EXHIBIT E

ENGINEERING STATEMENT
ENVIRONMENTAL STATEMENT FOR
NEW SATELLITE KU UPLINK TRUCK
ON BEHALF OF
SKEHAN COMMUNICATIONS, LLC
TO BE OPERATED IN WASHINGTON, DC AREA

SEPTEMBER 2013

COHEN, DIPPELL AND EVERIST, P.C.
CONSULTING ENGINEERS
RADIO AND TELEVISION
WASHINGTON, D.C.

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
) ss
District of Columbia)

Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President, Secretary and Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1420 N Street, N.W., Suite One, Washington, D.C. 20005;

That his qualifications are a matter of record in the Federal Communications Commission;

That the attached engineering report was prepared by him or under his supervision and direction and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.

Donald G. Everist
District of Columbia
Professional Engineer
Registration No. 5714

Subscribed and sworn to before me this 16th day of September, 2013.

Notary Public

My Commission Expires: 2/28/2018

CAROLYN L. LYONS NOTARY PUBLIC DISTRICT OF COLUMBIA 02-28-2018

Introduction

This engineering statement provides an environmental assessment to accompany the application for Ku-band satellite truck. The engineering statement has been prepared on behalf of Skehan Communications, LLC. Skehan Communications, LLC proposes to construct a transportable transmit Ku-band satellite uplink truck.

The following provides the technical information.

The details for the environmental assessment are provided below.

1) Applicant:

Skehan Communications, LLC

2) Site Location:

N/A - Transportable in the Washington, DC area

3) Type of Domestic Service:

a) Class of Station - Vehicle-mounted earth station

b) Regulatory Class - Private

c) Type of Facility - Transmit-Only

4) Frequency Bands: Transmit 14.0-14.5 GHz

5) Points of Communications: ALSAT

6) Site Elevation Above Mean Sea Level: N/A - Transportable

7) Transmitting Equipment:

a) Number of high power amplifiers 1

b) Manufacturer and Model No.: Advantech Wireless, Model SSPBM-K100-CRE

c) Maximum Power Output (watts) each: 125 watts

8) Antenna Facilities:

a) Antenna conforms to Section 25.209 of FCC Rules

b) Use of antenna: Communications

c) Antenna size: 1.25 meters

d) Type of feed: Single Offset [Prime Focus Offset]

e) Manufacturer and Model No.: General Dynamics Satcom C125M

f) Antenna gain in dBi and the frequency at which it is measured: 43.40 dBi, measured at 14.25 GHz

g) Maximum antenna height above ground: 11 feet, 9 inches (3.58 meters)

11) Remote Control Operation: No

12) Receiving System Noise Temperature: N/A (Transmit-only being applied)

13) Specifics of Operation

a) Frequency Limits: 14.0 - 14.5 GHz

b) Earth Station Antenna Polarization: linear

c) Emission Designator: 9M00G7F

d) Maximum EIRP for each RF carrier in the main-beam: 62.15 dBw

e) Maximum EIRP density for each carrier in main-beam: 22.6 dBw/4 KHz

f) Description of each RF carrier: Phase modulated digital video with digital audio/data

Environmental Assessment

Based on the off-axis radiation characteristics of the 1.25 meter truck-mounted General Dynamics, Model No. C125M parabolic uplink antenna, the proposed operation complies with Section 1.1307 of the FCC Rules as it meets the provisions of the limits adopted by the Commission for Maximum Permissible Exposure (MPE)[1] at all locations surrounding the truck at two meters above ground level.

For an antenna input power of 108.87 Watts, the radio frequency power density outside of the 1.25 meter diameter project cylinder in front of the antenna will be less than 5 $\mu W/m^2$.

The antenna is attached atop a van as shown in Exhibit E-1 of this engineering statement. The center of radiation for the antenna is located 3.58 meters (11 feet, 9 inches) above ground level. The radio frequency power density levels behind the antenna system, and at 2 meters above ground level around the van, will be less than 5 $\mu W/m^2$. The applicant states that transmitting system will be placed in the non-operative mode when authorized personnel are working on the top of the van.

The applicant states it will ensure that its portable uplink system will be operated in such a way as to contribute less than 1% of the allowable MPE limit to site areas containing non-categorically excluded stations. In order to obtain proper illumination of the satellite, the proposed uplink will be operated such that the major on-axis 1.25 meter cylinder, plus its accompanying 5° cone, will be located well away from buildings or towers. The minimum vertical operating angle to any domestic satellite will be at least 15° above the horizon.

For a 1.25 meter diameter parabolic antenna at 14.25 GHz, an antenna input power of 108.87 watts (50.369 dBm) and antenna gain of 43.4 dBi, the results of the five equations[2] follows:

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[1]See Appendix A of *OET Bulletin No. 65, Edition 97-01, August 1997.*

[2]See *OET Bulletin No. 65, Edition 97-01, August 1997,* Pages 27 and 28.

1.	Extent of Near Field	(Equation)	Page
	$R(nf) = D^2 / 4 \text{ Lambda}$ = 18.6 m (61 feet)	(12)	27
2.	Maximum Near Field On-Axis Power Density		
	$S(nf) = 16\eta P / \text{Pi } D^2$ = 23.066 mW/cm², for $\eta = 0.65$	(13)	28
3.	Distance to Beginning of Far Field Region		
	$R(ff) = 0.6 D^2 / \text{Lambda}$ = 44.64 m (146.5 feet)	(16)	29
4.	Transition Region		
	$S=[S(nf) R (nf)] / R$ = 23.066 mW/cm² @ 18.6 m to 9.62 mW/cm² @ 44.6 m	(17)	29
5.	Far Field		
	$S = PG / 4 \text{ Pi } R^2$ = 9.511 mW/cm²	(18)	29

Radiation Hazard Study

Antenna Diameter (D) =	1.25 meters
Antenna Surface Area (A_S) =	1.227 m²
Wavelength at 14.25 GHz (λ) =	0.02103806709 m
Power at Flange =	125 Watts (20.969 dBm)
Antenna Gain at 14.25 GHz =	43.4 dBi
Antenna Aperture Efficiency (η) =	0.65

Region	Distance meters	Radiation Level mW/cm²	Hazard Assessment
Far Field	44.64	9.511	Potential Hazard
Far Field off-axis	--	0.09511	Complies with MPE
Transition Field (R_T)	$18.6<(R_T)<44.64$	<23.066	Potential Hazard
Near Field	1.857	23.066	Potential Hazard

Near Field off-axis	--	0.231	Meets ANSI requirements
Between Main Reflector and Subreflector	--	N/A	--
Main Reflector Region (Wm)		17.743	Potential Hazard
Between Reflector and Ground (W_G)	--	8.872	Potential Hazard
Between Reflector and Ground at 2 meters	--	--	Complies with MPE

An environmental assessment ("EA") is, therefore, categorically excluded under Section 1.1307 of the FCC Rules and Regulations since the applicant indicates:

(a)(1) to (a)(8) The proposed operation is truck-mounted portable unit and not subject to these subsections.

(b) Workers and the general public will not be subjected to RF radiation levels in excess of the FCC adopted limits for Maximum Permissible Exposure (MPE) as set forth in Table 1, Limits for MPE of Appendix A of OET Bulletin No. 65, Edition 97-01, August 1997. Authorized personnel will be alerted to areas of the truck where potential radiation levels are in excess of the MPE standard. The transmitting equipment will be placed in the non-operative mode when authorized personnel are on the truck bed. Workers will ensure that uplink operations will contribute less than 1% of the applicable RF exposure limit to the site areas of any non-categorically excluded facilities including AM and FM radio stations, TV stations, LPTV and TV translator stations, FM booster stations with ERP > 100 watts, ITFS, MDS, and MMDS stations with ERP > 200 watts, experimental stations, and other satellite earth stations. The operation will be in full accordance with FCC Public Notice, Report No. DS-1202 entitled, *Guidelines for Filing Domestic Satellite Earth Station Applications, Released June 10, 1992*.

Environmental Considerations

The facility will not be located in any officially designated wilderness area or wildlife preserve. The facility does not protect, shelter, or affect any threatened or endangered species nor will it result in the destruction or adverse modification of proposed or existing critical habitats. The

facility will not affect districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture.

The facility will not affect Indian religious sites and is not located in a flood plain. Construction of the facility will not involve significant change in surface features, nor be equipped with high intensity white lights.

Based on the above, the facility will not cause exposure to workers or the general public to levels of radio frequency radiation in excess of Maximum Permissible Exposure limits.

The applicant anticipates that the facility will meet or exceed MPE objectives of the *OET Bulletin No. 65, Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, Edition 97-01, August 1997*. During operation, the applicant indicates that all personnel will be restricted from areas where hazardous radiation will be encountered. Equipment shielding and warning signs will be employed as needed.

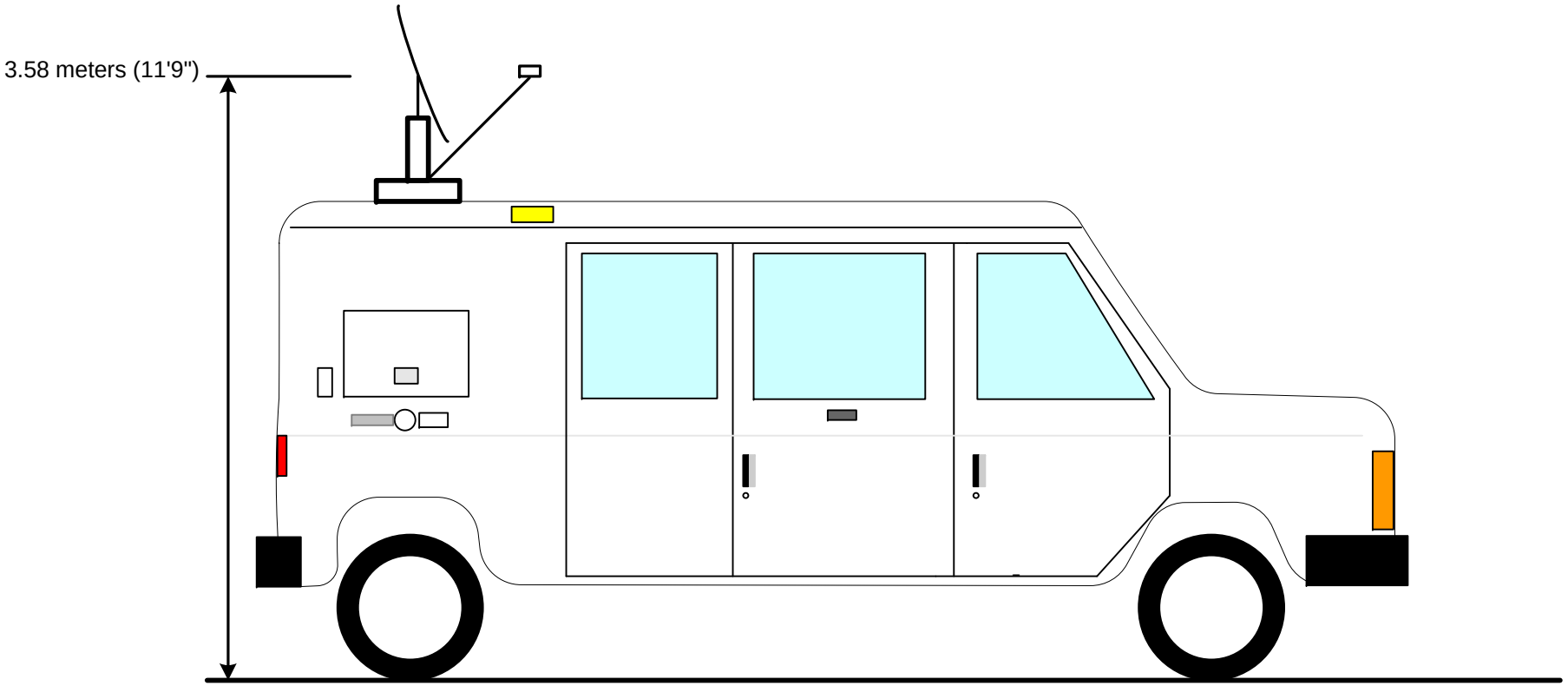

EXHIBIT E-1

DIGITAL SATELLITE UPLINK
VAN AND ANTENNA PROFILE

SEPTEMBER 2013

COHEN, DIPPELL AND EVERIST, P.C. Consulting Engineers Washington, D.C.