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

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

April 17, 2015

Exemption No. 11357
Regulatory Docket No. FAA–2014–0997

Mr. John Wappenstein
The Barefoot Group, Inc.
P.O. Box 1363
Saint Augustine, FL 32085

Dear Mr. Wappenstein:

This letter is to inform you that we have granted your request for exemption. It transmits our decision, explains its basis, and gives you the conditions and limitations of the exemption, including the date it ends.

The Basis for Our Decision

By letter dated November 26, 2014, you petitioned the Federal Aviation Administration (FAA) on behalf of The Barefoot Group, Inc. (hereinafter petitioner or operator) for an exemption. The exemption would allow the petitioner to operate an unmanned aircraft system (UAS) to conduct aerial photography and survey service.

See Appendix A for the petition submitted to the FAA describing the proposed operations and the regulations that the petitioner seeks an exemption.

The FAA determined that good cause exists for not publishing a summary of the petition in the Federal Register because the requested exemption would not set a precedent, and any delay in acting on this petition would be detrimental to the petitioner. However, the FAA received three comments in support of the petition made to the docket.

Airworthiness Certification

The UAS proposed by the petitioner is a DJI Phantom 2 Vision +.

The petitioner requested relief from 14 CFR part 21, C*ertification procedures for products and parts, Subpart H—Airworthiness Certificates*. In accordance with the statutory criteria provided in Section 333 of Public Law 112−95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that the requested relief from 14 CFR part 21, and any associated noise certification and testing requirements of part 36, is not necessary.

The Basis for Our Decision

You have requested to use a UAS for aerial data collection. The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grants of Exemption Nos. 11062 to Astraeus Aerial (*see* Docket No. FAA−2014−0352), 11109 to Clayco, Inc. (*see* Docket No. FAA−2014−0507), 11112 to VDOS Global, LLC (*see* Docket No. FAA−2014−0382), and 11213 to Aeryon Labs, Inc. (*see* Docket No. FAA−2014−0642), the FAA found that the enhanced safety achieved using an unmanned aircraft (UA) with the specifications described by the petitioner and carrying no passengers or crew, rather than a manned aircraft of significantly greater proportions, carrying crew in addition to flammable fuel, gives the FAA good cause to find that the UAS operation enabled by this exemption is in the public interest.

Having reviewed your reasons for requesting an exemption, I find that—

- They are similar in all material respects to relief previously requested in Grant of Exemption Nos. 11062, 11109, 11112, and 11213;
- The reasons stated by the FAA for granting Exemption Nos. 11062, 11109, 11112, and 11213 also apply to the situation you present; and
- A grant of exemption is in the public interest.

Our Decision

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, The Barefoot Group, Inc. is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

Conditions and Limitations

In this grant of exemption, The Barefoot Group, Inc. is hereafter referred to as the operator.

Failure to comply with any of the conditions and limitations of this grant of exemption will be grounds for the immediate suspension or rescission of this exemption.

1. Operations authorized by this grant of exemption are limited to the DJI Phantom 2 Vision + when weighing less than 55 pounds including payload. Proposed operations of any other aircraft will require a new petition or a petition to amend this exemption.

2. Operations for the purpose of closed-set motion picture and television filming are not permitted.

3. The UA may not be operated at a speed exceeding 87 knots (100 miles per hour). The exemption holder may use either groundspeed or calibrated airspeed to determine compliance with the 87 knot speed restriction. In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer.

4. The UA must be operated at an altitude of no more than 400 feet above ground level (AGL). Altitude must be reported in feet AGL.

5. The UA must be operated within visual line of sight (VLOS) of the PIC at all times. This requires the PIC to be able to use human vision unaided by any device other than corrective lenses, as specified on the PIC's FAA-issued airman medical certificate or U.S. driver's license.

6. All operations must utilize a visual observer (VO). The UA must be operated within the visual line of sight (VLOS) of the PIC and VO at all times. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times; electronic messaging or texting is not permitted during flight operations. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight. The PIC must ensure that the VO can perform the duties required of the VO.

7. This exemption and all documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of exemption, are hereinafter referred to as the operating documents. The operating documents must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operating documents, the conditions and limitations herein take precedence and must be followed. Otherwise, the operator must follow the procedures as outlined in its operating documents. The operator may update or revise its operating documents. It is the operator's responsibility to track such revisions and present updated and revised documents to the Administrator or any law enforcement official upon request. The

operator must also present updated and revised documents if it petitions for extension or amendment to this grant of exemption. If the operator determines that any update or revision would affect the basis upon which the FAA granted this exemption, then the operator must petition for an amendment to its grant of exemption. The FAA's UAS Integration Office (AFS-80) may be contacted if questions arise regarding updates or revisions to the operating documents.

8. Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics, e.g. replacement of a flight critical component, must undergo a functional test flight prior to conducting further operations under this exemption. Functional test flights may only be conducted by a PIC with a VO and must remain at least 500 feet from other people. The functional test flight must be conducted in such a manner so as to not pose an undue hazard to persons and property.

9. The operator is responsible for maintaining and inspecting the UAS to ensure that it is in a condition for safe operation.

10. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the UAS is in a condition for safe flight. The pre-flight inspection must account for all potential discrepancies, e.g. inoperable components, items, or equipment. If the inspection reveals a condition that affects the safe operation of the UAS, the aircraft is prohibited from operating until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight.

11. The operator must follow the UAS manufacturer's maintenance, overhaul, replacement, inspection, and life limit requirements for the aircraft and aircraft components.

12. Each UAS operated under this exemption must comply with all manufacturer safety bulletins.

13. Under this grant of exemption, a PIC must hold either an airline transport, commercial, private, recreational, or sport pilot certificate. The PIC must also hold a current FAA airman medical certificate or a valid U.S. driver's license issued by a state, the District of Columbia, Puerto Rico, a territory, a possession, or the Federal government. The PIC must also meet the flight review requirements specified in 14 CFR § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.

14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency must be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs

(training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

15. UAS operations may not be conducted during night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.

16. The UA may not operate within 5 nautical miles of an airport reference point (ARP) as denoted in the current FAA Airport/Facility Directory (AFD) or for airports not denoted with an ARP, the center of the airport symbol as denoted on the current FAA-published aeronautical chart, unless a letter of agreement with that airport's management is obtained or otherwise permitted by a COA issued to the exemption holder. The letter of agreement with the airport management must be made available to the Administrator or any law enforcement official upon request.

17. The UA may not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.

18. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the private or controlled-access property.

19. The PIC must abort the flight in the event of unpredicted obstacles or emergencies.

20. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for the UA to conduct the intended operation and to operate after that for at least five minutes or with the reserve power recommended by the manufacturer if greater.

21. Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA). All operations shall be conducted in accordance with an ATO-issued COA. The exemption holder may apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the attached COA.

22. All aircraft operated in accordance with this exemption must be identified by serial number, registered in accordance with 14 CFR part 47, and have identification (N-Number) markings in accordance with 14 CFR part 45, Subpart C. Markings must be as large as practicable.

23. Documents used by the operator to ensure the safe operation and flight of the UAS and any documents required under 14 CFR §§ 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

24. The UA must remain clear and give way to all manned aviation operations and activities at all times.

25. The UAS may not be operated by the PIC from any moving device or vehicle.

26. All Flight operations must be conducted at least 500 feet from all nonparticipating persons, vessels, vehicles, and structures unless:
    a. Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The operator must ensure that nonparticipating persons remain under such protection. If a situation arises where nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations must cease immediately in a manner ensuring the safety of nonparticipating persons; and
    b. The owner/controller of any vessels, vehicles or structures has granted permission for operating closer to those objects and the PIC has made a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.

    The PIC, VO, operator trainees or essential persons are not considered nonparticipating persons under this exemption.

27. All operations shall be conducted over private or controlled-access property with permission from the property owner/controller or authorized representative. Permission from property owner/controller or authorized representative will be obtained for each flight to be conducted.

28. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office (AFS-80) within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.ntsb.gov.

If this exemption permits operations for the purpose of closed-set motion picture and television filming and production, the following additional conditions and limitations apply.

29. The operator must have a motion picture and television operations manual (MPTOM) as documented in this grant of exemption.

30. At least 3 days before aerial filming, the operator of the UAS affected by this exemption must submit a written Plan of Activities to the local Flight Standards District Office (FSDO) with jurisdiction over the area of proposed filming. The 3-day notification may be waived with the concurrence of the FSDO. The plan of activities must include at least the following:
    a. Dates and times for all flights;
    b. Name and phone number of the operator for the UAS aerial filming conducted under this grant of exemption;
    c. Name and phone number of the person responsible for the on-scene operation of the UAS;
    d. Make, model, and serial or N-Number of UAS to be used;
    e. Name and certificate number of UAS PICs involved in the aerial filming;
    f. A statement that the operator has obtained permission from property owners and/or local officials to conduct the filming production event; the list of those who gave permission must be made available to the inspector upon request;
    g. Signature of exemption holder or representative; and
    h. A description of the flight activity, including maps or diagrams of any area, city, town, county, and/or state over which filming will be conducted and the altitudes essential to accomplish the operation.

31. Flight operations may be conducted closer than 500 feet from participating persons consenting to be involved and necessary for the filming production, as specified in the exemption holder's MPTOM.

Unless otherwise specified in this grant of exemption, the UAS, the UAS PIC, and the UAS operations must comply with all applicable parts of 14 CFR including, but not limited to, parts 45, 47, 61, and 91.

This exemption terminates on April 30, 2017, unless sooner superseded or rescinded.

Sincerely,

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

The Barefoot Group Inc.

P.O. Box 1363

Saint Augustine, Florida 32085

904-687-4378

This 26th day of November, 2014

Administrator

Federal Aviation Administration

U.S. Department of Transportation

Docket Management System

1200 New Jersey Ave., S.E.

Washington, DC 2059

Re: Exemption Request Section 333 of the FAA Reform Act

Pursuant to section 333 of the FAA Modernization and Reform act of 2012 (The Reform Act), and 14 C.F.R. Part 11, The Barefoot Group Inc. (BGI) , herby seeks and applies for an exemption to the Federal Aviation Regulations (FARs) to allow BGI to operate Small Unmanned Aircraft Systems (sUAS) commercially in airspace regulated by the Federal Aviation Administration (FAA) under the conditions and limitations set forth in this petition.

The requested exemption would permit BGI to operate small, unmanned aircraft system (sUAS) for the purpose of providing an aerial photography and survey service to private consumers. The areas of use will include both photo and video in the Marine and watercraft industry, real estate industry, surveying industry, construction industry, both profit and non-profit events, agricultural industry.

The sUAS will be operated in airspace that is 1) limited 2) predetermined 3) would provide safety enhancements to the already safe operations in the industry presently using conventional aircraft. Approval of this exemption would thereby enhance safety and fulfill he Secretary of Transportations responsibilities to "…establish requirements for the safe operation of such aircraft systems in the national airspace system"

The name and address of the applicant is:

The barefoot Group Inc.

ATTN: John Wappenstein

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Saint Augustine, Florida 32085

904-687-4378

bestboatman@gmail.com

Regulations from which the exemption is requested (detailed in Appendix I)

14CFR Part 21

14CFR 45.23 (b)

14CFR 61.113 (a) & (b)

14 CFR 61.3

14 CFR 91.7 (a)

14 CFR 91.9 (b) (2)

14 CFR 91.103

14CFR 91.109

14 CFR 91.119

14 CFR 91.121

14 CFR 91.151 (a)

14 CFR 91.203(a) & (b)

14 CFR 91.205

14 CFR 91.215

14 CFR 91.405

14 CFR 407 (a) (1)

14 CFR 409 (a) (2)

14 CFR 417 (a) & (b)

This petition for exemption is submitted to fulfill Congress' goal under section 333(a) through (c) of the reform act directing the Secretary of Transportation to consider whether certain unmanned aircraft systems may operate safely in the national airspace system (NAS) before completion of the rulemaking required under section 332 of the reform act. In making this determination the Secretary

of Transportation is required to determine which types of UASs do not create a hazard to users of the NAS or the public or pose a threat to national security in light of the following:

1) **The UASs size, weight, speed, and operational capability**
2) **Operation of the UASs in close proximity to airports and populated areas; and**
3) **Operation of the UASs within visual line of sight of the operator**

Reform Act Section 333 (a)

If the Secretary of Transportation determines that such operation of vehicles "may operate safely in the national airspace system, the secretary shall establish requirements for the safe operation of such aircraft in the national airspace system." ID section 333 (c)

The Federal Aviation Act expressly grants the FAA the authority to grant exemption from it regulatory requirements for civil aircraft, as the term is defined under section 40101 of the federal Aviation Act which includes sUASs. The Secretary of Transportation and/or The Administrator of the Federal Aviation Administration (acting on behalf of the Secretary of transportation) may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of this section or any sections 44702-44716 of the Federal Aviation Act if the Administrator finds the exemption in the public interest. 49 USC section 44701 (f) see also 49 USC section 44711 (a); 49 USC 44704; 49 14 CFR 91.203 (a) (1).

The Barefoot Group Inc. is a new company owned by a Disabled Combat Veteran (John Wappenstein). Our goal is to provide a long term, living wage, sustainable career opportunity to disabled veterans throughout our community and beyond with the use of sUASs for controlled commercial aerial photography and survey. The unemployment and lack of opportunity for our Disabled veterans is at crisis level in the United States. The training and deployment (as specified in this document) of the sUAVs is a feasible and logical solution for veterans with disabilities including, but not limited to, amputations, paralysis, PTSD, unemployable status.

The primary vehicle to be used will be the DJI Phanton 2 Vision+ (operation and flight manual attached). While vehicles may be upgraded as new technological and safety advanced occur the bar for operation and safety will be set by DJI Phantom 2 Vision + and any new vehicles or versions will exceed the current safety and operational standards. No vehicle operated by BGI will be modified from the manufacturers design unless specifically directed by the same manufacturer.

Operational and safety guidelines:

The sUASs will operate below 400 feet above ground level and have a built in capability to restrict altitude.

The distance the sUAS flies from the ground operator and restriction of flights in class B, C, and D airspace, including no fly zones shall be included in the software and hardware features.

The sUAS has a built in failsafe to return to it point of launch should connection be disabled between the control and sUAS.

The sUAS will return to its point of launch should the battery level fall below a safe level (25%).

The sUAS will go into hover mode holding at a stationary point in space should the operator become incapacitated or unable to use the controls at any time during the flight, eventually safely returning to its point of launch and landing safely.

The sUAS will only be operated in line of sight from the operator

The approximate maximum flight time of the sUAV will be 30 minutes

The sUAS will not exceed 55 lbs. nor will it exceed a maximum speed of 45 knots

The sUAS operators will be required to attend and complete BGI's course on safety, regulation, privacy, and flight.

> **Safety to the public and property will be of the highest priority when training operators.**
>
> **All operators will be required to fully know and understand the regulations for flight as set forth in this petition and the FAA's regulations.**
>
> **All operators will be required to know and understand that BGI will in no way use its sUASs to conduct surveillance, spy, or in any way violate the expectation of privacy of anyone. All photography will be of landscape and structures in "Plain View" of the public.**
>
> **All operators will undergo extensive training on software use, preflight inspection, start up, and take off, landing, safe navigation and emergency operation.**
>
> **All operators will be required to provide a written description in a provided log of each flight to include detailed preflight check list of sUAS components including battery charge, weather conditions, purpose of flight, area hazards prior to take off, and flight time.**
>
> **No sUAS will take flight with any mechanical, electrical, or software deficiency.**
>
> **The sUAS operator will have the flight and operation manual provided by the manufacturer in his possession during all flights.**

The sUAS will have navigational lighting to be visible by the operator at all times to determine location and orientation.

The sUAS will at no time create a hazard to the National Airspace System or to the public.

The sUAS shall be immediately grounded and yield right of way should any manned aircraft come within an unsafe proximity of the sUAS.

As known by the FAA many sUAS operators and companies are currently flying commercially WITHOUT the required exemption from the FAA. This creates a substantial burden on BGI, its employees, and other companies operating within the FAA's regulations and restrictions. Unless the petition presented and requested herein is granted the burden on BGI will cause its dissolution and collapse as BGI is not willing to operate outside FAA regulations in concern for the safety of the public.

Furthermore, the mass amount of companies operating outside of the FAA's regulations are gaining a significant competitive advantage on the market through their illegal operation. The 120 day minimum time for review of this application is unreasonable and creates an unjust burden on BGI. Therefore BGI herby requests that the Administrator of the Federal Aviation Administration expedite this request for exemption. Time is of the essence.

The limitations provided herein enforce an equivalent or higher level of safety and privacy to operations under the current regulatory structure. The proposed operations satisfy the criteria provided in section 333 of the Reform Act relating to size, weight, operating capabilities, proximity to airports and populated areas, privacy, operation within visual line of sight, and national security. This provides adequate justification for the grant of the requested exemptions allowing commercial operation of applicant's sUASs in the aerial photography and survey industry.

Sincerely,

John Wappenstein

John Wappenstein

The Barefoot Group Inc.

Appendix I

14 CFR Part 21 regarding aircraft certification requirements and procedures is designed for manned aircraft and is not suitable for off the shelf sUASs.

14 CFR 45.23 (b) requiring aircraft to be marked in 2" to 6" lettering is impossible, there is not sufficient space on the sUAS.

14 CFR 61.113 (a) & (b) limiting pilots to non-commercial operations, referring to the PIC. The sUASs will not carry a pilot, a passenger, or cargo for compensation or hire. The operators training from the manufacturers manual creates a higher level of safety for the public as a Commercial Pilot's certificate in no way provides specific safe operational training of a remote controlled sUAS tethered to the operator on the ground.

14 CFR 61.3 requiring a pilot certification. Pilot certification is designed for manned aircraft, The operators training from the manufacturers manual creates a higher level of safety for the public as a Pilot's certificate in no way provides specific safe operational training of a remote controlled sUAS tethered to the operator on the ground. A description of our training for sUAS operators included in this document and petition far exceeds the minimal safety provided by a pilot certification when applied to sUASs.

14 CFR 91.7 (a) Civil Aircraft Airworthiness requirements. No airworthiness certificate is available for this aircraft. The sUASs will not be modified and will be inspected prior to any flight as outlined in this petition.

14 CFR 91.9 (b) (2) requires that the flight manual be available in the aircraft. Given the size and the fact that the aircraft is unmanned this rule cannot apply in its current language. However, as outline in this petition, the flight manual will be in the possession of the operator during any flight.

14 CFR 91.103 preflight action requirements for crew on board aircraft. While this is important to the safe flying of the sUAS it does not apply given its current language. We have included a similar, more comprehensive solution in our operational and safety guidelines, "All operators will be required to provide a written description in a provided log of each flight to include detailed preflight check list of sUAV components including battery charge, weather conditions, purpose of flight, area hazards prior to take off, and flight time."

14 CFR 91.109 requiring that no person shall operate a civil aircraft for flight instruction unless the aircraft has fully functioning dual controls. SUASs and Remote controlled aircraft by design do not have dual controls, to do so on a radio controlled aircraft would lower the ability to safely operate the sUAS. This section cannot reasonably apply.

14 CFR 91.119 designating minimum safe altitudes. The sUASs operated by BGI will not exceed an altitude of 400 feet AGL. This is below the altitude designated in this section. Also given the size, weight, and speed of the sUAS, the line of sight rule when operating, and the overall safeguards and restrictions in flight outlined in this petition maintain a higher level of safety to the public.

14 CFR 91.121 regarding altimeter settings. A barometric altimeter is not provided on any sUAS. However a GPS altitude indicator is displayed to the operator at all times during flight. While an exemption to this regulation is requested a modification to meet the current technology of the sUASs would be acceptable.

14 CFR 91.151 (a) Fuel requirements for flight. The maximum flight time under ideal conditions is 30 minutes with the current manufacturers battery pack. The proposed rule under the Operation and Safety guidelines in this petition requiring the sUAS to return to its point of launch if its battery reaches less than 25% provides a higher standard of safety when applied to sUASs.

14 CFR 91.203(a) & (b) requiring that a civil aircraft certificate and registration be displayed at the cockpit entrance cannot apply to sUASs, there is no cockpit and the size limitations prevent this.

14 CFR 91.205 refers to cockpit instruments and cannot reasonably apply to sUASs as there is no cockpit.

14 CFR 91.215 requiring a transponder cannot reasonably apply to sUAVs operated by BGI because they will be operated below ATC radar capabilities as outlined in this exemption request.

14 CFR 91.405, 14 CFR 407 (a) (1) (2), 14 CFR 409 (a) (2), 14 CFR 417 (a) & (b) referring to maintenance, preventive maintenance, and alterations to the sUAV. The operator will provide minor maintenance and inspection to the sUAV, documented as outlined in the operational and safety guidelines. Given the size and simplicity of the sUAV combined with the operational and safety guidelines outlined in this petition the operator can maintain or exceed the required level of safety.