.103(b) prescribes that a pilot shall for any flight, become familiar with runway lengths at airports of intended use, and takeoff and landing distance information.

Section 91.109(a) prescribes, in pertinent part, that no person may operate a civil aircraft (except a manned free balloon) that is being used for flight instruction unless that aircraft has fully functioning dual controls.

Section 91.119 prescribes that, except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:3 (a) Anywhere. An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface. (b) Over congested areas. Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft. (c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure. (d) Helicopters, powered parachutes, and weight-shift-control aircraft. If the operation is conducted without hazard to persons or property on the surface— (1) A helicopter may be operated at less than the minimums prescribed in paragraph (b) or (c) of this section, provided each person operating the helicopter complies with any routes or altitudes specifically prescribed for helicopters by the FAA; and (2) A powered parachute or weight-shift-control aircraft may be operated at less than the minimums prescribed in paragraph (c) of this section.

Section 91.121 requires, in pertinent part, 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."

Section 91.151(a) prescribes that no person may begin 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 [emphasis added].

Section 91.203(a) prohibits, in pertinent part, any person from operating a civil aircraft unless it has within it (1) an appropriate and current airworthiness certificate; and (2) an effective U.S. registration certificate issued to its owner or, for operation within the United States, the second copy of the Aircraft registration Application as provided for in § 47.31(c).

Section 91.203(b) prescribes, in pertinent part, that no person may operate a civil aircraft unless the airworthiness certificate 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.

Section 91.405(a) requires, in pertinent part, that an aircraft operator or owner shall have that aircraft inspected as prescribed in subpart E of the same part and shall, between required inspections, except as provided in paragraph (c) of the

same section, have discrepancies repaired as prescribed in part 43 of the chapter.4

Section 91.407(a)(1) prohibits, in pertinent part, any person from operating an aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless it has been approved for return to service by a person authorized under § 43.7 of the same chapter.

Section 91.409(a)(2) prescribes, in pertinent part, that no person may operate an aircraft unless, within the preceding 12 calendar months, it has had an inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter.

Section 91.417(a) and (b) prescribes, in pertinent part, that— (a) Each registered owner or operator shall keep the following records for the periods specified in paragraph (b) of this section: (1) Records of the maintenance, preventive maintenance, and alteration and records of the 100-hour, annual, progressive, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft. The records must include— (i) A description (or reference to data acceptable to the Administrator) of the work performed; and (ii) The date of completion of the work performed; and (iii) The signature, and certificate number of the person approving the aircraft for return to service. (2) Records containing the following information: (i) The total time in service of the airframe, each engine, each propeller, and each rotor. (ii) The current status of life-limited parts of each airframe, engine, propeller, rotor, and appliance. (iii) The time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis. (iv) The current inspection status of the aircraft, including the time since the last inspection required by the inspection program under which the aircraft and its appliances are maintained.5 (v) The current status of applicable airworthiness directives (AD) and safety directives including, for each, the method of compliance, the AD or safety directive number and revision date. If the AD or safety directive involves recurring action, the time and date when the next action is required. (vi) Copies of the forms prescribed by § 43.9(d) of this chapter for each major alteration to the airframe and currently installed engines, rotors, propellers, and appliances. (b) The owner or operator shall retain the following records for the periods prescribed: (1) The records specified in paragraph (a)(1) of this section shall be retained until the work is repeated or superseded by other work or for 1 year after the work is performed. (2) The records specified in paragraph (a)(2) of this section shall be retained and transferred with the aircraft at the time the aircraft is sold. (3) A list of defects furnished to a registered owner or operator under § 43.11 of this chapter shall be retained until the defects are repaired and the aircraft is approved for return to service.