SEA LAUNCH

FAX COVER SHEET

FAX TO:		FROM:
Name:	Mr. Carl Huie	W. G. (Bill) Gjertson
Company:	FCC	BCSC, Sea Launch Program
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Mail Stop:		Mail Stop: 6E-62

Date: March 9, 1998

Number of Pages including Cover Sheet 1

SUBJECT

6115-98

Good Afternoon Mr. Carl Huie,

Request the enclosed information be included as an Amendment to Applications 6086, 6087, 6088 and 6089:
Sea Launch is a commercial Venture which will provide launch services including the launch of Communications Satellites from a vessel positioned on the equator at 154 deg W Longitude. The vessels will be provisioned, tested and loaded with the launch vehicle in Long Beach, CA at a pier leased from the city of Long Beach. The vessels, one a Launch Platform and the other an Assemby and Command Ship, are registerd in Liberia to Sea Launch. The RF transmitters for which experimental licenses are being applied for are on the vessels and will be tested for short periods of time on 5-6 days every 60 days when in Long Beach. The RF transmission periods are short and are for the purpose of testing prior to both vessels departing Long Beach and transitting to the Launch Site.
The Weather Radar, Freq = 5620 MHz, ERP = 63.6 dBW(avg.), pulse width = .05-20 microseconds, PRF = 200-3000

Liberian reg -

W. G. (Bill) Gjertson

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6/12/95

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Date: April 11, 1998

Number of Pages including Cover Sheet 2

Good Afternoon Mr. Carl Huie.

SUBJECT

166.0 MHz – While in the home port, Sea Launch plans to test this RF transmitter within a compartment aboard the launch platform. Most tests will be "closed loop", no radiation, for up to 6 hours and tests with the antenna for up to 20 seconds at reduced power. The radiated RF levels expected outside of the vessels compartment, while in home port, were predicted to cause potential interference with Government at 162.0125-173.2 MHz and "remote pickup operations' at 166.025 MHz. The received power (Predicted Far Field Power = 3.6E-08 watts or -44.3891 dBm) was computed inside the compartment, in the "worst-case". With the compartment doors closed, completely enclosing the Launch Vehicle/transmitter, this level is predicted to be further reduced by 40 dB with a received power external to the vessels compartment in the home port of -84 dBm. For a 1 km radius around the launch platform another 40 dB due to path loss will reduce the received power to -124 dBm which is below the detection threshold of any known receiver at that frequency. There are no receivers predicted to be within 1 km of the Sea Launch pier. There are only industrial facilities within 1 km of the Sea Launch vessels and facilities.

asc
D output pwr (ant = 1 dB gain)
7.6w erp?
D can live at 5 mW?

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2 OF 2

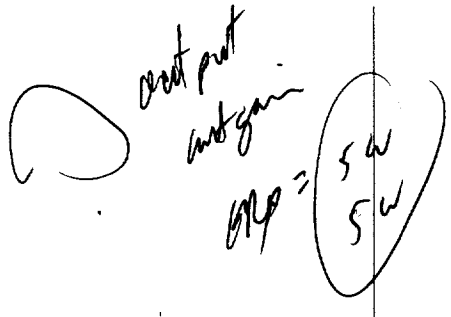
211.3 MHz –

While in the home port, Sea Launch will test this RF device within a compartment aboard the launch platform. Most tests will be "closed loop", no radiation, for up to 6 hours while another test will be with the antenna for up to 20 seconds at reduced power. The radiated RF levels expected outside of the vessels compartment, while in home port, with no mitigation cause potential interference with TV channel 13 (210-216 MHz) receivers. The received power (Predicted Far Field Power = 3.4E-06 watts or -24 dBm) was computed inside the compartment, for both "worst-case" radiated conditions. With the compartment doors closed, completely enclosing the Launch Vehicle/transmitter, these level are predicted to be further reduced by 40 dB with a resulting received power external to the vessels compartment in the home port of -64 dBm. This level applies to antenna radiation. When operating closed loop another 30 dB is subtracted from the received level. For a 1 km radius around the launch platform another 40 dB due to path loss will reduce the received power to -104 dBm which is below the detection threshold of any commercial TV receiver. There are no residences (hence no TV viewing audience) within 1 km of the Sea Launch pier. There are only industrial facilities within 1 km of the Sea Launch vessels and facilities. The received RF power levels represent a very conservative prediction.

219.3

While in the home port, Sea Launch will test this RF device within a compartment aboard the launch platform. Most tests will be "closed loop", no radiation, for periods up to 6 hours and tests with the antenna for up to 20 seconds at reduced power. The radiated RF levels expected outside of the vessels compartment, while in the home port, were predicted as a potential interference source to the Los Angeles computer networks and the U.S. Navy SPASUR systems. The received power (Predicted Far-Field Power Density = 3.54E-05 watts/meter^2, Far-Field Potential = 0.115471volts/meter and a received power level = 5.27E-06 watts or -22.7844 dBm) was computed inside the compartment, in the "worst-case" With the compartment doors closed, enclosing the launch vehicle/transmitters, this level is further reduced by 40 dB with a resulting received power external to Sea Launch vessel in home port of -64 dBm. For a 1 km radius around the launch platform another 40 dB will further reduce the received power to -104 dBm which should be close to or below the detection threshold of any government receiver in that frequency range. However for the closed loop tests, the level will be another 30 dB. Therefore NO interference, due to Sea Launch transmitter, is predicted to any computer network or SPASUR system receivers within 1 km of Sea Launch vessels and facilities. The RF levels represent a very conservative prediction.

W. G. Gjertson



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Date: June 1, 1998

Number of Pages including Cover Sheet 2

Good Afternoon Mr. Carl Huie, **SUBJECT**

Sea Launch has reviewed and updated its vessel's positions in the Home Port based upon fueling, load transfers, testing and operations. We therefore wish to update the coordinates of the RF transmitters for which an FCC experimental license has been requested (9 Form 442's were submitted during 1-10 March 1998 time period.)

The updated coordinates are as follows along with the previous ones:

FREQUENCY(MHz)---FCC File Number----Old Coordinates---New Coordinates

166, 211.0 & 219.3 MHz----not yet rcv'd------34*44'22"N--------33*44'41.46"W
----------118*13'27"W------118*13'28.10"W

420.8,421,425.8,426 MHZ--not yet rcv'd------34*35'00"N--------(Unchanged)
----------118*13'12"W------(Unchanged)

768.97MHz----------not yet rcv'd-------34*45'00"N----------33*44'41.46"N
(transmitter on ACS)----------118*13'12"W-------- 118*13'28.10"W

922.76MHz----------not yet rcv'd--------34*45'00"N----------33*44'41.81"N
(transmitter on shore tower)---------- 118*13'12"W--------118*13'15.42"W

1010.5 & 1018.0 MHz------not yet rcv'd-------34*45'00"N----------33*44'41.81"N
(transmitters on shore tower)----------118*13'12"W------118*13'15.42"W

1010.5 & 1018.0 MHz------not yet rcv'd------34*45'00"N---------33*44'41.46"N
(transmitters in ACS hold)----------118*13'12"W------118*13'28.10"W

2272.5 & 2211 MHz----------6088-EX-PL-98----34*45'00"N----------33*44'41.46"N
(transmitters in ACS hold----------118*13'12"W------118*13'28.10"W

5620 MHz----------6086-EX-PL-98--34*45'00"N----------33*44'44"N
(Weather Radar on ACS)----------118*13'12"W------118*13''29"W

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FREQUENCY(MHz)	FCC File Number	Old Coordinates	New Coordinates(Cont.)
6014-6086 MHz		33*44'22"N	33*44'44"N
INTELSAT on LP & ACS		118*13'27"W	118*13'10"W
7355.5 & 7655.5 MHz	6089-EX-PL-98	34*45'00"N	33*44'44"N
(ACS-LP Communications)		118*13'12"W	118*13''10"W
7194.5 & 7494.5 MHz	6087-EX-PL-98	34*45'00"N	33*44'41"N
(LP to ACS communications)		118*13'12"W	118*13'31"W

Call me if you have additional questions

Bill Gjertson
Sea Launch EMC/Frequency Coordinator
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