

## **Petition for Exemption**

U.S. Department of Transportation, Docket Operations  
West Building Ground Floor, Room w12-140  
1200 New Jersey Avenue, SE., Washington, DC 20590

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

Dear Sir or Madam:

Mike Johnson dba B.E.V. Roof Inspections hereby applies for an exemption from the listed Federal Aviation Regulations and any other rules necessary to allow operation of a small hobby-sized (less than 3 lbs.) unmanned aircraft (UAS) in order to conduct roof inspections at a lesser height of 75' or surrounding foliage/tree height from the ground surface. The sole purpose of using the UAS is to gather photo documentation of the roof materials in order to safely aid in the insurance claims process. By adhering to the strict self-imposed safety protocols listed below, the use of the UAS will provide much safer roof inspections to all parties involved while posing no safety or privacy threat to the general public, the participating inspection parties, or non-participating parties.

1. Mike Johnson dba B.E.V. Roof Inspections  
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2. The specific section or sections of 14 CFR from which you seek an exemption:

Exemption Request Pursuant to Section 333 of the FMRA and Part 11 of the Federal Aviation Regulations, Seeking Exemption from 14 C.F.R. Part 21 Subpart H; 14 C.F.R. § 45.23(b); 14 C.F.R. § 45.27; 14 C.F.R. §§ 61.113(a) and (b); 14 C.F.R. § 91.119(c); 14 C.F.R. § 91.121; 14 C.F.R. § 91.151(a); 14 C.F.R. § 91.405(a); 14 C.F.R. § 91.407(a)(1); 14 C.F.R. §§ 91.409(a)(1) and (2); 14 C.F.R. §§ 91.417(a) and (b).

3. The extent of relief you seek and the reason you seek the relief:

Mike Johnson dba B.E.V. Roof Inspections is requesting relief and exemption from the listed Federal Aviation Regulations and any other applicable rules in order to allow the use of a Small Unmanned Aircraft System (UAS) as defined by the US Congress in Section 331, PL 112-95, 2014: “6) SMALL UNMANNED AIRCRAFT. – The term

“small unmanned aircraft” means an unmanned aircraft weighing less than 55 pounds.” to conduct roof inspections on structures less than 75’ in total height from the adjacent ground surface or surrounding foliage/tree height from the ground surface (lesser of the two). The requested exemption would allow a state licensed independent claim adjuster to perform roof inspections of roofs and roof materials in order to assess and photograph damage without placing the claim adjuster at risk of fall. Per the U.S. Department of Labor News Release Number: 10-1753-NAT – “ “Fatalities from falls are the number one cause of workplace deaths in construction. We cannot tolerate workers getting killed in residential construction when effective means are readily available to prevent those deaths,” said Assistant Secretary of Labor of Occupational Safety and Health Dr. David Michaels. “Almost every week, we see a worker killed from falling off a residential roof. We can stop these fatalities, and we must.” ” Although the article is commenting on construction workers, the identical risks are involved in regards to independent adjusters who perform roof inspections. The use of an UAS would eliminate any risk of an adjuster falling off a roof during a roof inspection and subsequently eliminate injury and/or death.

4. How your request would benefit the public as a whole:

The exemption request would benefit the public as a whole for several reasons:

- a.) Safety of the roof inspector who is part of the public as a whole. Because the inspector is not physically climbing the roof, no possibility of a fall is present.
- b.) Due to the lack of a physical roof inspection, a ladder would not be extended to the roof. Several accidents and/or damage from ladder displacement would no longer be a safety concern to the public.
- c.) The timeliness of roof inspections would greatly improve which would allow the named insured/property owner to settle an insurance claim faster.
- d.) The use of an UAS for roof inspections would decrease the risk exposure of property owners from a liability suit due to the lack of a possibility of a roof fall during the inspection thereby potentially lowering their insurance premiums.
- e.) A more thorough inspection could take place thereby providing a more comprehensive and accurate claim settlement for the public.
- f.) The domino effect of decreased insurance premiums for the public begins with lower cost to insurers in regards to employee workers’ compensation rates. This savings will be passed on to the general public whether directly affected by a claim or not.
- g.) The public as a whole would also benefit due to timeliness completion of insurance claims especially in a natural disaster or catastrophe situation

thereby allowing affected insureds to return to work faster and rebuild faster after a loss. The public economy as a whole will recover much quicker after a natural disaster with the use of UAS roof inspections.

5. Reasons why the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to the existing rule

The exemption would not adversely affect safety due to the self-imposed safety protocols by Mike Johnson dba B.E.V. Roof Inspections. By executing the safety protocols listed below, the general public would be much safer than the current state and process of inspecting roofs requiring physical climbing.

- a.) The UAS would be operated only by a state licensed independent insurance adjuster who also possesses a Drone/UAV Pilot Training Certificate from Unmanned Vehicle University. This certificate is only attainable by completing a 50 hour training course in accordance with FAA AC 91-57. Mike Johnson dba B.E.V. Roof Inspections will also require an additional 100 hours of flight experience that includes a minimum of 50 take-offs and landings with the UAS prior to any roof inspections.
- b.) All operations will utilize a visual observer in addition to the pilot-in-command.
- c.) The visual observer and pilot-in-command will be able to verbally communicate at all times during the flight.
- d.) The pilot-in-command will wear a high visibility safety vest thereby identifying him or her as the pilot.
- e.) A geo-fence will be enabled on the UAS that will limit the aircraft from leaving the airspace above the property to be inspected. A signage barrier will also be constructed around the property in order to alert the public of the UAS inspection.
- f.) A flight ceiling limit of 75' altitude from the adjacent ground level or the height of foliage or trees adjacent to the property (lesser of the two) shall be strictly adhered to by the geo-fence and pilot-in-command for all inspections. This ensures that no contact with aircraft in the NAS will occur with our UAS because manned aircraft can not fly below the tree line or highest nearby obstacle.
- g.) The property owner shall sign a consent prior to the UAS roof inspection and all non-participating persons shall be moved to at least 50' beyond the perimeter of the geo-fence and signage barrier prior to the flight.
- h.) The UAS will not fly near a manned aircraft.

- i.) The UAS will always be in a line of site with the pilot-in-command and the visual observer. This will enable the pilot-in-command to avoid any obstacles present at the inspection site.
- j.) The UAS will be less than 55 lbs. and will not exceed ground speeds of 50 knots.
- k.) The UAS will not carry explosive materials or flammable liquids.
- l.) The UAS flight will end at 20 minutes of flight time or when the battery has 25% power remaining.
- m.) The UAS flight and pilot-in-command will abide by all pre-flight checks and manufacturer suggested flight protocols. The manufacturer operation manual will be readily available upon request and the operation manual will be strictly adhered to by the pilot-in-command.
- n.) A log of each flight including the duration and location shall be kept with the pilot-in-command and available upon request.
- o.) A take-off and landing zone shall be designated prior to the flight.
- p.) The radio frequency used for operation and control of the UAS will comply with the FCC or other appropriate government agency requirements.
- q.) The UAS will have Mike Johnson dba B.E.V. Roof Inspection contact information and the federal exemption number permanently attached to it.
- r.) The UAS flights will be conducted only during daylight hours under visual meteorological conditions.
- s.) The UAS flights will not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud. The UAS flights will not occur when visibility is less than 3 miles from the pilot-in-command and visual observer.
- t.) Mike Johnson dba B.E.V. Roof Inspections will maintain a \$1,000,000.00 liability insurance policy while operating the UAS.
- u.) In accordance with the manufacturer's operating manual, the UAS pilot-in-command will perform extensive pre-flight checks prior to each flight to ensure the UAS is functioning properly. In the event that ANY pre-flight inspection item does not pass the check, the UAS will be permanently grounded until the manufacturer issues a full compliance certificate stating that the UAS has been repaired, properly maintained, and/or inspected and deemed safe to fly in accordance with their operating manual.

v.) The UAS will have a flight termination option to prevent a “fly away” and the pilot-in-command can safely abort or terminate the flight.

By fulfilling these comprehensive safety protocols, the UAS flights to inspect roofs by Mike Johnson dba B.E.V. Roof Inspections greatly exceeds the FAA safety rules as listed in the Model Aircraft Operations Limits in the FAA Modernization and Reform Act of 2012.

6. A summary we can publish in the Federal Register stating –
  - a. The rule from which you seek the exemption; and
  - b. A brief description of the exemption you seek

Mike Johnson dba B.E.V. Roof Inspections is seeking exemption from:  
Exemption Request Pursuant to Section 333 of the FMRA and Part 11 of the Federal Aviation Regulations, Seeking Exemption from 14 C.F.R. Part 21 Subpart H; 14 C.F.R. § 45.23(b); 14 C.F.R. § 45.27; 14 C.F.R. §§ 61.113(a) and (b); 14 C.F.R. § 91.119(c); 14 C.F.R. § 91.121; 14 C.F.R. § 91.151(a); 14 C.F.R. § 91.405(a); 14 C.F.R. § 91.407(a)(1); 14 C.F.R. §§ 91.409(a)(1) and (2); 14 C.F.R. §§ 91.417(a) and (b).

A brief description of the exemption I seek is as follows:

By adhering to much more stringent safety measures than is described by the Model Aircraft Operations Limits according to the FAA Modernization and Reform Act of 2012, I am seeking exemption of the above listed rules. Most of the rules don't apply to small unmanned aircraft as no pilot or passengers can be carried and the UAS to be used is less than 3 lbs. and does not carry flammable liquid fuels or explosive materials. The sole purpose for the use of the UAS is to gather photo documentation of a roof in order to document an insurance claim made by a property owner. The photos can be obtained safely and quickly by the use of a UAS thereby decreasing the chance of a roof fall by the adjuster and subsequent collateral damage. The UAS roof inspection will also eliminate any damage caused by a physical roof inspection to a previously undamaged roof (breakage of clay tiles, or bending of metal roofing material by foot traffic, etc.). Safe and responsible use of a hobby sized UAS to gather photos of a roof below a height of 75' poses no threat of harm to the public if conducted with the above mentioned protocols in place. Conversely, it eliminates the possibility of severe injury and/or death by the roof inspector.

With the described use of signage, designated take-off and landing zones, owner consent, pilot-in-command and visual observer maintaining line of site, and all other safety protocols listed above, a safe and limited operating area can and will be established thereby creating a restricted sterile environment within which the UAS will operate like the motion picture exemption (Exemption No. 11062) that was granted to Astraeus Aerial.

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

A description and specs of the UAS to be used by Mike Johnson dba B.E.V. Roof Inspections can be found in the attached manufacturer user manual.



8. If you want to exercise the privileges of your exemption outside the U.S., you must state the reason.

I do not wish to exercise the privileges of my exemption outside the U.S.

Respectfully submitted,

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