



UAS FAR 333 Exemption Package

Multi-Rotor Small Unmanned Air Vehicle Flare Stack Inspections in the Gulf of Mexico

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June 1, 2014



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1. Mission

- 1.1. Objective: To successfully complete Flare Stack Inspection on Shell Oil Gulf of Mexico (GoM) production platforms.
- 1.2. Description: VDOS Global in full cooperation with Shell Oil will use a small vertical lift unmanned systems to perform flare stack inspections. VDOS will perform inspection operations with qualified manufacturer trained personnel have current commercial pilot certificates. The remote location of these inspections, outside of the ADIZ, in open water in the Gulf of Mexico is an ideal location for vertical inspections using such technology. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to a small unmanned systems, our team hopes to provide a professional example that can be used to benefit both the manned and unmanned operations in the domestic aviation industries.

2. Vehicle Description: Aeryon SkyRanger

- 2.1. Aeryon Corporate Overview: Aeryon Labs, Inc. is a Canadian company located in Waterloo Ontario. Aeryon is focused on providing micro unmanned aerial system and is globally recognized as the market and technology leader in this space. Key customers range from military organizations such as Canadian Special Operations and US Special Operations; key government agencies such as NOAA, Environment Canada and the US Coast Guard; world leading universities in the unmanned space such as University of Alaska Fairbanks and Kansas State University; police agencies such as the RCMP and OPP; and global enterprises such as BP, UK Power Networks and Fortune 500 companies in the chemical, oil/gas and security markets. Aeryon systems have accumulated over 5000 hours in global flight operations. This number does not include military flight hours which increase the numbers further.
- 2.2. Aeryon systems have a been approved by the FAA for research COAs and have a demonstrated safety track record. The Aeryon sUAS platforms were the first to officially fly at one of the FAA's UAS Test Sites (UAF Alaska). Many customers from military, to education to police and even commercial operations have been given approval to fly in US, Canada, UK, Australia, Japan, and others airspaces.
- 2.3. SkyRanger Overview: Aeryon unmanned systems have been used to fight terrorism in Iraq, Afghanistan and Nigeria, monitor hostile borders between Saudi Arabia and Yemen, ensure the safety of world leaders at the G50 Nuclear Summit in Seoul, escort a fuel tanker and ice breaker into a remote Alaskan community, monitor wildlife on the Aleutian Islands, map remote communities in South America, keep our highways clear and safe; and provide volumetric analysis for open pit mines.
- 2.4. The Aeryon SkyRanger can carry payloads up to 600 g. The SkyRanger flies with a maximum wind threshold of 40 M.P.H. for sustained winds and wind gusts up to 55 M.P.H.. What is unique about the Aeryon SkyRanger is the system automatically compensates for wind versus relying on the operator's



- 'sense of feel' for what the impact of the wind is at the altitude the system is flying. The end result is a system capable of gathering high quality aerial intelligence at much higher wind thresholds. A trait that is imperative for offshore operations such as flare stack inspection.
- 2.5.The SkyRanger has an operational range of up to 3 km (1.6 NM).
- 2.6.All flight operations are GPS controlled making the system extremely easy to navigate. At any point if the operator is not explicitly commanding the system to move, the system automatically holds its GPS position (i.e. GPS hold for reliable location hover). Camera positioning is also GPS controlled allowing for the most sophisticated camera targeting available. The flight control system employs not only GPS positioning but a variety of sensors including sonar, barometric pressure, temperature, wind speed and others to ensure the most stability of any system in its class-regardless of the wind.
- 2.7.The Aeryon SkyRanger can be operated in both semi and fully autonomous flight modes. Creating pre-planned flight paths to fly in autonomous mode is as simple as clicking on the map to create a pre-planned flight path. In semi-autonomous mode, the operator clicks on the map and the Aeryon SkyRanger automatically flies to the point on the map where the operator is pointing. Pre-mission waypoints, Landing zone points and flight area dimensions can all be entered during preflight ensuring the SkyRanger operates only within specified parameters.
- 2.8.The Aeryon SkyRanger includes many advanced safety features that makes the SkyRanger the safest choice for both urban and non-urban environments. Built-in intelligent fault handling allows the SkyRanger to detect a system fault while in the air, and to automatically fly back to its take-off location and land. Faults that can be detected include: loss of communication RFP: Small Electric Vertical Lift Unmanned Aircraft System (UAS) for "at height" Inspection to the command station; exceeding pre-set wind thresholds exceeded; and low battery levels. In addition, the operator can create no fly zones or maximum flight ranges and altitudes so the system cannot enter areas deemed unsafe or unnecessary to fly over. And before every take-off automated flight checks ensure the system is flight ready before it takes off.
- 2.9.The Aeryon SkyRanger can be operated entirely by a touch-screen, map based interface. This means The operator only needs to command the system where to go, and the system does all the flying for the operator. Maps can be saved and flight plans can be made or recalled with no internet connection required.
- 2.10.SkyRanger Operating Handbook - System user handbook available upon request.
- 2.11.Physical Characteristics
- 2.11.1.Measurements – 40" diameter deployed, 20x10" folded
- 2.11.2.Weight (without payload) – 2.4kg (5.3 lbs)
- 2.11.3.Fuel – Lithium polymer batteries are self-contained high duration systems with "SMART" intelligence on-board. This includes cycle charge times, locations, GPS antenna, chemical management, and real-time data feeds to ensure maximum flight duration and sub-system safety processes. Charging is done in the included Aeryon Battery charger and can be charged via standard wall outlet, or via a vehicle.

2.11.4.Landing style/type – Autonomous vertical lift

2.12.Propulsion System

2.12.1.Engines – The SkyRanger is powered by 4 electric brushless DC motors.

2.12.2.Batteries – Lithium polymer batteries are self-contained high duration systems with SMART intelligence on-board. This includes cycle charge times, locations, GPS antenna, chemical management, and real-time data feeds to ensure maximum flight duration and sub-system safety processes. Charging is done in the included Aeryon Battery charger and can be charged via standard wall outlet, or via a vehicle.

2.13.Performance Characteristics

2.13.1.Performance Charts - Available upon request

2.13.2.Maximum Altitude – 1500 ft.

2.13.3.Maximum Endurance – 50 minutes

2.13.4.Maximum Range – 3 km

2.13.5.Weather Minimums -

2.13.5.1.Winds Maximum – 40 MPH sustained, 55 mph gusts

2.13.5.2.Minimum ceiling: 500 ft

2.13.5.3.Minimum visibility: 1 SM

2.13.5.4.Icing conditions – no icing conditions

2.13.5.5.Precipitation – no visible moisture

2.13.5.6.Temperature - -22°F - 122°F

Visibility	1 statute mile
Cloud Clearance	1000 ft ceiling
Wind	No greater than 10kts
Gust Factor	Factor no greater than 5kts

2.14.Maintenance – The UAS is nearly maintenance free, it performs automatic pre-flight checks and the failure of any check will prevent take-off. Checks which cannot be done by the system will be performed by a qualified person prior to each flight.

2.14.1.Pre-flight checklist includes:

2.14.1.1.Visual inspection of the airframe

2.14.1.2.Visual inspections of rotor integrity

2.14.1.3.Check charge of all batteries (aerial vehicle, command station, radio repeater station)

- 2.15. Reliability – The system is designed for maximum reliability and to maintain performance over its life. The only components experience routine wear are rotors, batteries, motors, and legs. Battery and motor conditions are monitored by the system with deviations reported to the operator.
- 2.15.1. Contact with other objects during flight may cause other components, particularly rotors, and motor arms, to become damaged. Damaged components are likely to be detected during the full visual inspection of the airframe performed before each flight. Structural damage affecting flight characteristics will be detected by on-board sensors.
- 2.15.2. The UAV system detects numerous conditions which may make flying unsafe, such as reduced GPS accuracy, magnetic anomalies, low battery charge, battery cell imbalances, temperature fluctuations. Automatic pre-flight checks prevent the UAV from taking off if such conditions are present; or, if the condition is detected during flight, the system will trigger a Fatal Conditioned Response.
- 2.16. Fault Tolerance - The key feature of the UAV fault tolerance is its mechanical simplicity. It uses four fixed-pitched rotors, each mounted on a separate motor. No control surfaces or other actuators are required for the UAS to fly. Any component failure detectable by the system will be reported to the control station and will cause the UAV to perform a Fatal Condition Response (FCR) or Non-Fatal Conditioned Response (NFCR), depending on the type of failure.

3. Command and Control Systems

- 3.1. The SkyRanger Ground Control station allows the operator simultaneous control over aircraft and payloads. The touch screen control allows for quick navigation and data entry while the display screen provides all essential flight data to the operator. Telemetry data is transmitted to the command station at least once per second.
- 3.2. Displayed on GCS:
- 3.2.1. UAS Position
 - 3.2.2. Navigation Route
 - 3.2.3. UAS Tail Number
 - 3.2.4. UAS Position
 - 3.2.5. UAS Altitude
 - 3.2.6. UAS Heading
 - 3.2.7. North Seeking Arrow
 - 3.2.8. Range to Target
 - 3.2.9. Calculated target position
 - 3.2.10. Date/time
 - 3.2.11. Sensor heading and orientation relative to UAS



- 3.3. On-board Flight Instruments – The UAV is equipped with an Inertial Navigation System (3-axis gyroscope, 3-axis magnetometer, GPS receiver, and static pressure sensor) and a sonar sensor for precision AGL altitude measurement.
- 3.4. On-board computer systems – The UAS is equipped on-board computer systems to monitor (sensors, battery, etc.), control (speeds, altitude, position, etc.), and communicate (control, telemetry, etc.).
- 3.5. On-board guidance and navigation equipment – The UAS can operate autonomously; it does not require any input from ground-based equipment, or from the pilot to hover in place.
- 3.6. Frequency Allocations – 900 MHz, 2.4 GHz, 5.8 GHz, custom
- 3.7. Flight termination link – to prevent a “fly away” or other potentially dangerous situation a flight termination link is available to the operator at the GCS.
- 3.8. Takeoff and Landing – The SkyRanger has vertical lift autonomous launch and recovery. A Landing Zone “LZ” is designated by the operators and identified in the GCS software. For launch procedures the aircraft will takeoff and hover 3 meters directly above the LZ and hold until further operator instruction is given. The aircraft will automatically adjust for wind during this period.
- 3.9. Navigation System – Specific maps can be downloaded to the display screen (such as air sectional and geographic maps) which are overlaid with GPS positional data. Waypoints can be created before and during flight operation creating specific locations and sequences for the aircraft.
- 3.10. Redundant Systems – The UAS combines the input from a multitude of sensors. Even though the data from all sensors is required for optimal system performance, a single sensor malfunction is likely to result in degraded performance rather than leading to a catastrophic failure.

4. Emergency Procedures and System Failures

- 4.1. Failure Handling – The UAS has extensive failure detection and handling capabilities. All failures are deemed to be either fatal or non-fatal. Failures classified as fatal result in a Fatal Condition Response (FCR); and failures classified as non-fatal result in a Non-Fatal Condition Response (NFCR).
- 4.2. Sensor Failure – Failure of on-board flight instruments/sensors will degrade the UAS performance and will result in either a FCR or a NFCR, depending on their severity. If the UAS becomes unstable due to sensor failure, it will stop all four motors and free fall to avoid a fly away condition.
- 4.3. Motor Failure – The UAS flight performance will degrade significantly if one or more motors fails.
- 4.4. Airframe Failure – If airframe is damaged in ways that impacts flight characteristics, the UAS will behave similar to if an on-board flight instrument failed.
- 4.5. Navigation System Failure – In a navigation system failure, degraded GPS will result in FCR or NFCR ‘s depending on failures.
- 4.6. Power Failure – A complete battery failure which results in power loss to the UAS will result in degraded flight performance.
- 4.7. Low Battery Condition – Operator will be alerted of a low battery condition and will land the aircraft as soon as able.

- 4.8. Low Battery Condition – Operator will be alerted of a low battery condition and will land the aircraft as soon as able.
- 4.9. Line-of-Sight Loss – All flight operations will be conducted with the UAS within visual sight of the pilot. If the pilot’s view becomes obstructed and line-of-sight is lost, the pilot may instruct the UAS to hover in place until line-of-sight is reestablished, to return to the take-off position, or to land at the current position.

5. Security

- 5.1. The system and communication links are encrypted by the manufacturers proprietary software.

6. Operations

- 6.1. Crew Requirements – VDOS Global has named two operators to this inspection program. Both are commercially rated pilots and have years of experience in multiple unmanned systems. Operators will be flight current for both manned and unmanned standards and as well hold a current Class II FAA Medical Certificate along with appropriate flight currency.

- 6.2. Operator roles:

6.2.1.Operator/Pilot in Command (PIC) – For each operation a PIC will be designated, this person will be directly responsible for the operation of the UAS and the safety of the operation. It will be the responsibility of the PIC to ensure the operation complies with applicable regulations and/or ensures professional “best practice” to all applicable regulations.

6.2.2.Observer/back-up Pilot – The Observer will be responsible to visually maintain contact with the UAV and scan the area for undetected aircraft or obstacles. The Observer will also handle the communications between the PIC, external crew, air safety officer and the platform safety officer. The observer will also be a certified and a current system operator and will assume control of the UAS should the PIC become incapacitated.

- 6.2.3.Operator profiles:

6.2.3.1.Seth Johnson, VDOS Global Chief Pilot, FAA Commercial, Multi-Engine Land, CFII #3151458

FAA Multi Engine Land	1266 hours PIC
FAA Single Engine Land	931 hours PIC
AAI Aerosonde	74 hours PIC
Insitu ScanEagle	170 hours PIC
Draganflyer	5. hours PIC

Patrick John Burke, FAA Commercial Single Engine Land #2757553

FAA Single Engine Land	500 hours PIC
Insitu ScanEagle	1700 hours PIC

Maintenance: Operators will hold appropriate maintenance certification for the system provided by the UAS manufacturer.

7. Safety

- 7.1. Safety is priority for this mission. The location and customer demand the utmost attention to safe operations. Several layers of safety management will be implemented for this operation:
- 7.2. Shell Oil Aviation and Operations Standards. All flight operations must meet standards written in the Shell Safety Management System (SMS). Pre-mission operations plans and risk matrixes will be reviewed by Shell before any operation. During operations Shell Safety Officer(s) will be present along with VDOS Global personnel who all have “stop work authority” over the operation.
- 7.3. FAR & ICAO Regulations. This operation will conduct under all applicable FAA and ICAO regulations. While the location and scope of this operation provides exemption from many of the regulations, VDOS Global will ensure operations fall under “best practice” of all appropriate regulations.
- 7.4. VDOS Global Standard Operating Procedures.
 - 7.4.1. VDOS Global Operators will maintain internal company safety practices at all times. These internal regulations are in addition to all applicable FAR, ICAO and Shell standards.
- 7.5. Stop Work Authority. All personnel carry “Stop Work Authority” Card. Printed on these cards is a message from senior leadership that any person, at any time can halt an operation in the name of safety without retribution or concern for their jobs.
- 7.6. Operating Standards – To assure safe operation within close proximity of the structure the SkyRanger will be operated in autonomous mode at all times. Manual operation is only permitted in the case of an emergency procedure as stated in the aircraft operational procedures manual.
 - 7.6.1. Safe Operating Standards
 - 7.6.1.1. Efforts will be in place to ensure that an emergency free fall to the ground will not result to damage or injury to persons or property.
 - 7.6.1.2. The PIC shall be designated for every flight and operations members must comply with PIC instructions or any person whom the PIC has authorized to act on behalf of the PIC.
 - 7.6.1.3. Operations will not occur beyond visual line-of-sight (VLOS) and will be within the inspection region of the platform.
 - 7.6.1.4. The UAS will follow the same right-of-way rules as any manned glider, airplane or helicopter. Since the UAS will be operating within VLOS they shall give way to manned aircraft at all times.
 - 7.6.1.5. The operation will take place only under visual flight conditions and all applicable visual flight rules will be followed.
- 7.7. Site Survey – An on location site survey will be conducted by assigned operators prior to any operation. Site surveys will be coordinated with Shell in advance for access to platforms. The survey will determine (the site survey for the MARS platform was completed on December 11, 2013):
 - 7.7.1. Locations of hazards

- 7.7.2. Location of Launch/Recovery site
- 7.7.3. Location of forward observers
- 7.7.4. Meeting with platform air traffic officer
- 7.7.5. Meeting with platform safety officer
- 7.7.6. Communications/Frequency Deconfliction
- 7.8. NOTAMS – 48 hours prior to an inspection the flight operations team will issue a NOTAMS for these inspection describing the location and approximate times of the operations.

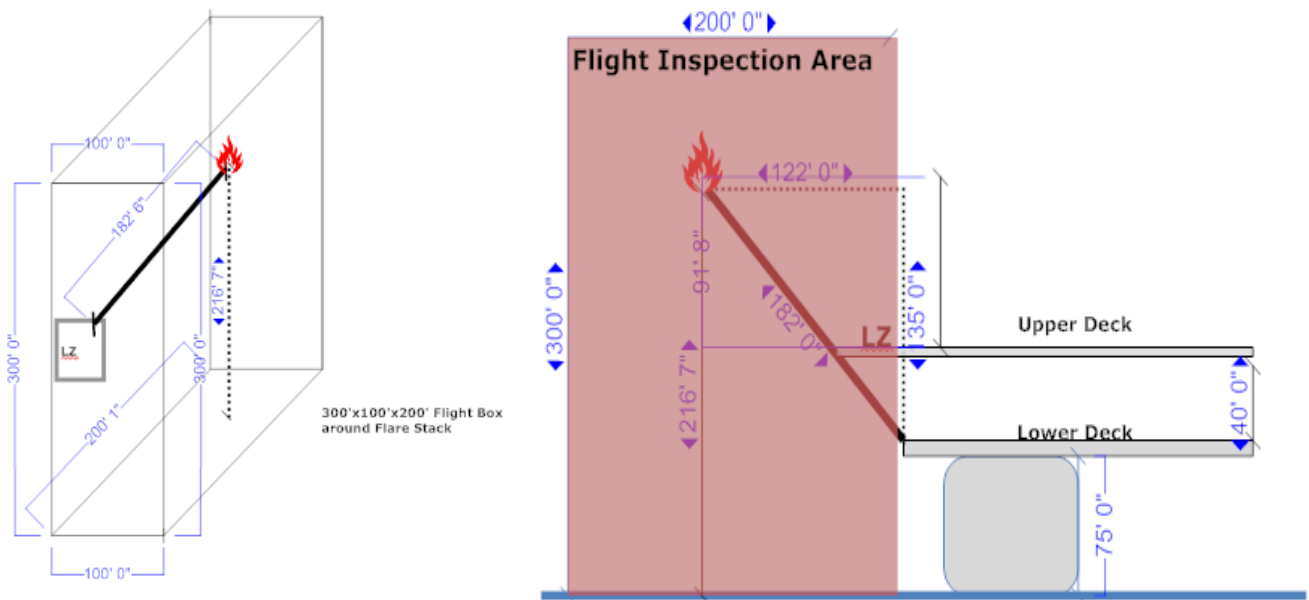
8. Mission Parameters

8.1.1. Dimensions - VDOS Global operators will act inside the surveyed flight Inspection area. These parameters built around the flare stack and will be entered into the mission program of the UAS. This will create a digital flight box for the UAS and a grid system where we can identify the location of the UAS at all times.

8.1.2. Example

8.1.2.1. Operating Altitude – The UAS will operate at or below 300 ft MSL at all times.

8.1.2.2. Lateral Distance – The UAS will stay within 200 ft laterally of the platform at all times.



Notional Production Platform Diagram

8.1.3. Air Traffic Deconfliction – There is a very small volume of air traffic in this region due to the remote locations offshore of these platforms. All air traffic in the area is almost completely limited to helicopter traffic coming to and from the production platform. These helicopter flights are scheduled and in constant communication with platform air traffic officer. Inspections will occur in “dead” period’s in-

between scheduled arrivals and departures. Operators will have aviation band radios with communications to the air officer at all times.

- 8.1.4. Emergency return-to-base – The system will be pre-programmed with an emergency return-to-home waypoint. Should notice be given by an observer or air traffic officer the system will at all times be able to return to land within a five minute period.
- 8.1.5. Observers – The back up PIC will act as the observer and be in communication with the SO and Flight Officer as well as aviation frequencies for the platform.
- 8.1.6. Communication – The operating personnel will have direct communication links to the observers, safety officer and air traffic officer at all times. The SO will handle the communications for the flight operations team. The air traffic officer will have an aviation band radio to communicate with any traffic in the area.

9. Pre-Flight

- 9.1.1. Flight Operations Area – Prior to starting operations, the flight team will ensure
 - 9.1.1.1. Ground Control System is operational
 - 9.1.1.2. Launch/Recovery zone is free and clear of debris
 - 9.1.1.3. Launch/Recovery zone is clearly marked for safety
 - 9.1.1.4. Weather report within 30minutes
 - 9.1.1.5. Airspace dimensions loaded into computer
 - 9.1.1.6. Telemetry playback ready
 - 9.1.1.7. All operations personnel are briefed to the particulars of the Flight Operations Area ensuring a solitary flight environment for operators
 - 9.1.1.8. Weather minimum for operation – Per best practice standards, operations will take place in VFR conditions; no instrument flight is authorized at any time.
- 9.1.2. Pre-Flight Checks – Checklists will be used at all times without exceptions

10. Launch

- 10.1.1. Launch operation will take place at pre-determined LZ. The LZ will be clearly marked as such to ensure safety with ground personnel.
 - 10.1.1.1. Authority to Launch – The system cannot be launched without:
 - 10.1.1.2. Approval from platform safety officer
 - 10.1.1.3. Approval from air traffic officer
 - 10.1.1.4. Approval from Observer
 - 10.1.1.5. After the PIC has received clearance from these sources the PIC will have authority to proceed with the operation.

11. Recovery

11.1.Recovery operation will take place at pre-determined LZ. The LZ will be clearly marked as such to ensure safety with ground personnel.

11.1.1.Authority to Recover – The system cannot be recovered without:

11.1.1.1.Approval from platform safety officer

11.1.1.2.Approval from air traffic officer

11.1.1.3.Approval from the Observer

11.1.1.4.After the PIC has received clearance from these sources the PIC will have authority to proceed with the operation.

11.1.2.Communication – After recovery operation is complete operators will inform air traffic officer and safety officers that the vehicle is safe on deck. Any notification to the airspace control/change of status to any flight plans will be report at this time.

12. Post-mission reporting

12.1.After each operation personnel will create a report summarizing details and telemetry of the flight. These reports will be made available to FAA personnel upon request and will include:

12.2.Launch time

12.3.Recovery time

12.4.Mission duration

12.5.Weather at launch

12.5.1.Ceilings

12.5.2.Winds

12.5.3.Temperature

12.6.Payload used

12.7.Battery used

12.8.Operators

12.9.Mission summary

13. Emergency Management

13.1.Emergencies will be handled in accordance with Shell Platform Emergency Procedures

13.2.Emergency Contact Information

13.2.1.Shell platform Safety Officer – TBA

13.2.2.Original Equipment Manufacturer – TBA

13.2.3.VDOS Global Operations Team – TBA

13.2.4.Local Fire and Medical Dept. – TBA

13.3.Safety Equipment at Operations Site

13.3.1.First Aid Kit

13.3.2.Fire Extinguisher

13.4.Procedure in Event of Incident/Accident

13.4.1.The PIC will take command of the situation until Platform Safety Officer arrives

13.4.2.The PIC will contact the proper emergency services as stated by Platform Safety Officer

13.4.3.The UAS will return to land as soon as able.

13.4.4.The operations team will ensure spectators will remain clear of operations area.

13.4.5.The operations team will shut down all operations gear as required:

13.4.5.1.There is no equipment on the ground station that needs to be urgently shut down.

13.4.5.2.The UAS power should be disconnected as soon as practical, however other actions in this list should take priority

13.4.6.First Aid will be administered as required.

13.4.7.Firefighting will be performed only if it can be safely performed given the equipment available and ability of the personnel or in the event of a life threatening situation. Otherwise firefighting shall wait for proper emergency services. Fire is considered highly unlikely given the size of the UAV and the use of electric motors.

EXHIBIT A - EXEMPTION / WAIVER REQUESTS

VDOS Global LLC is a veteran owned small business located in Corvallis, Oregon. VDOS Global provides turnkey services of manned and unmanned remote sensing systems and data services for commercial, government and humanitarian operations. Our personnel have experience operating unmanned systems globally serving a variety of missions, from government operations to environmental research. With our customers in the oil and gas industries, the VDOS team has supported missions ranging from the Arctic Circle and the Gulf of Mexico, to Haiti and the Middle East.

VDOS is currently working with a large petroleum company to develop the procedures and safety plans to support remote sensing operations on production platforms in the Gulf of Mexico. The purpose of this program is to support enhancing incident response times and improve safety of platform inspections for numerous objectives including, but not limited to:

1. Preventing Mishaps
2. Oil Leak Detection
3. Emergency Response Protocols
4. Oil Spill Prevention
5. "At height" inspections (such as flare tip)
6. Under-platform inspections of areas not previously accessible

The first phase of the development project will be to conduct 12 flare tip inspections on production platforms in the 2014-15 year. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line outside of the ADIZ. VDOS is using a small multi rotor UAV which will launch and recover from the production platform in international water and will not be transitioning to/from any applicable airports, airways or waypoints. The first rig scheduled for inspection is "Mars" which is inside the FIR approximately 40 NM south of the southern tip of Louisiana and over 90 NM from the nearest helicopter base.

Approximate Location of the platforms to be inspected:

1. Auger (27°32'45.4" N, 92°26'35.09" W)
2. Boxer (27°56'48" N, 90°59'48" W)
3. Brazos (28°3'29" N, 95°52'19" W)
4. Brutus (27°47'42" N, 90°38'51" W)
5. Cognac (28°47'27" N, 89°3'23" W)
6. Cougar (2 platforms) location TBD
7. Enchilada (27°52'31" N, 91°59'11" W)
8. Mars (28°10'10.29" N, 89°13'22.35" W)
9. Olympus (28°9'22" N, 89°14'12" W)
10. Perdido (26°07'44" N, 094°53'53" W)
11. Ram-Powell (29°03'52" N, 88°05'30" W)

12. Salsa (27°50'24" N, 91°59'17" W)
13. Ursa (28°09'14" N, 89°06'12" W)
14. West Delta WD-143 (28°39'42" N, 89°33'05" W)

All operations will be conducted with a small quad copter within the confines of the platform. VDOS Global personnel who hold current commercial pilot certificates will be the PICs of the system. These PICs will be trained to the highest level and certified to operate by the unmanned system manufacturer.

It is has been determined that a Certificate of Authorization is not applicable for this operation because:

- a) The operation takes place offshore more than 12 NM from the United States
- b) It is a commercial operation.

Through this program VDOS will establish an inspection program for off shore platforms for safety and environmental services support as well as to develop safety procedures and best practices for such operations.

We are requesting exemptions from the Federal Aviation Regulations so this operation can be commercially completed in accordance to all applicable FARs that would pertain to a small unmanned system. It is our team's hope that through exemption from inapplicable regulations VDOS will be able to provide the United States government and the FAA a source of performance data from the safe and successful conduct of commercial UAS operations . The remote offshore location of this request provides a unique opportunity to further the process of UAS integration into the NAS with strict safety and access controls already in place for the locations of the inspections.

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Regulation	Title and Description	Safety Equivalent
NOTE:	For exemptions that do not apply as the operation is outside of 12 nm from the coast of the United States it is assumed no waiver or exemption is needed per CFR 91.101.	Best practices will be applied under ICAO rules when applicable.
91.9(b)(2)	Civil aircraft flight manual, carried on aircraft	Manual will be carried by operator(s) on ground at control station.
91.9(c)	Civil aircraft marking in accordance with FAR 45	Unmanned system will be marked with serial number and non-government marking.
91.103(b)(1)	Preflight action, use of takeoff and landing distance data	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.103(b)(2)	Preflight action, use of performance data if no flight manual is required	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.105(a)(2)	Flight crewmembers at stations, seat belt fastened	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.109(a)	Flight instruction, dual controls required	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.151(a)(1)	Fuel requirement VFR, day, 30 min.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.151(a)(2)	Fuel requirement VFR, night, 45 min.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.151(b)	Fuel requirement VFR, rotorcraft, 30 min.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.203(a)(1)	Civil aircraft: certifications required, airworthiness certificate on board	Appropriate documentation will be available with operations crew on site.
91.203(a)(2)	Civil aircraft: certifications required, registration certificate on board	Appropriate documentation will be available with operations crew on site.

91.203(b)	Civil aircraft: certifications required, display airworthiness certificate in cabin	Appropriate documentation will be available with operations crew on site.
91.207(a)(2)	Emergency locator transmitters, attached to the airplane	No ELT is available for an unmanned system this size. All operation will be conducted within line of sight to operators to ensure no loss of visual contact
91.211(a)	Supplemental oxygen for flight crew	Does not apply
91.405(a)	Maintenance required, inspection of aircraft	All maintenance of unmanned system will be conducted as specified by the manufacturer. Maintenance will be documented on flight manual which will be in possession of operators at all times.
91.405(b)	Maintenance required, documentation and return to service	All maintenance of unmanned system will be conducted as specified by the manufacturer. Maintenance will be documented on flight manual which will be in possession of operators at all times.
91.407(a)(1)	Operation after maintenance, return to service by appropriate person	All maintenance of unmanned system will be conducted as specified by the manufacturer. Maintenance will be documented on flight manual which will be in possession of operators at all times.
91.409(a)(1)	Inspections, annual, within preceding 12 months	No flight instruction for hire will be performed.
91.409(b)	Inspections, 100 hour, if flight instruction for hire is provided	All maintenance of unmanned system will be conducted as specified by the manufacturer. Maintenance will be documented on flight manual which will be in possession of operators at all times.
91.417(a)	Maintenance records to be maintained by owner or operator	All maintenance of unmanned system will be conducted as specified by the manufacturer. Maintenance will be documented on flight manual which will be in possession of operators at all times.

FAR 91 REGULATIONS WHICH MAY REQUIRE WAIVER		Safety Equivalent
NOTE:	For exemptions that do not apply as the operation is outside of 12 nm from the coast of the United States it is assumed no waiver or exemption is needed per CFR 91.101.	Best practices will be applied under ICAO rules when applicable.
NOTE: SUBPART J - Waivers	Administrator may issue a certificate of waiver authorizing the operation of aircraft in deviation from any rule listed in this subpart if the administrator finds that the proposed operation can be safely conducted under the terms of the certificate of waiver.	
NOTE: SUBPART B	91.101 Subpart B prescribes flight rules governing the operation of aircraft within the United States and within 12 nautical miles from the coast of the United States 91.101-91.199	Applicability is for aircraft operated within 12 nm of the coast of the United States. <u>For these operations, all aircraft are operated outside of the 12nm zone.</u>
91.107	Use of safety belts.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.111	Operating near other aircraft.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.113	Right-of-way rules: Except water operations.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.115	Right-of-way rules: Water operations.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.117	Aircraft speed.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.119	Minimum safe altitudes: General.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.

91.121	Altimeter settings.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.123	Compliance with ATC clearances and instructions.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.125	ATC light signals.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.126	Operating on or in the vicinity of an airport in Class G airspace.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.127	Operating on or in the vicinity of an airport in Class E airspace.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.129	Operations in Class D airspace.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.13	Operations in Class C airspace	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.131	Operations in Class B airspace	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.133	Restricted and prohibited areas	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.135	operations in Class A airspace	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.137	Temporary Flight Restrictions	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.141	Flight restrictions in the proximity of the Presidential and other parties.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.143	Flight limitation in the proximity of space flight operations.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.

91.153	VFR flight plan: Information required.	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.155	Basic VFR weather minimums	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.157	Special VFR weather minimums	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.159	VFR cruising altitude or flight level	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.169	IFR flight plan: information required	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.173	ATC clearance and flight plan required	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.175	Takeoff and landing under IFR	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.177	Minimum altitude for IR operations	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.179	IFR cruising altitude or flight level	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.181	Course to be flown	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.183	IFR radio communications	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.185	IFR operations: two0way radio communications failure	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.
91.187	Operation under IFR in controlled airspace: Malfunction reports	Per CFR 91.101 this is not applicable due to operating outside of 12 nm from the coast of the United States.

91.209	Aircraft lights	No flights will occur from sunset to sunrise
91.303	Aerobatic flights	Does Not Apply
91.305	Flight test areas	Does Not Apply
91.311	Towing: Other than under 91.309	Does Not Apply
91.313 e	Restricted category civil aircraft: Operating limitations	Aircraft will be operated within safety guidelines put forth by platform supervisor and will not directly hover over any person
91.515	Flight altitude rules	Aircraft will only operate with VFR weather minimums
91.705	Operations within the north Atlantic minimum navigation performance specifications airspace	Does Not Apply
91.707	Flights between Mexico or Canada and the United States	Does Not Apply
91.713	Operation of civil aircraft of Cuban Registry	Does Not Apply

The specific section or sections of 14 CFR from which you seek an exemption;

91.9(b)(2) Civil aircraft flight manual, carried on aircraft.

The extent of relief you seek, and the reason you seek the relief;

- VDOS Global requests exemption from this regulation for a two year period, and only while under operation at stated offshore production platforms.
- The reason relief is requested in this case is because due to the nature of the unmanned aircraft the flight manual cannot be carried on the aircraft.

The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole;

- Performing these inspections with unmanned systems beneficial to the public interest in several ways:

Performing these inspections with unmanned systems is a benefit to the public interest in several ways:

- (1) The operation significantly improves safety and reduces risk by alleviating human exposure to danger.
- (2) There is a compelling need to improve such inspection processes and save operating costs.
- (3) This service can provide a means of environmental monitoring during inspections. These unmanned inspections will aid in documenting and ensuring the structure emissions process is working properly and that harmful gases are not being released into the environment.
- (4) VDOS Global LLC is prepared to share operational data with the FAA..

The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek the exemption;

- The UAS PIC will have the aircraft flight manual flight manual accessible at the control station as required by 91.9 (b)(2).

A summary we can publish in the Federal Register, stating:

(1) The rule from which you seek the exemption; and

(2) A brief description of the nature of the exemption you seek;

- VDOS Global is requesting a two year exemption from *14 CFR 91.9 (b)(2) Civil aircraft flight manual, carried on aircraft*. The purpose of this exemption request is for the operation of small unmanned vertical lift systems to conduct “at height” oil production platform inspections.. The UAS is not able to carry an aircraft flight manual as the regulation states. VDOS requests exemption from this rule and will ensure that the flight manual for the system is immediately available to the PIC of the system as a part of the control station. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line and outside of the ADIZ. The system will launch and recover from the production platform and therefore will not be transitioning to/from any applicable airports, airways or waypoints.

Any additional information, views or arguments available to support your request; and

- VDOS Global will make this project beneficial for the FAA and our customer. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to a small unmanned systems, our team

hopes to provide a professional example that can be used to benefit both the manned and unmanned domestic aviation industries.

If you want to exercise the privileges of your exemption outside the United States, the reason why you need to do so.

- The inspections will take place on production platforms offshore in the Gulf of Mexico outside of the ADIZ. For the purposes of transparency with the FAA VDOS intends to follow all applicable regulations even though the operations will occur outside of United States domestic airspace.

The specific section or sections of 14 CFR from which you seek an exemption;

91.9 (c) Civil aircraft marking in accordance with FAR 45.

The extent of relief you seek, and the reason you seek the relief;

- VDOS Global requests exemption from this regulation for a two year period, and only while under operation at stated offshore production platforms.
- The reason relief is requested with this exemption request is to due to the use of an unmanned aircraft and the lack of a current unmanned aircraft classification system to properly mark the aircraft in accordance with 91.9 (c).

The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole;

Performing these inspections with unmanned systems is a benefit to the public interest in several ways:

- (1) The operation significantly improves safety and reduces risk by alleviating human exposure to danger.
- (2) There is a compelling need to improve such inspection processes and save operating costs.
- (3) This service can provide a means of environmental monitoring during inspections. These unmanned inspections will aid in documenting and ensuring the structure emissions process is working properly and that harmful gases are not being released into the environment.
- (4) VDOS Global LLC is prepared to share operational data with the FAA.

The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek the exemption;

- Official marking systems for small UAS have not yet been established for operations inside the NAS. VDOS is prepared to mark the inspection system with the name of the organization and location or origin and fulfill any other request by the FAA to this topic.

A summary we can publish in the Federal Register, stating:

- (1) The rule from which you seek the exemption; and
- (2) A brief description of the nature of the exemption you seek;

- VDOS Global is requesting a two year exemption from *14 CFR 91.9 (c) Civil aircraft marking in accordance with FAR 45*. The purpose of this exemption request is for the operation of small unmanned vertical lift systems to

conduct at height oil production platform inspections. UAS do not have regulatory markings in compliance with 14 CFR 45.23 and 14 CFR 45.27 at this time. VDOS will ensure the the system is marked with organization and origin data and will conform to any requests of marking by the FAA. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line and outside of the ADIZ. The system will launch and recover from the production platform and therefore will not be transitioning to/from any applicable airports, airways or waypoints.

Any additional information, views or arguments available to support your request; and

- VDOS Global will make this project beneficial for the FAA and our customer. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to small UAS, our team hopes to provide a professional example that can be used to benefit both the manned and unmanned domestic aviation industries.

If you want to exercise the privileges of your exemption outside the United States, the reason why you need to do so.

- The inspections will take place on production platforms offshore in the Gulf of Mexico outside of the ADIZ. For the purposes of transparency with the FAA this organization intends to follow all applicable regulations even though the operations will occur outside of United States domestic airspace.

The specific section or sections of 14 CFR from which you seek an exemption;

91.203(a)(1) Civil aircraft: certifications required, airworthiness certificate on board

The extent of relief you seek, and the reason you seek the relief;

- VDOS Global requests exemption from this regulation for a two year period, and only while under operation at stated offshore production platforms.

The reason relief is requested in this case is because due to the nature of the unmanned aircraft;

1. The appropriate airworthiness certificate doesn't exist for this unmanned system.
2. The certificate cannot be displayed in the aircraft.

The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole;

Performing these inspections with unmanned systems is a benefit to the public interest in several ways:

- (1) The operation significantly improves safety and reduces risk by alleviating human exposure to danger.
- (2) There is a compelling need to improve such inspection processes and save operating costs.
- (3) This service can provide a means of environmental monitoring during inspections. These unmanned inspections will aid in documenting and ensuring the structure emissions process is working properly and that harmful gases are not being released into the environment.
- (4) VDOS Global LLC is prepared to share operational data with the FAA.

The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek the exemption;

- Official airworthiness for small UAS have not yet been established for operations inside the NAS. VDOS is prepared to apply for special waiver via Section 333 and all documentation will be carried and displayed by UAS PIC(s) at the control station.

A summary we can publish in the Federal Register, stating:

- (1) The rule from which you seek the exemption; and
 - (2) A brief description of the nature of the exemption you seek;
- VDOS Global is requesting a two year exemption from 14 CFR 91.203(a)(1) *Civil aircraft: certifications required, airworthiness certificate on board*. The purpose of this exemption request is for the operation of small unmanned vertical lift systems to conduct at height oil production platform inspections. The UAS has not been granted an airworthiness certificate. VDOS will ensure compliance with any requests for certification by the FAA. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line and outside of the ADIZ. The system will launch and recover from the production platform and therefore will not be transitioning to/from any applicable airports, airways or waypoints.

Any additional information, views or arguments available to support your request; and

- VDOS Global will make this project beneficial for the FAA and our customer. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to small unmanned systems, our team hopes to provide a professional example that can be used to benefit both the manned and unmanned domestic aviation industries.

If you want to exercise the privileges of your exemption outside the United States, the reason why you need to do so.

- The inspections will take place on production platforms offshore in the Gulf of Mexico outside of the ADIZ. For the purposes of transparency with the FAA this organization intends to follow all applicable regulations.

The specific section or sections of 14 CFR from which you seek an exemption;

91.9(b)(2) Civil aircraft flight manual, carried on aircraft.

The extent of relief you seek, and the reason you seek the relief;

- VDOS Global requests exemption from this regulation for a two year period, and only while under operation at stated offshore production platforms.
- The reason relief is requested in this case is because due to the nature of the unmanned aircraft the flight manual cannot be carried on the aircraft.

The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole;

- (1) The operation significantly improves safety and reduces risk by alleviating human exposure to danger.
- (2) There is a compelling need to improve such inspection processes and save operating costs.

(3) This service can provide a means of environmental monitoring during inspections. These unmanned inspections will aid in documenting and ensuring the structure emissions process is working properly and that harmful gases are not being released into the environment.

(4) VDOS Global LLC is prepared to share operational data with the FAA.

The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek the exemption;

- The UAS PIC will have the aircraft flight manual flight manual accessible at the control station as required by 91.9 (b)(2).

A summary we can publish in the Federal Register, stating:

(1) The rule from which you seek the exemption; and

(2) A brief description of the nature of the exemption you seek;

- VDOS Global is requesting a two year exemption from *FAR 91.9 (b)(2) Civil aircraft flight manual, carried on aircraft*. The purpose of this exemption request is for the operation of small unmanned vertical lift systems to conduct at height oil production platform inspections. The UAS is not able to carry an aircraft flight manual as the regulation states. VDOS requests exemption from this rule and will ensure that the flight manual for the system is immediately available to the PIC of the system as a part of the control station. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line and outside of the ADIZ. The system will launch and recover from the production platform and therefore will not be transitioning to/from any applicable airports, airways or waypoints.

Any additional information, views or arguments available to support your request; and

- VDOS Global will make this project beneficial for the FAA and our customer. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to a small unmanned systems, our team hopes to provide a professional example that can be used to benefit both the manned and unmanned domestic aviation industries.

If you want to exercise the privileges of your exemption outside the United States, the reason why you need to do so.

- The inspections will take place on production platforms offshore in the Gulf of Mexico outside of the ADIZ. For the purposes of transparency with the FAA this organization intends to follow all applicable regulations even though the operations will occur outside of United States domestic airspace.

The specific section or sections of 14 CFR from which you seek an exemption;

91.9(c) Civil aircraft marking in accordance with FAR 45.

The extent of relief you seek, and the reason you seek the relief;

- VDOS Global requests exemption from this regulation for a two year period, and only while under operation at stated offshore production platforms.

- The reason relief is requested with this exemption request is to due to the use of an unmanned aircraft and the lack of a current unmanned aircraft classification system to properly mark the aircraft in accordance with 91.9 (c).

The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole;

- (1) The operation significantly improves safety and reduces risk by alleviating human exposure to danger.
- (2) There is a compelling need to improve such inspection processes and save operating costs.
- (3) This service can provide a means of environmental monitoring during inspections. These unmanned inspections will aid in documenting and ensuring the structure emissions process is working properly and that harmful gases are not being released into the environment.
- (4) VDOS Global LLC is prepared to share operational data with the FAA.

The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek the exemption;

- The OEM provides certification of airworthiness assuring testing and internal certification of the asset. These documents will be with the PIC and as a part of the control station during all periods of operation. All OEM specified pre-flight checks will be completed prior to flight to ensure safety.

A summary we can publish in the Federal Register, stating:

- (1) The rule from which you seek the exemption; and
 - (2) A brief description of the nature of the exemption you seek;
- VDOS Global is requesting an operational exemption from *14 CFR 91.9(c) Civil aircraft marking in accordance with FAR 45*. The purpose of this exemption request is for the operation of small unmanned vertical lift systems to conduct at height oil production platform inspections. The UAS that will be conducting inspections for this program is unable to carry the certificate as specified in this regulation. Further, the system has not been granted an FAA airworthiness certificate. All required documentation will be carried and displayed by PICs at the control station. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line and outside of the ADIZ. The system will launch and recover from the production platform and therefore will not be transitioning to/from any applicable airports, airways or waypoints.

Any additional information, views or arguments available to support your request; and

- VDOS Global will make this project beneficial for the FAA and our customer. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to a small unmanned systems, our team hopes to provide a professional example that can be used to benefit both the manned and unmanned domestic aviation industries.

If you want to exercise the privileges of your exemption outside the United States, the reason why you need to do so.

- The inspections will take place on production platforms offshore in the Gulf of Mexico outside of the ADIZ. For the purposes of transparency with the FAA this organization intends to follow all applicable regulations even though the operations will occur outside of United States domestic airspace.

The specific section or sections of 14 CFR from which you seek an exemption;

91.203(a)(2) Civil aircraft: certifications required, registration certificate on board.

The extent of relief you seek, and the reason you seek the relief;

- VDOS Global requests exemption from this regulation for a two year period, and only while under operation at stated offshore production platforms.
- The reason relief is requested in this case is because due to the nature of the unmanned aircraft the registration certificate does not exist and therefore can not be carried on the aircraft.

The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole;

- (1) The operation significantly improves safety and reduces risk by alleviating human exposure to danger.
- (2) There is a compelling need to improve such inspection processes and save operating costs.
- (3) This service can provide a means of environmental monitoring during inspections. These unmanned inspections will aid in documenting and ensuring the structure emissions process is working properly and that harmful gases are not being released into the environment.
- (4) VDOS Global LLC is prepared to share operational data with the FAA.

The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek the exemption;

- The manufacturer, VDOS Global and the platform owner will determine and ensure the aircraft is safe for flight before any operations are conducted. VDOS Global will provide operational data to the FAA, and will also comply to any specific requests regarding registration.

A summary we can publish in the Federal Register, stating:

- (1) The rule from which you seek the exemption; and
 - (2) A brief description of the nature of the exemption you seek;
- VDOS Global is requesting an operational exemption from *14 CFR 91.203(a)(2) Civil aircraft: certifications required, registration certificate on board*. The purpose of this exemption request is for the operation of small unmanned vertical lift systems to conduct at height oil production platform inspections. The small UAS that will be conducting inspections for this program are unable to carry the certificate as specified in this regulation. Further, the system has not been granted an FAA registration certificate. All required documentation will be carried and displayed by PICs at the control station. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line and outside of the ADIZ. The system will launch and recover from the production platform and therefore will not be transitioning to/from any applicable airports, airways or waypoints. Any additional information, views or arguments available to support your request; and

- VDOS Global will make this project beneficial for the FAA and our customer. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to a small unmanned systems, our team hopes to provide a professional example that can be used to benefit both the manned and unmanned domestic aviation industries.

If you want to exercise the privileges of your exemption outside the United States, the reason why you need to do so.

- The inspections will take place on production platforms offshore in the Gulf of Mexico outside of the ADIZ. For the purposes of transparency with the FAA this organization intends to follow all applicable regulations even though the operations will occur outside of United States domestic airspace.

The specific section or sections of 14 CFR from which you seek an exemption;

91.203(b) Civil aircraft: certifications required, display airworthiness certificate in cabin

The extent of relief you seek, and the reason you seek the relief;

- VDOS Global requests exemption from this regulation for a two year period, and only while under operation at stated offshore production platforms.
- The reason relief is requested with this exemption is due to the nature of the unmanned aircraft the airworthiness certificate cannot be carried on the aircraft during operation.

The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole;

- (1) The operation significantly improves safety and reduces risk by alleviating human exposure to danger.
- (2) There is a compelling need to improve such inspection processes and save operating costs.
- (3) This service can provide a means of environmental monitoring during inspections. These unmanned inspections will aid in documenting and ensuring the structure emissions process is working properly and that harmful gases are not being released into the environment.
- (4) VDOS Global LLC is prepared to share operational data with the FAA.

The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek the exemption;

- The OEM provides certification of airworthiness assuring testing and internal certification of the asset. These documents will be with the PIC and as a part of the control station during all periods of operation. All OEM specified pre-flight checks will be completed prior to flight to ensure safety.

A summary we can publish in the Federal Register, stating:

- (1) The rule from which you seek the exemption; and
 - (2) A brief description of the nature of the exemption you seek;
- VDOS Global is requesting an operational exemption from *14 CFR 91.203(b) Civil aircraft: certifications required, display airworthiness certificate in cabin*. The purpose of this exemption request is for the operation of small unmanned vertical lift systems to conduct at height oil production platform inspections. The small UAS that will be conducting inspections for this program are unable to carry the certificate as specified in this regulation.

Further, the system has not been granted an FAA registration certificate. All required documentation will be carried and displayed by PICs at the control station. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line and outside of the ADIZ. The system will launch and recover from the production platform and therefore will not be transitioning to/from any applicable airports, airways or waypoints.

Any additional information, views or arguments available to support your request; and

- VDOS Global will make this project beneficial for the FAA and our customer. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to a small unmanned systems, our team hopes to provide a professional example that can be used to benefit both the manned and unmanned domestic aviation industries.

If you want to exercise the privileges of your exemption outside the United States, the reason why you need to do so.

- The inspections will take place on production platforms offshore in the Gulf of Mexico outside of the ADIZ. For the purposes of transparency with the FAA this organization intends to follow all applicable regulations even though the operations will occur outside of United States domestic airspace.

The specific section or sections of 14 CFR from which you seek an exemption;

91.207(a)(2) Emergency locator transmitters, attached to the airplane

The extent of relief you seek, and the reason you seek the relief;

- VDOS Global requests exemption from this regulation for a two year period, and only while under operation at stated offshore production platforms.
- The reason relief is requested in this case is because due to the nature of the small size and the available power of the unmanned aircraft an emergency locator transmitter cannot be added to the system.

The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole;

- (1) The operation significantly improves safety and reduces risk by alleviating human exposure to danger.
- (2) There is a compelling need to improve such inspection processes and save operating costs.
- (3) This service can provide a means of environmental monitoring during inspections. These unmanned inspections will aid in documenting and ensuring the structure emissions process is working properly and that harmful gases are not being released into the environment.
- (4) VDOS Global LLC is prepared to share operational data with the FAA.

The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek the exemption;

- The operation will be conducted within line of sight of the PIC and observer(s). Should communications with the system be lost, the aircraft has a lost link protocol that returns it to a pre-planned waypoint. Its GPS location is saved at all times within the aircrafts recorded telemetry. With these measures in place the location of the aircraft will be known at all times and should a mishap occur the aircraft will be immediately accounted for.

A summary we can publish in the Federal Register, stating:

(1) The rule from which you seek the exemption; and

(2) A brief description of the nature of the exemption you seek;

- VDOS Global is requesting an operational exemption from *14 CFR 91.207(a)(2) Emergency . locator transmitters, attached to the airplane*. The purpose of this exemption request is for the operation of small unmanned vertical lift systems to conduct at height oil production platform inspections. The small UAS that will be conducting inspections for this program are unable to carry an ELT as specified in this regulation. The operation will be conducted in its entirety within line of sight of the PIC and observer(s). Should communications with the system be lost, the aircraft has a lost link protocol that returns it to a pre-planned waypoint. Its GPS locations are saved at all times within aircrafts recorded telemetry. With these measures in place the location of the aircraft will be known at all times and should a mishap occur the aircraft will be immediately accounted for. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line and outside of the ADIZ. The system will launch and recover from the production platform and therefore will not be transitioning to/from any applicable airports, airways or waypoints.

Any additional information, views or arguments available to support your request; and

- VDOS Global will make this project beneficial for the FAA and our customer. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to a small unmanned systems, our team hopes to provide a professional example that can be used to benefit both the manned and unmanned domestic aviation industries.

If you want to exercise the privileges of your exemption outside the United States, the reason why you need to do so.

- The inspections will take place on production platforms offshore in the Gulf of Mexico outside of the ADIZ. For the purposes of transparency with the FAA this organization intends to follow all applicable regulations even though the operations will occur outside of United States domestic airspace.

The specific section or sections of 14 CFR from which you seek an exemption;

91.405(a) Maintenance required, inspection of aircraft.

The extent of relief you seek, and the reason you seek the relief;

- VDOS Global requests exemption from this regulation for a two year period, and only while under operation at stated offshore production platforms.
- The reason relief is requested with this exemption for applicable regulation under 14 CFR 43 and 14 CFR 91.

The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole;

- (1) The operation significantly improves safety and reduces risk by alleviating human exposure to danger.
- (2) There is a compelling need to improve such inspection processes and save operating costs.

(3) This service can provide a means of environmental monitoring during inspections. These unmanned inspections will aid in documenting and ensuring the structure emissions process is working properly and that harmful gases are not being released into the environment.

(4) VDOS Global LLC is prepared to share operational data with the FAA.

The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek the exemption;

- The OEM defines the maintenance requirements for the unmanned aircraft. Per those requirements, VDOS Global will ensure that OEM qualified maintainers are performing all inspections to OEM standards. No operations will take place without required inspections and maintenance items being completed. All inspections and maintenance action items will be documented in aircraft logs, which are to be made available upon request.

A summary we can publish in the Federal Register, stating:

(1) The rule from which you seek the exemption; and

(2) A brief description of the nature of the exemption you seek;

- VDOS Global is requesting an operational exemption from 14 CFR 91.405(a) Maintenance required, inspection of aircraft. The purpose of this exemption request is for the operation of small unmanned vertical lift systems to conduct at height oil production platform inspections. The small unmanned systems that will be operating the inspections are not US registered civil aircraft, and therefore subject to 14 CFR 91.405 inspection requirements. VDOS will however employ a maintenance and quality assurance program which meets or exceeds applicable regulatory standards for US registered aircraft. No operations will take place without required inspections and maintenance items being completed. All inspections and maintenance action items will be documented in aircraft logs, which will be made available upon request and kept with the control station equipment during all operations. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line and outside of the ADIZ. The system will launch and recover from the production platform and therefore will not be transitioning to/from any applicable airports, airways or waypoints.

Any additional information, views or arguments available to support your request;

- VDOS Global will make this project beneficial for the FAA and our customer. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to a small unmanned systems, our team hopes to provide a professional example that can be used to benefit both the manned and unmanned domestic aviation industries.

If you want to exercise the privileges of your exemption outside the United States, the reason why you need to do so.

- The inspections will take place on production platforms offshore in the Gulf of Mexico outside of the ADIZ. For the purposes of transparency with the FAA this organization intends to follow all applicable regulations even though technically the operations will occur outside of the United States.

The specific section or sections of 14 CFR from which you seek an exemption;

91.405(b) Maintenance required, documentation and return to service.

The extent of relief you seek, and the reason you seek the relief;

- VDOS Global requests exemption from this regulation for a two year period, and only while under operation at stated offshore production platforms.
- The reason relief is requested in this case is because due to the nature of the unmanned aircraft being used a maintenance program in line with existing FARs does not exist at this time.

The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole;

- (1) The operation significantly improves safety and reduces risk by alleviating human exposure to danger.
- (2) There is a compelling need to improve such inspection processes and save operating costs.
- (3) This service can provide a means of environmental monitoring during inspections. These unmanned inspections will aid in documenting and ensuring the structure emissions process is working properly and that harmful gases are not being released into the environment.
- (4) VDOS Global LLC is prepared to share operational data with the FAA.

The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek the exemption;

- The OEM defines the maintenance requirements for the unmanned aircraft. Per those requirements, VDOS Global will ensure that OEM qualified maintainers are performing all inspections to precise OEM standards. No operations will take place without required inspections and maintenance items being completed. Further, all inspections and maintenance action items will be documented in aircraft logs and communicated to OEM as required. Aircraft and maintenance logbooks will be made available upon official request.

A summary we can publish in the Federal Register, stating:

- (1) The rule from which you seek the exemption; and
 - (2) A brief description of the nature of the exemption you seek;
- VDOS Global is requesting an operational exemption from *14 CFR 91.405(b) Maintenance required, documentation and return to service*. The purpose of this exemption request is for the operation of small unmanned vertical lift systems to conduct at height oil production platform inspections. The small unmanned system that will be operating flare stack inspections for this program are not US registered civil aircraft, and therefore existing maintenance inspection regulations are not applicable. VDOS Global will employ a maintenance and quality assurance program which meets or exceeds applicable FAA maintenance requirement for US registered civil aircraft. VDOS will ensure that OEM qualified maintainers perform all inspections to OEM standards. No operations will take place without required inspections and maintenance items being completed. Further all inspections and maintenance action items will be documented in aircraft logs, which will be made available upon request. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line and outside of the ADIZ The system will launch and recover from the production platform and therefore will not be transitioning to/from any applicable airports, airways or waypoints.

Any additional information, views or arguments available to support your request; and

- VDOS Global will make this project beneficial for the FAA and our customer. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to a small unmanned systems, our team hopes to provide a professional example that can be used to benefit both the manned and unmanned domestic aviation industries.

If you want to exercise the privileges of your exemption outside the United States, the reason why you need to do so.

- The inspections will take place on production platforms offshore in the Gulf of Mexico outside of the ADIZ. For the purposes of transparency with the FAA this organization intends to follow all applicable regulations even though technically the operations will occur outside of the United States.

The specific section or sections of 14 CFR from which you seek an exemption;

91.407(a)(1) Operation after maintenance, return to service by appropriate person

The extent of relief you seek, and the reason you seek the relief;

- VDOS Global requests exemption from this regulation for a two year period, and only while under operation at stated offshore production platforms.
- The reason relief is requested in this case is because the UAS employed in this operation are not US registered civil aircraft, and therefore maintenance regulations under 14 CFR 91 are not applicable.

The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole;

- (1) The operation significantly improves safety and reduces risk by alleviating human exposure to danger.
- (2) There is a compelling need to improve such inspection processes and save operating costs.
- (3) This service can provide a means of environmental monitoring during inspections. These unmanned inspections will aid in documenting and ensuring the structure emissions process is working properly and that harmful gases are not being released into the environment.
- (4) VDOS Global LLC is prepared to share operational data with the FAA.

The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek the exemption;

- A designed official certified by the FAA to have maintenance signature authority does not exist. The OEM defines the maintenance requirements to the unmanned aircraft. Per those requirements, VDOS Global will ensure that OEM qualified maintainers are performing all inspections to precise OEM standards. No operations will take place without required inspections and maintenance items being completed. Further all inspections and maintenance action items will be documented in aircraft logs, communicated to OEM as required and finally will be made available upon request.

A summary we can publish in the Federal Register, stating:

- (1) The rule from which you seek the exemption; and
- (2) A brief description of the nature of the exemption you seek;

- VDOS Global is requesting an operational exemption from *14 CFR 91.407(a)(1) Operation after maintenance, return to service by appropriate person requires a certified official designate the aircraft safe to return to service.* The purpose of this exemption request is for the operation of small unmanned vertical lift systems to conduct at height oil production platform inspections. The small unmanned system that will be operating flare stack inspections for this program are not US registered civil aircraft, and therefore existing maintenance inspection regulations are not applicable. VDOS Global will employ a maintenance and quality assurance program which meets or exceeds applicable FAA maintenance requirement for US registered civil aircraft. VDOS will ensure that OEM qualified maintainers perform all inspections to OEM standards. No operations will take place without required inspections and maintenance items being completed. Further, all inspections and maintenance action items will be documented in aircraft logs, which will be made available upon request. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line and outside of the ADIZ. The system will launch and recover from the production platform and therefore will not be transitioning to/from any applicable airports, airways or waypoints.

Any additional information, views or arguments available to support your request; and

- VDOS Global will make this project beneficial for the FAA and our customer. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to a small unmanned systems, our team hopes to provide a professional example that can be used to benefit both the manned and unmanned domestic aviation industries.

If you want to exercise the privileges of your exemption outside the United States, the reason why you need to do so.

- The inspections will take place on production platforms offshore in the Gulf of Mexico outside of the ADIZ. For the purposes of transparency with the FAA this organization intends to follow all applicable regulations even though technically the operations will occur outside of the United States.

The specific section or sections of 14 CFR from which you seek an exemption;

91.409(a)(1) Inspections, annual, within preceding 12 months

The extent of relief you seek, and the reason you seek the relief;

- VDOS Global requests exemption from this regulation for a two year period, and only while under operation at stated offshore production platforms.
- The reason relief is requested in this case is because the small unmanned systems employed for this inspection program are not US registered civil aircraft, and therefore 14 CFR 91 maintenance requirements are not applicable.

The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole;

- (1) The operation significantly improves safety and reduces risk by alleviating human exposure to danger.
- (2) There is a compelling need to improve such inspection processes and save operating costs.

(3) This service can provide a means of environmental monitoring during inspections. These unmanned inspections will aid in documenting and ensuring the structure emissions process is working properly and that harmful gases are not being released into the environment.

(4) VDOS Global LLC is prepared to share operational data with the FAA.

The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek the exemption;

- Although the UAS employed for this inspection program are not US registered civil aircraft, VDOS Global will establish an inspection program which meets or exceeds all inspection requirements for a US registered civil aircraft. OEM certified aircraft maintenance personnel will perform all inspections. Scheduled hourly, daily, and annual inspections will be conducted according to VDOS Global procedures and OEM requirements. All inspections and maintenance actions will be documented in aircraft log books. Aircraft maintenance records will be made available to the FAA upon request.

A summary we can publish in the Federal Register, stating:

(1) The rule from which you seek the exemption; and

(2) A brief description of the nature of the exemption you seek;

- VDOS Global is requesting an operational exemption from *14 CFR 91.409(a)(1) Inspections, annual, within preceding 12 months*. The purpose of this exemption request is for the operation of small unmanned vertical lift systems to conduct at height oil production platform inspections. The reason relief is requested in this case is because the small unmanned system that will be operating flare stack inspections for this program are not US registered civil aircraft, and therefore existing maintenance inspection regulations are not applicable. VDOS Global will employ a maintenance and quality assurance program which meets or exceeds applicable FAA maintenance requirements for US registered civil aircraft, to include an annual inspection requirement. VDOS will ensure that OEM qualified maintainers perform all inspections to OEM standards. No operations will take place without required inspections and maintenance items being completed. Further, all inspections and maintenance action items will be documented in aircraft logs, which will be made available upon request. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line and outside of the ADIZ. The system will launch and recover from the production platform and therefore will not be transitioning to/from any applicable airports, airways or waypoints.

Any additional information, views or arguments available to support your request; and

- VDOS Global will make this project beneficial for the FAA and our customer. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to a small unmanned systems, our team hopes to provide a professional example that can be used to benefit both the manned and unmanned domestic aviation industries.

If you want to exercise the privileges of your exemption outside the United States, the reason why you need to do so.

- The inspections will take place on production platforms offshore in the Gulf of Mexico outside of the ADIZ. For the purposes of transparency with the FAA this organization intends to follow all applicable regulations even though technically the operations will occur outside of the United States.

The specific section or sections of 14 CFR from which you seek an exemption;

91.417(a) Maintenance records to be maintained by owner or operator

The extent of relief you seek, and the reason you seek the relief;

- VDOS Global requests exemption from this regulation for a two year period, and only while under operation at stated offshore production platforms.
- The reason relief is requested in this case is because the unmanned systems employed for this inspection program are not US registered civil aircraft, and therefore 14 CFR 91 regulations do not apply.

The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole;

- (1) The operation significantly improves safety and reduces risk by alleviating human exposure to danger.
- (2) There is a compelling need to improve such inspection processes and save operating costs.
- (3) This service can provide a means of environmental monitoring during inspections. These unmanned inspections will aid in documenting and ensuring the structure emissions process is working properly and that harmful gases are not being released into the environment.
- (4) VDOS Global LLC is prepared to share operational data with the FAA.

The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek the exemption;

- A designed official certified by the FAA to have maintenance signature authority does not exist. The OEM defines the maintenance requirements for the unmanned aircraft. Per those requirements, VDOS Global will ensure that OEM qualified maintainers are performing all inspections to precise OEM standards. No operations will take place without required inspections and maintenance items being completed. Further, all inspections and maintenance action items will be documented in aircraft logs, communicated to OEM as required and finally will be made available upon request. Logs will be carried by operators and will be able to present during operations.

A summary we can publish in the Federal Register, stating:

- (1) The rule from which you seek the exemption; and
 - (2) A brief description of the nature of the exemption you seek;
- VDOS Global is requesting an operational exemption from *14 CFR 91.417(a) Maintenance records to be maintained by owner or operator requires a certified official designate the aircraft safe to return to service*. The purpose of this exemption request is for the operation of small unmanned vertical lift systems to conduct at height oil production platform inspections. The small unmanned system that will be operating flare stack inspections for this program have no existing maintenance inspection regulations and no official signature authorities except for that which has been defined by the unmanned system OEM. Per those requirements, VDOS Global will ensure that OEM qualified maintainers are performing all inspections to OEM standards. No

operations will take place without required inspections and maintenance items being completed. Further, all inspections and maintenance action items will be documented in aircraft logs, communicated to OEM as required, and will be made available upon request. These inspections will occur offshore in the Gulf of Mexico, further than 12 NM from the coast line and outside of the ADIZ. The system will launch and recover from the production platform and therefore will not be transitioning to/from any applicable airports, airways or waypoints.

Any additional information, views or arguments available to support your request; and

- VDOS Global will make this project beneficial for the FAA and our customer. By conducting these inspections in adherence with all Federal Aviation Regulations that are applicable to a small unmanned systems, our team hopes to provide a professional example that can be used to benefit both the manned and unmanned domestic aviation industries.

If you want to exercise the privileges of your exemption outside the United States, the reason why you need to do so.

- The inspections will take place on production platforms offshore in the Gulf of Mexico outside of the ADIZ. For the purposes of transparency with the FAA this organization intends to follow all applicable regulations even though technically the operations will occur outside of the United States.