

**NOTICE OF COMPLETION OF C-BAND ESV COORDINATION –**

**GALVESTON, TEXAS PORT AREA**

MTN License Corp. (“MTN”), pursuant to Section 25.221(a)(12) of the Commission’s rules, 47 C.F.R. 25.221(a)(12), hereby submits notification of the successful completion of frequency coordination of Earth Station on Vessels (“ESV”) operations conducted in the port area of Galveston, Texas under its C-band ESV network license (Call Sign E050281). In support of this notification, MTN provides the following information as set forth in the Commission’s Public Notice DA 05-1671 (released June 15, 2005):

1. Name and contact information of the frequency coordinator

Ken Ryan, P.E.  
Skjei Telecom, Inc.  
777 Leesburg Pike, Suite 315N  
Falls Church, VA 22043  
Telephone: 703-917-4077  
Email: [www.skjeitelecom.com](http://www.skjeitelecom.com)

2. Reference identification, date, and duration (if relevant) of the coordination report

Coordination Report Number: 151125SKJTEL05  
Date: February 3, 2016

3. Frequency coordination method used

Critical contour point method

4. Interference criteria used

Long term: -154.0 dBW/4 kHz 20%  
Short term: -131.0 dBW/4 kHz 0.0025%

5. Speed of coordinated vessel, if relevant

8.6 knots

6. Center frequencies, bandwidths, and total spectrum coordinated per satellite

Frequency Range: 5950.1-5953.9 MHz<sup>1</sup>

Bandwidths: 1.05 MHz and 3.75 MHz

Total spectrum coordinated: 3.8 MHz

7. Name of satellite(s) and transponder(s) being used

Satellite: IS23 @ 53°W.L.

Transponder: WH1C

Transponder Frequency Range: 5929.0-6006.0 MHz

8. Textual description and scaled map of the geographic area(s) coordinated

The geographic area coordinated is the route depicted in the maps contained in the attached Frequency Coordination and Interference Analysis Report, as well as all of the area seaward of this route within 200 kilometers of the baseline of the United States or 200 kilometers from any fixed service offshore installation.

9. 24/7 contact information for the ESV operator

Telephone: 1-954-538-4074

Email: noc.maritime@emconnected.com

10. Call sign of the hub station if independently licensed

N/A

11. Statement indicating that as of the date of this notification there are no unresolved coordination requests which would result in an exceedance of the maximum 180 megahertz of coordinated spectrum for all ESV operations in the coordination area in Section 25.202(a)(8)

The frequency coordination advises that there are no unresolved coordination requests which would result in an exceedance of the maximum 180 megahertz of coordinated spectrum for all ESV operations in the 5925-6425 MHz band.

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<sup>1</sup> MTN notes that the attached Frequency Coordination and Interference Analysis Report also includes the coordination of the 6410.4-6420.5 MHz frequency band. Although these frequencies were coordinated, MTN has no immediate plans to operate within this band and thus does not include it as part of this Notice.

**MTN License Corp.**

Call Sign E050281

January 27, 2017

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MTN respectfully requests that this notification be placed on Public Notice. Questions concerning this matter should be directed to MTN's counsel: David Keir (email address: [dkeir@lermansenter.com](mailto:dkeir@lermansenter.com); telephone: 202-416-6742) and Philip Bonomo (email address: [pbonomo@lermansenter.com](mailto:pbonomo@lermansenter.com); telephone: 202-416-6773).

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**MTN license Corp**  
**Galveston, TX**  
**Satellite Earth Station on Vessel (ESV)**

Prepared By:  
Skjei Telecom, Inc.  
7777 Leesburg Pike, Suite 315N  
Falls Church, VA 22043  
February 3, 2016

# Skjei Telecom, Inc.

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## **Skjei Telecom, Inc.**

### **1. CONCLUSIONS**

An interference study considering all existing, proposed and prior coordinated microwave facilities within the coordination contours of the proposed earth station demonstrates that this site will operate satisfactorily with the common carrier microwave environment. There will be spectrum restrictions due to interference considerations.

## Skjei Telecom, Inc.

### 2. SUMMARY OF RESULTS

A number of great circle interference cases were identified during the interference study of the proposed earth station. The Critical Contour Point method of determining worst case interference from the route and port sites was the interference method used. Each of the cases, which exceeded the interference objective on a line-of-sight basis, was profiled and the propagation losses estimated using NBS TN101 (Revised) techniques. The losses were found to be sufficient to reduce the signal levels to acceptable magnitudes in every case. In those cases where OH losses did not resolve the interference the ESV will mute transmission within an exclusion zone sufficient in size to preclude interference. Also note, that there are no unresolved coordination requests which would result in an exceedance of the maximum 180 megahertz of coordinated spectrum for all ESV operations in the coordination area in the 5925-6425 MHz band.

The following companies reported potential great circle interference conflicts that did not meet the objectives on a line-of-sight basis. When over-the-horizon losses are considered on the interfering paths, sufficient blockage exists to negate harmful interference from occurring with the proposed transmit-only earth station. The ESV will employ a GPS sensitive ability to cease transmission when traveling in certain exclusion zones. The interference cases and the location of the critical contour point (CCP), around which the exclusion zones exist are detailed in the tables below.

#### Company

RigNet SatCom, Inc.  
American National Insurance Company  
FiberLight LLC  
Centerpoint Energy Inc  
AT&T MOBILITY OF GALVESTON, LLC  
New Cingular Wireless PCS LLC - S Texas  
Towerstream Corp.  
American National Insurance Company  
GTE Mobilnet of South Texas LTD Partners  
Trunkline Gas Company LLC

## Skjei Telecom, Inc.

Site									
Desired Frequencies (MHz)		5950.1992 - 5953.9708	6094.001 - 6112.771	5987 - 6020.96	6314.798 - 6344.248	6401.51 - 6408.415			
Into 1									
		Summary					Frequencies Affected		
707	59.57083					Y	6404.79	0	0
328	46.21039			Y			5974.85	6004.5	6063.8
701	35.28741		Y				6137.925	0	0
79	24.30116			Y			6034.15	0	0
589	9.098328			Y			6034.15	0	0
503	7.827932			Y			5974.85	0	0
433	1.626915	Y		Y			5945.2	5974.85	0
Notes									
Desired Frequencies (MHz)		5950.1992 - 5953.9708	6094.001 - 6112.771	5987 - 6020.96	6314.798 - 6344.248	6401.51 - 6408.415			
Into 2									
Case #	Margin(dB)						Frequencies Affected		
328	34.57292				Y		6226.89	6256.54	6315.84
318	25.52804				Y		6197.24	6345.49	6375.14
641	15.36912	Y					5945.2	0	0
235	11.9964		Y				6123.1	0	0
274	6.725154	Y		Y			5945.2	5974.85	0
454	5.262011		Y				6093.45	0	0
642	3.269116	Y					5945.2	0	0

Table 1 – ESV Interference Cases



## Skjei Telecom, Inc.

Interference Zones					
Into 1					
Case #	CCP Latitude (dec.deg)	CCP Longitude (dec.deg.)	Margin (dB)	Victim Rx Site	Licensee
707	29.32070954	94.78169616	59.57	GALVESTON	RigNet SatCom, Inc.
328	29.31101729	94.7949652	46.21	MOODY PLAZA	American National Insurance Company
701	29.34508981	94.72933302	35.29	IVORY	FiberLight LLC
79	29.3083451	94.79529943	24.30	GALVESTON	Centerpoint Energy Inc
589	29.23995717	94.49570569	9.10	STANDLINO RE	AT&T MOBILITY OF GALVESTON, LLC
503	29.32256408	94.7804824	7.83	DANBURY DUP1	New Cingular Wireless PCS LLC - S Texas
433	29.34072622	94.68885695	1.63	TS-HOU0002	Towerstream Corp.
Into 2 Case #	CCP Latitude (dec.deg)	CCP Longitude (dec.deg.)	Margin (dB)	Victim Rx Site	Licensee
328	29.3113065	94.7945316	34.57	CLEARLAKE	American National Insurance Company
318	29.34078173	94.77071324	25.53	LEAGUE CITY	GTE Mobilnet of South Texas LTD Partners
641	27.95244963	93.70740791	15.37	EC 334B	RigNet SatCom, Inc.
235	28.7531437	93.00836612	12.00	EC 321	RigNet SatCom, Inc.
274	29.31624029	94.78713394	6.73	TIMBERLINE	GTE Mobilnet of South Texas LTD Partners
454	29.30920805	94.7976776	5.26	CYPRESS	Trunkline Gas Company LLC
642	27.95244963	93.70740791	3.27	EC 334B	RigNet SatCom, Inc.

Table 2 - ESV CCP Locations  
See Interference Analysis for Exclusion Zone Details

### **3. SUPPLEMENTAL SHOWING**

Pursuant to Part 25.203(c) of the FCC Rules and Regulations, the satellite earth station proposed in this application was coordinated by Skjei Telecom, Inc. using computer techniques and in accordance with Part 25 of the FCC Rules and Regulations.

Coordination data for this earth station was sent to the below listed carriers with PCN letter dated 11/25/2015.

Aircanopy Internet Services, Inc.  
AT&T MOBILITY OF GALVESTON, LLC  
Brazoria, County of  
Calcasieu Parish Sheriff's Office  
Central Louisiana License Co, LLC  
Cequel III Communications I, LLC  
Chambers, County of  
Cingular Wireless of Texas RSA #11 LP  
Verizon Wireless(VAW) LLC-AZ/CO/NM/NV/UT  
Compass Minerals  
Conterra Ultra Broadband, LLC  
Cox Radio, Inc. (Houston, TX)  
Cingular Wireless of Texas RSA #16 LP  
Cy-Fair Volunteer Fire Department  
Dallas MTA, L.P.  
Dobson Cellular Systems LLC - S Texas  
Enterprise Products Operating, LLC  
ERF Wireless Bundled Services, Inc.  
East Texas Electric Cooperative, Inc  
FiberLight LLC  
Greater Harris County 911 Emergency Net  
Graham Media Group, Houston, Inc  
GTE Mobilnet of Texas RSA #17 LTD Prtnsh  
GTE Mobilnet of South TX Ltd Prtnrshp  
Harris County ITC  
Houston County Electric Cooperative  
JD Bank  
KN Telecommunications, Inc.  
Lake Charles Harbor Police  
New Cingular Wireless PCS LLC - N Texas  
New Cingular Wireless PCS LLC - S Texas  
NETWORK USA

New Cingular Wireless PCS, LLC - LA, GM  
Northeast Texas Consortium(NETnet)  
T-Mobile License LLC  
Acadiana Cellular General Partnership  
Central Telephone Company of Texas  
GTE Mobilnet of South Texas LTD Partners  
Lafayette MSA Limited Partnership  
STAR TELEPHONE COMPANY  
Phillips 66 Communications Inc  
Pooley, Allen L  
RigNet SatCom, Inc.  
ConocoPhillips Communications Inc.  
Louisiana Dept of Transportation and Dev  
Lower Colorado River Authority  
Entergy Services Inc  
Centerpoint Energy Inc  
Texas Eastern Communications, LLC  
Trunkline Gas Company LLC  
Union Pacific Railroad Company  
Bluebonnet Electric Cooperative  
Cleco Power LLC  
City of Houston  
American Electric Power Service Co  
American National Insurance Company  
LOOP LLC  
Equistar Chemicals, LP  
Austin Energy  
Sam Houston Electric Cooperative Inc.  
SAN BERNARD ELECTRIC COOPERATIVE INC  
South Texas Electric Cooperative  
Transcontinental Gas Pipeline Corp.  
Guadalupe Valley Electric Coop  
JASPER NEWTON ELECTRIC COOPERATIVE  
DELTA MEDIA CORPORATION  
San Antonio MTA, L.P. - Central Texas  
SAN ANTONIO MTA, L.P. DESERT MTN RGN  
San Antonio MTA, L.P. ( HGC Mkt)  
Beauregard Electric Cooperative Inc  
Stratos Offshore Services Company  
Southern Light, LLC  
TEX-LA Electric Cooperative of Texas Inc  
Texas New Mexico Power Company  
TISD, Inc.  
Towerstream Corp.  
TX-10 Licensee Co., LLC  
Verizon Wireless (VAW) LLC-C TX/LA/AR

Verizon Wireless (VAW) / LA  
Verizon Wireless Personal Comm LP-LA/MS  
Verizon Wireless (VAW) LLC - Texas  
Verizon Wireless VAW LLC-TX/Houston GC

## **4. EARTH STATION COORDINATION DATA**

This section presents the data pertinent to frequency coordination of the proposed earth station that was circulated to all carriers within its coordination contours. The coordination contours include all the area within this route as well as all of the area seaward of this route within 200 km of the baseline of the United States or 200 km from any fixed service offshore installations.”

ate: 11/25/2015  
Job Number: 151125SKJTEL05

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**Administrative Information**

Status ENGINEER PROPOSAL  
Call Sign  
Licensee Code MRNESV  
Licensee Name MTN License Corp. - ESV In-Motion Route

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**Site Information GALVESTON, TX**

Venue Name GALVESTON ESV  
Latitude (NAD 83) 29° 18' 59.4" N  
Longitude (NAD 83) 94° 47' 0.2" W  
Climate Zone B  
Rain Zone 2  
Ground Elevation (AMSL) 0.0 m / 0.0 ft

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**Link Information**

Satellite Type Geostationary  
Mode TO - Transmit-Only  
Modulation Digital  
Satellite Arc 47° W to 53° West Longitude  
Azimuth Range 114.0° to 118.7°  
Corresponding Elevation Angles 28.2° / 33.3°  
Antenna Centerline (AGL) 15.54 m / 51.0 ft

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**Antenna Information Transmit - FCC32**

Manufacturer FCC REFERENCE  
Model 32-25LOG(THETA)  
Gain / Diameter 41.7 dBi / 2.4 m  
3-dB / 15-dB Beamwidth 0.66° / 1.55°

Max Available RF Power (dBW/4 kHz) -10.0  
(dBW/MHz) 14.0

Maximum EIRP (dBW/4 kHz) 31.7  
(dBW/MHz) 55.7  
(dBW) 61.4

Interference Objectives: Long Term -154.0 dBW/4 kHz 20%  
Short Term -131.0 dBW/4 kHz 0.0025%

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**Frequency Information Transmit 6.1 GHz**

Emission / Frequency Range (MHz) 1M05G7W - 3M75G7W / 5950.1 - 5953.9  
1M05G7W - 3M75G7W / 6410.4 - 6420.5

Max Great Circle Coordination Distance 191.6 km / 119.1 mi  
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

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**Coordination Values****GALVESTON, TX**

Licensee Name MTN License Corp. - ESV In-Motion Route  
Latitude (NAD 83) 29° 18' 59.4" N  
Longitude (NAD 83) 94° 47' 0.2" W  
Ground Elevation (AMSL) 0.0 m / 0.0 ft  
Antenna Centerline (AGL) 15.54 m / 51.0 ft  
Antenna Model FCC Reference 32-25LOG(THETA)  
Antenna Mode Transmit 6.1 GHz  
Interference Objectives: Long Term -154.0 dBW/4 kHz 20%  
Short Term -131.0 dBW/4 kHz 0.0025%  
Max Available RF Power -10.0 (dBW/4 kHz)

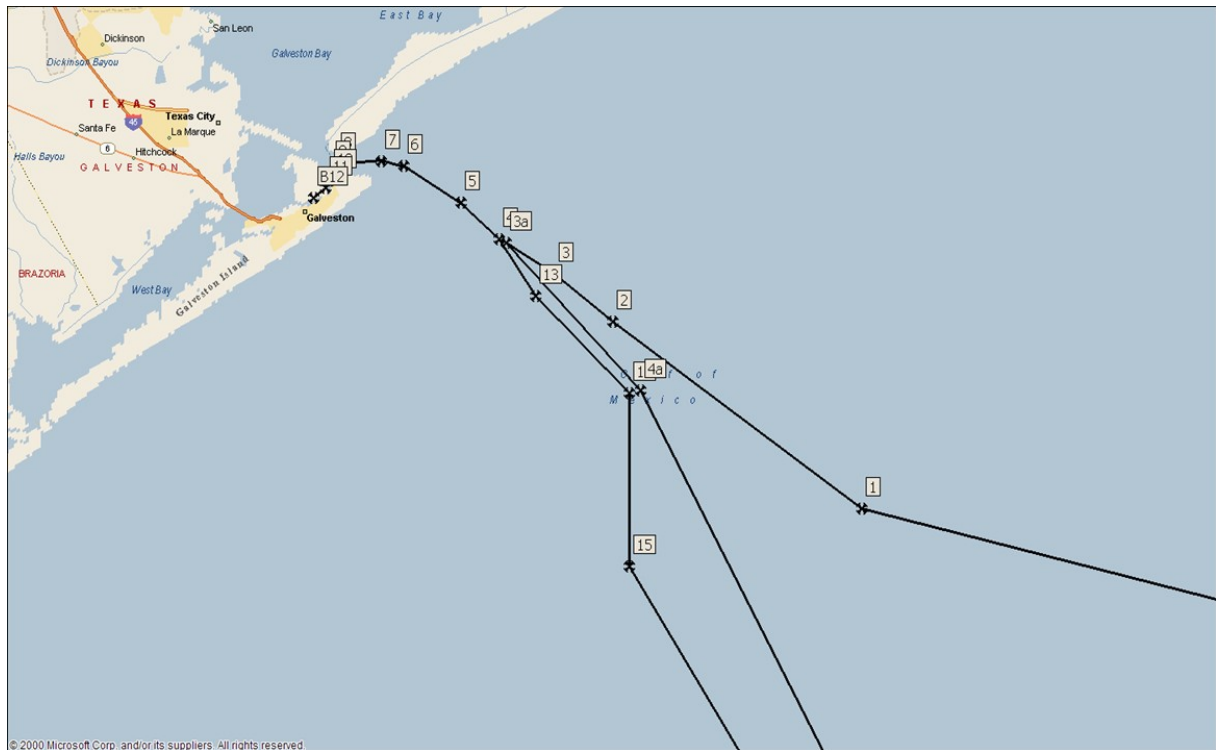
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	110.96	-10.00	162.88
5	0.00	106.63	-10.00	162.88
10	0.00	102.27	-10.00	162.88
15	0.00	97.88	-10.00	162.88
20	0.00	93.48	-10.00	162.88
25	0.00	89.08	-10.00	162.88
30	0.00	84.67	-10.00	162.88
35	0.00	80.28	-10.00	162.88
40	0.00	75.90	-10.00	162.88
45	0.00	71.55	-10.00	162.88
50	0.00	67.24	-10.00	162.88
55	0.00	62.97	-10.00	162.88
60	0.00	58.76	-10.00	162.88
65	0.00	54.64	-10.00	162.88
70	0.00	50.62	-10.00	162.88
75	0.00	46.74	-9.74	164.06
80	0.00	43.03	-8.84	168.25
85	0.00	39.55	-7.93	172.67
90	0.00	36.36	-7.01	177.20
95	0.00	33.54	-6.14	181.66
100	0.00	31.21	-5.36	185.75
105	0.00	29.48	-4.74	189.07
110	0.00	28.46	-4.36	191.15
115	0.00	28.22	-4.27	191.64
120	0.00	28.80	-4.48	190.45
125	0.00	30.13	-4.97	187.80
130	0.00	32.12	-5.67	184.11
135	0.00	34.67	-6.50	179.82
140	0.00	37.65	-7.39	175.30
145	0.00	40.97	-8.31	170.80
150	0.00	44.38	-9.18	166.67
155	0.00	47.63	-9.95	163.12
160	0.00	51.08	-10.00	162.88
165	0.00	54.71	-10.00	162.88
170	0.00	58.47	-10.00	162.88
175	0.00	62.35	-10.00	162.88
180	0.00	66.32	-10.00	162.88
185	0.00	70.35	-10.00	162.88

<b>Coordination Values</b>	<b>GALVESTON, TX</b>
Licensee Name	MTN License Corp. - ESV In-Motion Route
Latitude (NAD 83)	29° 18' 59.4" N
Longitude (NAD 83)	94° 47' 0.2" W
Ground Elevation (AMSL)	0.0 m / 0.0 ft
Antenna Centerline (AGL)	15.54 m / 51.0 ft
Antenna Model	FCC Reference 32-25LOG(THETA)
Antenna Mode	Transmit 6.1 GHz
Interference Objectives: Long Term	-154.0 dBW/4 kHz 20%
Short Term	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	-10.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	74.44	-10.00	162.88
195	0.00	78.56	-10.00	162.88
200	0.00	82.72	-10.00	162.88
205	0.00	86.89	-10.00	162.88
210	0.00	91.07	-10.00	162.88
215	0.00	95.24	-10.00	162.88
220	0.00	99.41	-10.00	162.88
225	0.00	103.55	-10.00	162.88
230	0.00	107.66	-10.00	162.88
235	0.00	111.72	-10.00	162.88
240	0.00	115.72	-10.00	162.88
245	0.00	119.64	-10.00	162.88
250	0.00	123.47	-10.00	162.88
255	0.00	127.16	-10.00	162.88
260	0.00	130.70	-10.00	162.88
265	0.00	134.05	-10.00	162.88
270	0.00	137.14	-10.00	162.88
275	0.00	139.93	-10.00	162.88
280	0.00	142.34	-10.00	162.88
285	0.00	144.29	-10.00	162.88
290	0.00	145.71	-10.00	162.88
295	0.00	146.52	-10.00	162.88
300	0.00	146.69	-10.00	162.88
305	0.00	146.19	-10.00	162.88
310	0.00	145.06	-10.00	162.88
315	0.00	143.36	-10.00	162.88
320	0.00	141.16	-10.00	162.88
325	0.00	138.55	-10.00	162.88
330	0.00	135.44	-10.00	162.88
335	0.00	131.65	-10.00	162.88
340	0.00	127.71	-10.00	162.88
345	0.00	123.64	-10.00	162.88
350	0.00	119.49	-10.00	162.88
355	0.00	115.25	-10.00	162.88



Name	Latitude	Longitude
N	28.70719	-92.8033
1	29	-94.1383
2	29.18667	-94.4367
3	29.23333	-94.5067
3a	29.26469	-94.5653
4a	29.11775	-94.4037
S	27.8217	-93.6225
4	29.26833	-94.5733
5	29.30417	-94.62
6	29.3405	-94.6885
7	29.34567	-94.7153
8	29.3425	-94.7688
9	29.33467	-94.775
10	29.32633	-94.7775
11	29.319	-94.7823
B12	29.309	-94.7973
13	29.21167	-94.53
14	29.115	-94.4167
15	28.94333	-94.4167





## 5. CERTIFICATION

I HEREBY CERTIFY THAT I AM THE TECHNICALLY QUALIFIED PERSON RESPONSIBLE FOR THE PREPARATION OF THE FREQUENCY COORDINATION DATA CONTAINED IN THIS APPLICATION, THAT I AM FAMILIAR WITH PARTS 101 AND 25 OF THE FCC RULES AND REGULATIONS, THAT I HAVE EITHER PREPARED OR REVIEWED THE FREQUENCY COORDINATION DATA SUBMITTED WITH THIS APPLICATION, AND THAT IT IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY:



Ken Ryan, P.E.  
Principal Engineer  
Skjei Telecom, Inc.  
7777 Leesburg Pike, Suite 315N  
Falls Church, VA 22043

DATED: February 3, 2016