Attachment G

Contractor's Existing Technology
12-23-2000

Galileo Research, Inc. Existing Intellectual Property

1. U.S. Patent # 4,876,991 Two Stroke Cycle Engine.
   Issued October 1989. Patent is for a two stroke cycle Engine-Generator Engine that has one or more power transfer modules located between two opposite and outwardly facing pistons. Power transfer modules may be electric, air or hydraulic power.

2. Trademark. Issued 1998.

3. Anti-Vibration System for Engine-Generator Engines.
   Several systems for anti-vibration have been under investigation, independently by Galileo Research, and jointly with the Massachusetts Institute of Technology. These systems will allow the reduction of vibration within the Engine-Generator engine and allow for a stable operating unit through coaxial oscillating mechanisms. One system type is through an internal coaxial system incorporated within the Alternator and the other is an external coaxial system outside of the Engine-Generator engine. Description of this is located within written notes and computer files regarding the technology.

4. Torque Multiplier System for Engine-Generator Engines.
   A torque-multiplying device has been under investigation for Engine-Generator Engine technology, with some initial design work done. The device acts as a coupling interface between the Alternator and the Power Cylinders and allows for the reduction of travel distance for the Alternator's Plunger and concentrating the energy into a shorter stroke. Description of this is located within written notes and computer files regarding the technology.

5. 2 Stroke Engine Porting Configuration for Engine-Generator Engines.
   2 stroke engine port configurations have been investigated for use specifically in Engine-Generator engines. This effort looks at different port configurations for different two-stroke cycle engines and what is best suited for the Engine-Generator engine. Description of this is located within written notes and computer files regarding the technology.

6. Fuel Management System for Engine-Generator Engines.
   A fuel preparation and management system has been under investigation for use in Engine-Generator engines. This effort has compiled documentation on existing and developing technologies with the focus of creating an applicable Fuel System for the Engine-Generator engine. The Fuel Management system for the Free-Piston engine allows the air-fuel ratio to be calculated and adjusted

accordingly and the pre-mixture of an amount of air and fuel to be injected into the cylinder while the exhaust port is closing or shortly after the exhaust ports are closed. This prevents the unburned fuel from short-circuiting out the exhaust ports and substantially reduces the amount of unburned hydrocarbons exhausted. Description of this is located within written notes and computer files regarding the technology.

7. Electronic Controls for Engine-Generator Engines.
   Electronic engine controls for use in Engine-Generator engines have been under investigation. The Electronic Controls allow the operation of the Engine-Generator engine in managing startup of the engine, stroke of the reciprocating Piston-Rod assembly, fuel management, ignition events, combustion, exhaust, and electric power output. This is accomplished through sensor input to the Electronic Control Module. Description of this is located within written notes and/or computer files regarding the technology.

8. Electric Power Management for Engine-Generator Engines.
   Electric power management has been investigated by Galileo Research and the Massachusetts Institute of Technology. This allows appropriate conditioning of the electric power output from the Engine-Generator engine to meet power output requirements for A\C and D\C applications. Description of this is located within written notes and/or computer files regarding the technology.

9. 4 Stroke Engine-Generator Engine.
   Initial design of a 4 stroke Engine-Generator engine has been done, to determine the feasibility of a 4 stroke Engine-Generator Engine. A 4 stroke Engine-Generator engine has not yet been Patented by any other party due to the complex nature of the Engine-Generator engine, where others may not see a feasible way to achieve this. Design elements include the above Torque Multiplier and Anti-Vibration Systems along with Electronic Valves, Fuel Management System, Electronic Controls, and Electric Power Management. Description of this is located within written notes and/or computer files regarding the technology.

10. Engine-Generator engine operational know-how and operational characteristics have been gained through Galileo's initial prototype. The Engine-Generator is a cutting edge technology that has not been done in the past with any degree of success until now. Testing documentation within written notes and computer files exist regarding this technology.