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

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

September 25, 2015

Exemption No. 13000
Regulatory Docket No. FAA−2015−2770

Mr. Chris Burford
CEO
SkySpective
11541 West 66th Place
Arvada, CO 80004

Dear Mr. Burford:

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 8, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of SkySpective (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial survey of oil and gas pipelines in rural areas.

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 Tarot 810.

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, SkySpective 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, SkySpective 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 Tarot 810 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 October 31, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Enclosures

Skyspective

8 June 2015

Mr. James Williams

Unmanned Aircraft Systems Integration Office Federal Aviation Administration
800 Independence Ave, SW
Washington, DO 20591

U.S. Department of Transportation
Docket Operations
West Building Ground Floor, Rm W12-140 1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Mr. Williams,

SkySpective respectfully requests an exemption from several provisions of Title 14 of the Code of Federal Regulations (C.F.R.), specifically portions of 14 C.F.R. Parts 45 and 91, to permit the use of our small Unmanned Aerial Systems (UAS), the Tarot 810, for use in aerial survey of Oil and Gas Pipelines in rural areas of the United States. Granting an exemption is consistent with Congress' intent, as reflected in Section 333 of the FAA Modernization and Reform Act of 2013, that states safe systems be permitted in the National Airspace (NAS) prior to the issuance of final regulations governing general use of these small unmanned aerial systems.

The Tarot 810 drone is an all-environment, electric powered, self-launched, small multirotor UAS that, depending on its payload, is capable of collecting airborne images and location information to a Ground Control Station (GAS). It can also conduct high resolution photogrammetry or perform Light Detection and Infrared data collection. If used for high resolution photographs or point cloud data, the Tarot 810 drone stores the photographs and imagery data onboard and makes it available for download after completion of the flight. The Tarot 810 drone, has a maximum weight of 15 pounds and a diameter of 40 inches, with a maximum crusing speed of 30 mph. It is battery powered, has a maximum flight time between 10 and 15 minutes, and can operate in temperatures ranging from 10 degrees F to 120 degrees F. The Tarot 810 drone has two omni-directional antennas, a primary and a redundant back-up. The primary 2.4 Ghz antenna has a range of 2 miles, and the 5.8 Ghz back-up antenna has a range of 1.4 miles.

FAA Modernization and Reform Act of 2012, Section 333

Section 333 states that the FAA shall determine if certain unmanned aircraft systems may operate safely in the national airspace system before completion of the plan and rulemaking required by Section 332". Section 333 (b), then lists several factors that should be considered in determining which UASs would be eligible for expedited integration into the National Airspace System (NAS). Specifically, UASs that "as a result of their size, weight, speed, operational capability, proximity to airports and populated areas, and operation within visual line of sight do not create a hazard to the users of the national airspace system or the public, or pose a threat to national security". If a UAS has met the criteria laid forth in Section 333 (b), Section 333 (c) then gives the FAA the authority to decide if an airworthiness certification as specified by Title 49 United States Code, Section 44704 is even required for operation. Section 333 (c) specifically states that the FAA can determine "whether a certificate of waiver, certificate of authorization, or airworthiness certification undersection 4704 of Title 49, United States Code, is required for the operation of unmanned aircraft systems". Thus, the FAA has the ability to allow a UAS that meets the criteria put forth in Section 333 (b) to operate within the NAS without as airworthiness certificate as long as the UAS does not pose any hazard or threat to the NAS, public, and national security.

The primary function of the Tarot 810 drone is to provide aerial imagery using interchangeable geo-referenced still/video cameras. High resolution data generated from these cameras offers a wide range of applications in agriculture and aerial survey. The resulting imagery data, along with post processing data analytics, helps the oil and gas industry, for example, monitor for leaks, benefitting the environment and the general public. The Tarot 810 drone can fly by remote control or autonomously with advanced mission planning, and is launched on-the-spot with no requirements for a runway. Once airborne, the Tarot 810 drone will fly at an altitude less than 400 ft Above Ground Level (AGL) over the designated plot. Prior to flight, the Pilot in Command (PIC) sets a designated flight area and flight parameters to ensure that the Tarot 810 drone will remain within the confines of the approved site, never exceeding 400 ft. AGL. If on board sensors detect a critical issue at any time, such as a low battery state or loss of GPS signal, the Tarot 810 drone will immediately execute pre-programmed safety procedures and automatically return to the launch site. The Tarot 810 drone's small operational footprint and built-in safety protocol provide a much safer alternative for aerial survey and would pose a minimal hazard to the NAS or public.

The Tarot 810 drone will only operate over Oil and Gas easements for the purpose of collecting aerial imagery. There are multiple rural sites over which the Tarot 810 drone will be flown. All sites are owned and operated by Oil and Gas rights owners who have granted approval to Skyspective to conduct flights over their property. There are a few small office buildings and maintenance buildings located amongst the Platform or pipeline areas and Skyspective will ensure all operations avoid overflight of these structures. In addition, these are no airports within 5 NM of the sites, meaning the operations are within the FAA guidelines. By operating at low altitudes over privately owned areas of interest, the Tarot 810 drone will pose no threat to individuals or structures on the ground and will remain well clear of any and all air traffic.

Skyspective has established the following operational limitations for Tarot 810 drone over the intended survey sites:

- The Tarot 810 drone flights are permitted over privately owned Oil and Gas Platforms and Pipelines
- The Tarot 810 drone will operate below 400 ft AGL and not within 5 NM of an airport
- The Tarot 810 drone will operate within 1 NM and within VLOS of the PIC and Safety Observer
- The Safety Observer will be located next to the PIC and will ensure the aircraft remains within VLOS and assist in spotting potential hazards
- The Tarot 810 drone will operate in accordance with Day Visual Flight Rules and only in Visual Meteorological Conditions during daylight hours
- The duration of each Tarot 810 drone flight shall not exceed 25 minutes
- All takeoffs and landings will occur on-site
- The Tarot 810 drone flights will avoid direct overflight of any office or maintenance buildings located on-site
- All Skyspective employees working on-site will be thoroughly briefed on Skyspective operations prior to operations commencing
- Skyspective operations will be conducted by a commercially certified pilot who has completed Skyspective training
- Skyspective flights will be cancelled in the event that any aircraft or ground control station equipment is found to be inoperative or not fully functional
- IF the PIC or Safety Observer spots a potential hazard, such as a manned aircraft within close proximity to the designated flight area, the PIC will immediately land the Tarot 810 drone and operations will only resume after the hazard is clear of the area

- All Skyspective maintenance will be accomplished in accordance with the Skyspective Inspection and Maintenance Requirements

- Only one Skyspective drone will be airborne at any given time for each designated site

- The PIC will file a NOTAM for Skyspective flights at each site, providing at a minimum radial/DME, radius, and date/time group

Skyspective will be bound by these limitations for commercial flights after the FAA approval of the exemptions laid forth in this petition. Skyspective will also follow any guidance for the FAA in accordance with Sec 333 (c) which states that after determining if UAS meet criteria for safe operation that the FAA "shall [also] establish requirements for the safe operation of the" UAS in the NAS.

Specific Sections of 14 CFR from which Skyspective Seeks Exemption

Below are the sections from which Skyspective seeks exemption, with specifics on the extent of relief sought, reason for relief, and why exemption would not adversely affect safety.

a. Part 21 Subpart H - Airworthiness Certification

Part 21 Subpart H establishes the requirement for the issuance of an airworthiness certificate. Skyspective seeks complete exemption from Part 21 Subpart H pursuant with Section 333, which authorizes the FAA to exempt a UAS from the requirements of an airworthiness certificate based on consideration of the following size, weight, speed, and operational capability, proximity to airports and populated areas, and operation within VLOS.

An equal level of safety will be achieved with the operational limitation established in the document for all Skyspective, Tarot 810 flights. Specifically that all flights will occur within VLOS of the PIC and Safety Observer, at an altitude of less than 400 ft. AGL, and only over designated Oil and Gas or areas of interest. As a result Skyspective can safely operate without creating a hazard to any other aircraft, people, or structures on the ground. The combination of Skyspective's safe operational history in the United States, and small lightweight design, in conjunction with Skyspective's safety requirements and operating limitations, results in a safer alternative for aerial imagery collection.

b. 91.7 (a) - Civil Aircraft Airworthiness

91.7 (a) states that "no person may operate a civil aircraft unless it is in an airworthy condition". Skyspective is already seeking exemption for airworthiness certification and thus no FAA standard will exist for determining airworthiness. As a result, Skyspective seeks full exemption from this regulation. Skyspective will achieve an equal level of safety by using Skyspective User Manual and Inspection and Maintenance Requirements. Our documentation contains pre-flight protocols for each flight, safety checks, and comprehensive maintenance procedures.

c. 91.9 (b) - Civil Aircraft Flight Manual in the Aircraft

91.9 (b) states that no person may operate a civil aircraft unless there is a current approved flight manual for the aircraft onboard. The tarot 810 small and lightweight design is not capable of carrying an aircraft flight manual on board. In addition, the Tarot 810 is unmanned, and the PIC is located at the ground control station. Skyspective thus seeks exemption from the requirement to carry the aircraft flight manual onboard. Skyspective instead proposes that the Skyspective User Manual and Justification of Airworthiness Document, which contains information normally found in aircraft flight manual, be kept at the ground control station where it is readily accessable to the PIC and Safety Observer for reference.

d. 91.103 - Preflight Action

91.103 requires that the PIC be familiar with specific information before each flight such as weather, forecast, and fuel requirements. In addition to this the PIC must be familiar with information found within the approved flight manual relating to aircraft performance and takeoff and landing distances. Due to the fact that Tarot 810 has no FAA approved flight manual, Skyspective seeks to exemption from this regulation. Skyspective proposes to use the Skyspective User Manual and Justification of Airworthiness Document in lieu of an FAA approved flight manual. These two Skyspective publications have extensive pre-flight checklists that include reviewing weather, power/battery requirements takeoff and landing, and aircraft performance data. The information found in the Skyspective User Manual and Justification for Airworthiness Document is comparable to the information found in an FAA approved flight manual, to include a comprehensive step-by-step pre-flight checklist. As a result an equal level of safety will be maintained by the PIC using these two publications, which address the items listed in 91.103.

e. 91.119 - Minimum Safe Altitude

91.119 establishes the minimum altitude that civil aircraft may safely operate. 91.119 (c) specifically states that over “other than congested areas” a civil aircraft cannot operate below an altitude of 500 ft above the surface, except over open water or sparsely populated areas *(and)* in those cases, the aircraft may not be operated closer than 400 ft to any person, vessel, vehicle, or structure”. The sole function of the Tarot 810 drone is to fly at low altitudes over Oil and Gas Platforms and construction sites which can be categorized as “other than congested areas”. Small UASs, like the Tarot 810 drone are, by design, flown at altitudes of less than 400 ft. AGL. Skyspective has established operating limitations to achieve the highest level of safety, specifically that the Tarot 810 drone will remain within VLOS of the PIC and Safety Observer. For these reasons Skyspective seeks exemption form this regulation. An equivalent level of safety will be maintained by only operating the Tarot 810 drone over designated areas of interest.

f. 91.121 - Altimeter Settings

91.121 requires aircraft to maintain a cruising level or flight level in reference to a current reported altimeter setting. The Tarot 810 drone is not equipped with an altimeter setting. The Tarot 810 drone is not equipped with a programmable altimeter but rather determines location and altitude via an onboard GPS and barometer. Since the Tarot 810 drone will be operating below 400 ft AGL, there is no need to maintain hemispherical cruising altitudes for de- confliction with manned aircraft. For these reasons the Tarot 810 drone seeks exemption for this regulation. An equal level of safety will be achieved through the Tarot 810 drones GPS and barometer which provide altitude and location data to the PIC via the ground control station. An automatic pre-flight test is done to verify functionality of the GPS and barometer prior to operations. If at any time during flight there is a failure of the GPS or barometer, the Tarot 810 drone will initiate an emergency procedure to return to its original takeoff location. By operating below 400 ft AGL, the Tarot 810 drone will not create a hazard to any manned aircraft maintaining hemispheric cruising altitudes based on a current altimeter setting.

g. 91.151 (a) - Fuel Requirements for Flight in VFR Conditions

91.151 (a) states that no person may begin a flight in Day VFR conditions unless there is enough fuel to fly to the intended landing point and fly for 30 minutes after that point is reached. The Tarot 810 drone is battery operated and does not carry fuel. It has a maximum flight time of 20 minutes on a fully charged battery. The Tarot 810 is unable to fly for 30 minutes. Skyspective seeks full exemption from this regulation due to the fact that the risk of danger associated with failing to reach a safe landing point with 15 minutes of extra “fuel” does not exist with the Tarot 810 drone. The Tarot 810 drone does not have to return to a “landing point” but rather can be safely put down anywhere over the point of interest. An equal level of safety will be maintained simply by the fact that the Tarot 810 drone is designed to safely land anywhere over the area of interest in the event that the battery is exhausted. Any risk associated with battery duration (fuel) in relationship to flight time is mitigated by the fact that the Tarot 810 drone has the ability to land anywhere and at any given time.

h. 91.203 (a) & (b) - Civil Aircraft: Certifications Requirements

91.203 requires all civil aircraft to have “within it.... An appropriate and current airworthiness certificate” that must be “displayed at the cabin or cockpit entrance so that it is legible to passengers or crew”. Skyspective is already seeking exemption for the airworthiness certificate regulation and thus requires an exemption from this regulation. In addition the Tarot 810 drone due to its size and design has no cabin or cockpit, and therefore does not have the ability to carry certification or registration documents. Furthermore the Tarot 810 drone does not carry any passengers or crew for whom the certificate is required to be displayed. Skyspective proposes that any FAA required documents be kept at the ground control station and that a small placard be affixed to the Tarot 810 drone airframe with manufacturer, registration, and contact information. An equal level of safety will be achieved by having any FAA related documents located at the ground control station where it will be readily accessible to the PIC and any other agencies that may require information.

Granting an Exemption that is in the Public Interest

The Tarot 810 drone is a safe, efficient, and economical alternative to manned, fixed-wing aircraft that are currently being used to conduct aerial imaging of areas of interst. Using the Tarot 810 drone in lieu of a traditional manned, fixed wing aircraft will result in the overall reduction of low-flying manned aircraft in the NAS, easing the burden on Air Traffic Controllers. Because the Tarot 810 drone can take off and land on-site and operate at an altitude under 400 ft AGL within VLOS of the PIC, there is no need for the ATC to provide coordination during ground movement, takeoff, departure, transit, arrival, or landing phase of flight. As the skies over the United States get busier and busier, any efforts that ease the stress on the Air Traffic Control system is of benefit to the public.

The Tarot 810 drone is electrically powered, which decreases air pollution and noise. The electric motor will be exponentially quieter than a twin-engine combustion motor on passenger aircraft typically used to conduct aerial imaging. A manned aircraft typically burns 20-30 lbs of aviation fuel per hour, polluting the air not only over the site but over the path of transit and around the airport. Conducting aerial imaging with the Tarot 810 drone in lieu of manned aircraft would thus reduce both air pollution and noise pollution, which is of great benefit to the public.

Using the Tarot 810 drone would also greatly reduce risk to life and property on the ground. The Tarot 810 drone's small size, reduced weight, lightweight construction pose little hazard to people or structures on the ground as compared to a manned twin engine aircraft, which has a much greater potential for damage to life and property in the event of an accident. The Tarot 810 drone is unmanned and as a result poses essentially no risk associated with piloting an aircraft. Overall, the Tarot 810 drone provides a much safer alternative to manned, fixed-wing aircraft operations for the purpose of collecting aerial imagery.

Lastly, using the Tarot 810 drone to provide aerial imagery would result in better monitoring of the oil and gas infrastructure and minimize potential environmental hazards. High resolution data generated from thee Tarot 810 drone flights would provide operators with invaluable information on volumization, tank failure containment, and leak detection. By analyzing this data operators can make modifications to a wide range of variables that will minimize environmental impact and increase efficiency, which in turn would be of great benefit to the public.

In accordance with the procedural requirements of 14 C.F.R 11.81, Skyspective Inc. provides the following information regarding our point of contact:

Chris Burford, CEO
11541 W 66th Place
Arvada, Co 80004
(303) 881-2327

Please contact me with any questions with regards to this request for exemption.

Sincerely,

Chris Burford
CEO