OCEAN INFINITY GROUP LIMITED STATEMENT IN SUPPORT OF EXPERIMENTAL LICENSE APPLICATION

Pursuant to Section 5.63(c)(1) of the Rules and Regulations of the Federal Communications Commission ("FCC" or "Commission"), Ocean Infinity Group Limited ("Ocean Infinity") hereby demonstrates support for its application for a Conventional Experimental radio license. Ocean Infinity intends to use its experimental license to perform bathymetric surveys with unmanned surface vessels in near-coastal waterways with the end goal of determining which radio system configurations provide the best range, performance, and robust connection to the vessels for command and control functionality. Ocean Infinity's equipment is capable of operations in the 1.14-1.50 GHz range, however, Ocean Infinity is proposing to operate within 1390-1400 MHz for purposes of the STA. Transmissions will occur within specified wide-area shoreside/offshore zones in accordance with the technical and operating parameters described in the accompanying FCC Form 442. Maximum bandwidth and power is provided in the Form 442, but bandwidths as narrow as 1.25 MHz may be used and ERP may be as low as 2 watts. Antenna is based on vessel mounted antenna maximum height of ~9 meters. Authority is requested for 10 total units. The radios utilize COFDM multiplexing with 16 QAM carrier modulation (capable of BPSK/QPSK using adaptive modulation).

Overview

Ocean Infinity is a marine robotics company that deploys autonomous robots, typically in fleet formation, to obtain large amounts information from the oceans and seabed. The company serves a wide variety of market segments, including the energy sector, renewables, subsea cables, governments and navies. Ocean Infinity seeks to provide answers for anyone needing information relating to oceans and the seabed.

Ocean Infinity seeks experimental authority to evaluate radio equipment configurations to communicate with, command, and control robotic ships equipped with cutting edge sensors and navigation technology. The Armada fleet represents the future of shipping. The company has created a robotic shipping platform which is both unmanned and carbon neutral. As well as delivering traditional survey services, the Armada fleet can transport goods from shore to shore in a highly safe and sustainable manner.

Description of Program

The testing will involve transmission of data signals using experimental radio transmitters installed on unmanned Armada fleet vessels as well as on manned offshore control vessels. The Domo Tactical Communications (DTC) NETNode IP mesh radios identified in the attached Form 442 are experimental and still in development by DTC. Control of the Armada fleet vessels will be maintained at all times using satellite and WiFi links for redundancy purposes.

NETNode IP radios can be combined in a fluid self-forming, self-healing mesh containing up to sixteen radios. The NETNode radios within the mesh exchange data on a single frequency, simplifying frequency management. The highly flexible mesh topology means that

data can be exchanged between nodes in a point-to-point or multi-point fashion; range can be extended by using nodes as repeaters. The self-forming, self-healing mesh architecture makes the NETNode product ideal for use in mobile surveillance applications, command and control applications, or advanced robotics. Control of the deployed mesh is achieved using the inbuilt web browser or comprehensive Mission Commander PC application. This software suite, based around a mapping display, is used to configure and monitor the mesh and wider DTC systems, and to control its nodes and cameras. Video can be viewed on the PC device using the Mission Commander software and recorded using Milestone Compatible recorders.

The program will encompass operations under different operating conditions at several offshore locations.

Objectives of Experimental Program

During testing, Ocean Infinity personnel will use the experimental radio transmitters to transmit and receive data and to evaluate the viability of the radios for use in controlling and operating the vessels. Ocean Infinity will transmit data pursuant to the technical specifications in the attached application. The objective of the experiment is to determine which radio configurations provide the best range, performance, and robust connection to the vessels for command and control functionality.

Contribution to the Radio Art

In accordance with Section 5.63(c)(1) of the FCC's rules, Ocean Infinity expects that its experiments will contribute to the radio art. Ocean Infinity's proposed experiment will allow it to gather sufficient data to ultimately determine which radio system configurations provides the best range, performance, and robust connection to the vessels for command and control functionality. Accordingly, Ocean Infinity respectfully requests that the Commission grant this request.