Exemption No. 10299

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, DC 20591

In the matter of the petition of **Indigenous Peoples Technology and Education Center, Inc. (ITEC)** for an exemption from § 21.190(c)(2) of Title 14, Code of Federal Regulations	**Regulatory Docket No. FAA-2010-1221**

GRANT OF EXEMPTION

By letter dated December 3, 2010, Mr. Stephen Saint, Indigenous Peoples Technology and Education Center, Inc. (ITEC), 10575 SW 147th Circle, Dunnellon, FL 34432, petitioned the Federal Aviation Administration (FAA) for an exemption from § 21.190(c)(2) of Title 14, Code of Federal Regulations (14 CFR). The proposed exemption, if granted, would permit the ITEC Maverick powered parachute (PPC) to be eligible for the issuance of a special airworthiness certificate in the light-sport category even though the aircraft exceeds a maximum takeoff weight of 1,320 pounds (600 kilograms) for aircraft not intended for operation on water.

The petitioner requests relief from the following regulation:

> The petitioner requests an exemption from § 21.190(c)(2), which prescribes that:
> (c) *Manufacturer's statement of compliance for light-sport category aircraft.* The manufacturer's statement of compliance required in paragraph (b)(1)(iii) of this section must—
>
> > (2) State that the aircraft meets the provisions of the identified consensus standard;

The petitioner supports its request with the following information:

> The petitioner seeks airworthiness certification in the special light-sport aircraft category under the American Society of Testing and Materials (ASTM) light-sport PPC consensus standards for its Maverick roadable aircraft. ITEC, as the developer the Maverick, is requesting an exemption from the current restriction of a maximum takeoff weight (MTOW) for aircraft not intended for operation on water to allow it to include the

structures, systems, and instruments required by the local State Department of Motor Vehicles (DMV) for the aircraft to safely operate on public roads. The petitioner states that in order to meet these design requirements and still maintain a suitable useful load for flight operations, the Maverick will require a MTOW of 1,430 pounds (650 kilograms), which is the same MTOW for an LSA intended for operation on water.

The petitioner states that the Federal Motor Vehicles Safety Standards (FMVSS) were established for major motor vehicle manufacturers. ITEC states the standards are incredibly complex and would be virtually impossible for a low volume vehicle manufacturer to meet. ITEC also notes that many states have developed numerous exemptions from the FMVSS to allow the development and sale of vehicles designed for specialty uses. ITEC states that the "kit car" exemption is one good example of such an exemption.

The petitioner states the Maverick PPC was designed to be operated safely on public roads at highway speeds, off-road, and in the air. The petitioner states it would not only be prohibitively complex to attempt to meet all the FMVSS on a vehicle such as the Maverick, but it would also result in a vehicle that would be exorbitantly expensive and extremely heavy. ITEC asserts that meeting all FMVSS is beyond the realm of feasibility for a road capable PPC that is privately funded and manufactured in small quantities. ITEC states that it has designed this first practical multi-medium PPC to be ground licensed under allowed exemptions to the FMVSS (i.e., “kit car”). ITEC anticipates that there will come a time when there will be a special vehicle safety standard for “multi-medium” vehicles. In the meantime, the petitioner states the only realistic option is to license the Maverick for ground operations under state rules for motor vehicles instituted for innovative, low production vehicles that fit a specific need and that this action is in the best interest of the public.

The petitioner states that even though the Maverick will not meet all FMVSS, there are items that are required by local state DMVs to make the vehicle roadable that result in added weight compared to a conventional configuration PPC. Those features (with their associated additional weights in parentheses) include:

1. A completely independent ground drive system with full, safe roadable capabilities including a transmission with a differential and reversing capabilities, driving robust drive axles through a CVT drive – (120 to 140 pounds)

2. A robust, active suspension system – (25 pounds)

3. Automotive headlights, blinkers, stop lights, speedometer, windshield clearing system – (6 to 10 pounds)

4. A heavy duty braking system on all wheels – (12 to 15 pounds)

5. Four large roadworthy wheels and tires – (50 to 65 pounds)

6. Structure necessary to make the fuselage capable of protecting the operator and occupants during a collision – (35 pounds)

The petitioner states that these items add between 248 and 290 pounds to a roadable PPC LSA, even if great care is given to cutting the weight of these extra systems while still adequately addressing safety concerns. ITEC claims that the weight of these additional systems and structures would easily exceed 400 pounds if great care were not exercised in keeping the weight to a minimum. ITEC states that an exemption permitting the MTOW of the Maverick to exceed the allowable MTOW of an LSA by more than 110 pounds would allow for a reduction in the cost of some of the additional roadable equipment, systems, and structure. It would also allow for additional and desirable, but not absolutely necessary, features. However, ITEC states the reason it is requesting a MTOW increase of only 110 pounds is that it understands and supports the reasons for limiting LSA gross operating weights and believes that attempting to produce "multi-medium" LSA vehicles should be extremely disciplined in the area of weight reduction. The petitioner states that it has taken great effort to design carefully and to limit weight in every reasonable way, and has produced a truly robust, capable, safe and roadworthy PPC LSA that weighs less than 1000 pounds. ITEC further states that with the weight allowance for a standard pilot and passenger and baggage and fuel for two and a half hours of flight, plus reserves, the absolute minimum gross weight necessary to make the Maverick practical without sacrificing safety, is 1,430 pounds (650 kilograms).

The petitioner states that the current ASTM consensus standards do not need to be changed in any way to allow production of a road capable and safe Maverick PPC. The petitioner states that "all that is needed and all that is being requested is a gross weight exemption allowing a MTOW of 1,430 pounds (650 kilograms), the same as the MTOW allowed for amphibious LSA.

A summary of the petition was published in the Federal Register on January 14, 2011, (76 FR 2746). No comments were received.

The FAA's analysis is as follows:

The FAA has reviewed ITEC's petition and supporting information. After careful consideration, we find a grant of exemption subject to specific conditions and limitations would provide an equivalent level of safety to that of the regulation and would be in the public interest.

The petitioner seeks an exemption to permit the issuance of a special airworthiness certificate in the light-sport category for its Maverick PPC. Currently PPCs certificated in this category are limited to MTOW of 1,320 pounds (600 kilograms), however aircraft intend for operation on water may be certificated with a MTOW of 1,430 pounds (650 kilograms). The FAA established these requirements in the final rule "Certification of Aircraft and Airmen for the Operation of

Light-Sport Aircraft (69 FR 44772; July 27, 2004). Although the final rule permitted LSA intended for operation on water to have an increased MTOW it did not contemplate the issuance of special airworthiness certificates in the light-sport category for aircraft that could also be operated on public roads as presented by the petitioner. As the agency has determined that the safe conduct of operations while in flight and on water necessitates a MTOW for SLSA that is higher than that specified for SLSA that are not intended for operation on water, it believes that the petitioner should be afforded similar relief for an aircraft design that is also intended for operation on public roads.

Each SLSA aircraft design must meet consensus standards acceptable to the FAA and the FAA's primary concern in evaluating the Maverick PPC is that it is as safe as any other PPC with SLSA airworthiness certification. The FAA specifically reviewed each feature that ITEC asserted was necessary to permit registration and licensing of the PPC for road use and the associated weight of each feature. The FAA also verified that the Maverick is capable of being registered and licensed in a State to operate on public roads and that an example has been registered and licensed as such. Accordingly, the FAA has determined that the vehicle is intended for use on public roads.

The FAA also reviewed the design of the aircraft with special emphasis on the design characteristics of the vehicle's ground-drive system which has reversing capability and is able to propel the aircraft in ground mode through a wheel or wheels in contact with the road surface while the air propulsion system is static. As the operation and maintenance of the vehicle while in "roadable" mode could have a significant effect on the aircraft's operation while in flight mode, the FAA further reviewed the petitioner's maintenance and operating procedures and limitations for "roadable" mode. Additionally, the agency specifically reviewed the petitioner's operating instructions for each mode of operation, with particular attention given to the petitioner's instructions for transition between modes of operation. The FAA finds that the design features incorporated in the Maverick PPC to permit roadable operations do not have an adverse affect on safety.

A grant of exemption would allow certification of the "Maverick" as a roadable PPC LSA with a MTOW up to 1,430 pounds (650 kilograms). Without a grant of exemption the aircraft would be required to meet applicable ASTM consensus standards for conventional configuration PPC LSA which would only permit a MTOW of 1,320 pounds (600 kilograms). We reviewed ITEC's list of items (and their associated weights) needed to make the vehicle roadable. Inclusion of those items results in added weight compared to a conventional configuration PPC. The FAA agrees with the need for additional weight associated with the ground-drive system that is necessary for the PPC to operate safely on public roads. Credit for additional weight for the ground-drive system above the MTOW of 1,320 pounds (600 kilograms), however, will only be granted up to a MTOW of 1,430 pounds (650 kilograms), and is provided based on the ITEC Maverick having met state eligibility licensing and eligibility requirements and having been issued a Vehicle Identification Number (VIN).

Accordingly we find that, with the conditions and limitations specified, this exemption provides an equivalent level of safety to that of a conventional configuration PPC LSA that has been issued a special airworthiness certificate in the light-sport category.

The FAA's 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. §§ 40113 and 44701, delegated to me by the Administrator, Indigenous Peoples Technology and Education Center, Inc. (ITEC), is granted an exemption from 14 CFR § 21.190(c)(2) to the extent necessary to allow ITEC Maverick PPC with a MTOW of not more than 1,430 pounds (650 kilograms), that otherwise meet the requirements of § 21.190, to be eligible for issuance of a special airworthiness certificate in the light-sport category.

Conditions and Limitations

1. This grant of exemption applies only to the ITEC Maverick PPC model number Maverick SP, serial numbers MS9001 – MS9999.

2. Each person operating an ITEC Maverick SP certificated under the provisions of this exemption must comply with all Federal, State, and local laws and regulations applicable to the operation of a powered parachute from any street, road, or highway when such operations are conducted.

3. Each ITEC Maverick SP certificated under the provisions of this exemption must have an installed and operable ground-drive system with reversing capability that propels the aircraft in ground mode through a wheel or wheels in contact with the road surface while the air propulsion system is static.

4. The aircraft's operating instructions must contain specific instructions for each mode of operation, to include roadable mode and the transition between modes of operation.

5. ITEC must supply each purchaser of an ITEC Maverick SP certificated under the provisions of this exemption with a copy of the exemption. A copy of the exemption must be carried on board each aircraft.

6. ITEC must maintain a current record of all owners of Maverick SP certificated under the provisions of this exemption. The record must be made available to the FAA upon request.

7. ITEC may issue a Manufacturer's Statement of Compliance (FAA Form 8130-15) for each Maverick SP with a maximum take-off weight (MTOW) of not more than 1,430 pounds (650 kilograms) provided the aircraft otherwise meets the provisions of the identified consensus standard.

8. No person may operate an ITEC Maverick SP certificated under the provisions of this exemption unless it is registered and licensed for road use by a Federal, State or local licensing authority, and the equipment required for road use is installed and operable on the aircraft.

9. Licensing and registration of the ITEC Maverick SP for road use is the responsibility of the aircraft owner/operator, and is independent of FAA airworthiness certification. When operated in roadable configuration, the operator must adhere to all Federal, State, and local laws and regulations applicable to its operation.

10. When operating the ITEC Maverick SP in flight mode, the operator must adhere to all applicable general operating rules and flight rules for aircraft in 14 CFR Part 91.

11. Each person operating an ITEC Maverick SP certificated under the provisions of this exemption must operate the aircraft in accordance with the assigned operating limitations that form a part of the Special Airworthiness Certificate.

12. The ITEC Maverick SP contains equipment not traditionally found in certificated aircraft. Any maintenance, preventive maintenance, repairs, or alterations of equipment necessary for road use must be addressed in the aircraft's maintenance and inspection procedures.

13. An ITEC Maverick SP certificated under the provisions of this exemption may not be operated by a person exercising the privileges of a sport pilot certificate.

14. A person exercising the privileges of a repairman certificate (light-sport aircraft) may not perform work on an ITEC Maverick SP certificated under the provisions of this exemption.

Issued in Kansas City, MO, on June 27, 2011.

s/

Earl Lawrence
Manager, Small Airplane Directorate
Aircraft Certification Service