

KELLEY DRYE & WARREN LLP

A LIMITED LIABILITY PARTNERSHIP

WASHINGTON HARBOUR, SUITE 400

3050 K STREET, NW

WASHINGTON, DC 20007

(202) 342-8400

FACSIMILE

(202) 342-8451

www.kelleydrye.com

EDWARD A. YORKGITIS, JR.

DIRECT LINE: (202) 342-8540

EMAIL: CYORKGITIS@KELLEYDRYE.COM

NEW YORK, NY
LOS ANGELES, CA
HOUSTON, TX
AUSTIN, TX
CHICAGO, IL
PARSIPPANY, NJ
STAMFORD, CT
BRUSSELS, BELGIUM

AFFILIATE OFFICE
MUMBAI, INDIA

April 18, 2019

By ECFS

Marlene Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: **Elefante Group Notice of Oral *Ex Parte* Presentation:**
RM-11809; GN Docket No. 14-177

Dear Ms. Dortch:

On April 16, 2019, Christopher DeMarche, COO, of Elefante Group, Inc., (“Elefante Group”) and Edward A. Yorkgitis, Jr., of Kelley Drye & Warren LLP, counsel for Elefante Group met with William Davenport, Chief of Staff & Senior Legal Advisor for Wireless and International to Commissioner Starks.

The Elefante Group representatives explained the company’s plans, working with Lockheed Martin on the technologies, to build and deploy transformative low-latency, persistent stratospheric-based communications and infrastructure in the United States beginning as soon as 2022. They described how Stratospheric-Based Communications Services (“SBCS”), as envisioned by Elefante Group, is to be provided on a wholesale basis at capacities of 1 Tbps per stratospheric airborne platform (“STRAPS”) (in both directions). The company’s representatives noted that Elefante Group’s SBCS, operating as a network in the sky with end to end latencies of <5 ms, will deliver advantages that complement both land-based networks and satellite systems and that would help the United States “win the race to 5G” in urban and rural areas, as well as advance a number of other Commission and Administration public interest objectives.

Elefante Group provided a summary of the key elements of its proposal, set out in detail in its May 31, 2018, Petition for Rulemaking filed in RM-11809, which is predicated on shared access to spectrum by SBCS operators on a non-exclusive basis. Based on extensive analysis of existing bands from 17 GHz through 43.5 GHz, including over forty compatibility studies, Elefante Group identified the spectrum bands suitable for implementing persistent, high-capacity

KELLEY DRYE & WARREN LLP

Marlene Dortch
April 18, 2019
Page Two

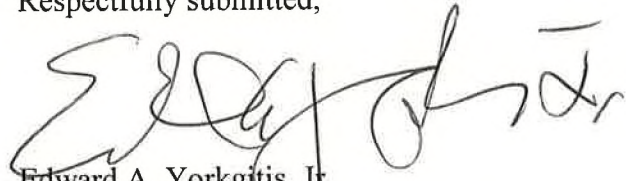
SBCS in this country, taking into account allocations, technical characteristics of existing uses, planned and proposed uses, and its own system, which incorporates "compatibility by design." (Many of the studies are attached to Elefante Group's Petition for Rulemaking and its Reply Comments in the RM-11809 file.) Elefante Group submits, on the basis of this work, that access to these bands, the 21.5-23.6 GHz and 25.25-27.5 GHz bands for communications between user terminals ("UTs") via STRAPS, and the 71-76 and 81-86 GHz bands for gateway feeder links, are essential for realization of SBCS in this country.

In closing, the Elefante Group representatives explained that the Commission should commence a standalone rulemaking proceeding to address the adoption of any rule changes needed to implement SBCS in these bands on a shared basis or, alternatively, issue a further notice of proposed rulemaking in the *Spectrum Frontiers* proceeding (GN Docket No. 14-177) which includes all of the bands identified above which seeks comments on the rule changes proposed by Elefante Group for SBCS. Regardless of which action the Commission takes, the Elefante Group representatives submitted that the Commission should not make the 25.25-27.5 GHz band available for auction to the Upper Microwave Flexible Use Service ("UMFUS") in addition to the other, approximately 10 gigahertz of millimeter-wave spectrum already designated or under consideration for UMFUS – not to mention the hundreds of megahertz of spectrum actively being considered for, or which will soon be auctioned to, flexible mobile use in the L-Band and C-Band.

A copy of the written presentation materials used in the meeting is attached.

Pursuant to Section 1.1206(b) of the Commission's rules, this letter is being filed electronically.

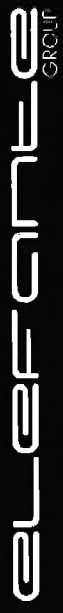
Respectfully submitted,



Edward A. Yorkgitis, Jr.
Counsel to Elefante Group, Inc.

Attachment

cc: William Davenport



Stratospheric-Based Communications Services
in the 21, 26, 70/80 GHz Bands

*Meeting with the Office of
FCC Commissioner Starks*
April 16th 2019



Meeting Agenda

- Elefante Group Vision as Developer and Operator
- Capabilities and Operational Advantages of Stratospheric-Based Communication Services (SBCS)
- Public Benefits of SBCS
- SBCS Spectrum Requirements
- Pending Petition for Rulemaking at FCC

Elefante Group's Vision and Business Plan

- Founded in 2015 and based in Denver, Colorado
- Leveraging emerging technologies and EG-funded R&D to deliver highly spectrally efficient and advanced access within a shared spectrum environment
- Support wholesale fixed communications serving urban and rural areas
 - 4G/5G Backhaul
 - Enterprise WAN
 - Residential Broadband
 - Sensor & IoT
- Bypass significant infrastructure challenges inherent in ground-based wireless and IP network deployments and upgrades
 - Ubiquitous, near-instantaneous reach within footprint
 - "Network in the Sky"
 - Flexible resource management
- Working with Lockheed Martin on the airship and communications technologies



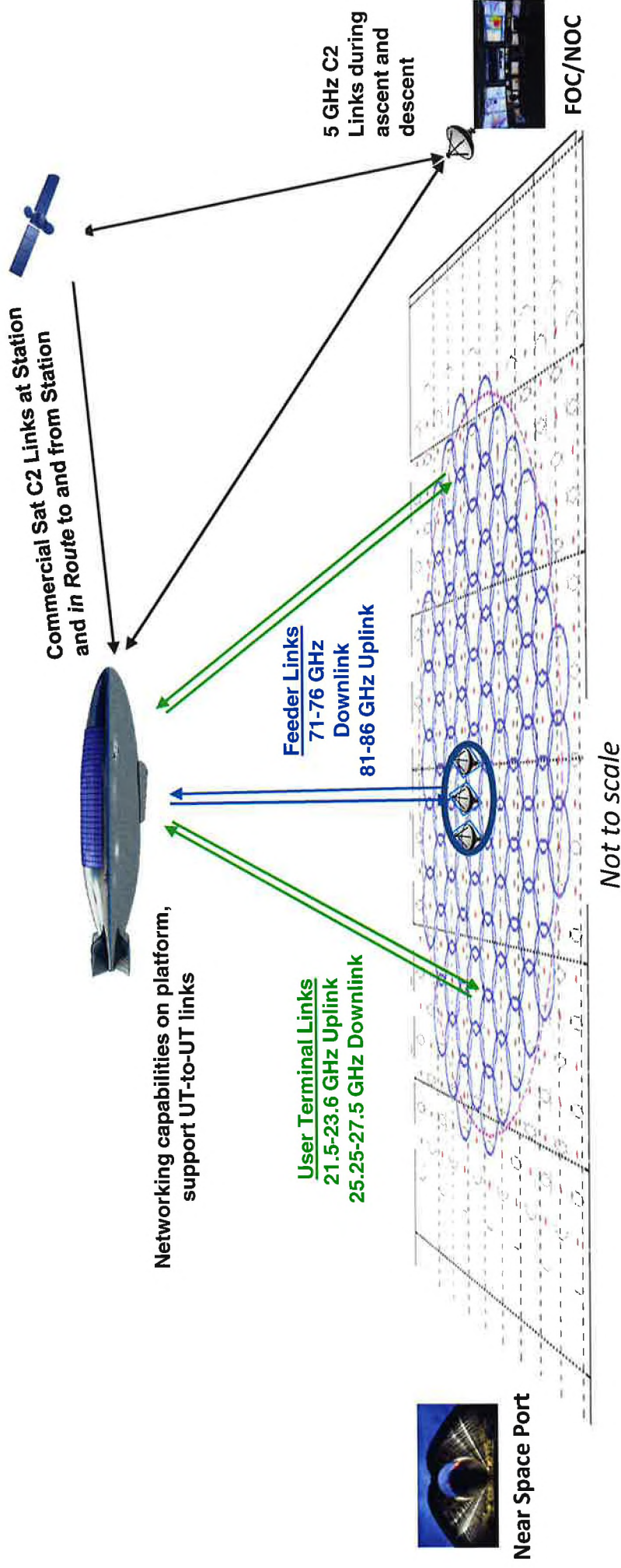
Elefante Group's communications solutions will cost up to 80% less than alternative delivery solutions

SBCS Systems Will Advance National Objectives

- Significant investment in **emerging technologies** and **high speed broadband infrastructure** developed in USA
- Next-gen solutions in both urban, rural, and remote areas to help **close the Digital Divide**
- **Deployment & Densification of 4G, 5G and IoT** with greater flexibility and lower cost
- **Spectrum access model that maximizes utilization and efficiency**
- **Compatible operation with existing services** in encumbered spectrum allowing all services to grow and innovate
- Enables **continuous market-wide technology upgrades** with modular payloads
- **Uninterrupted communications** during major weather events
- **Rapid restoration** for public safety and disaster relief
- **US jobs creation** in engineering, construction, and operations

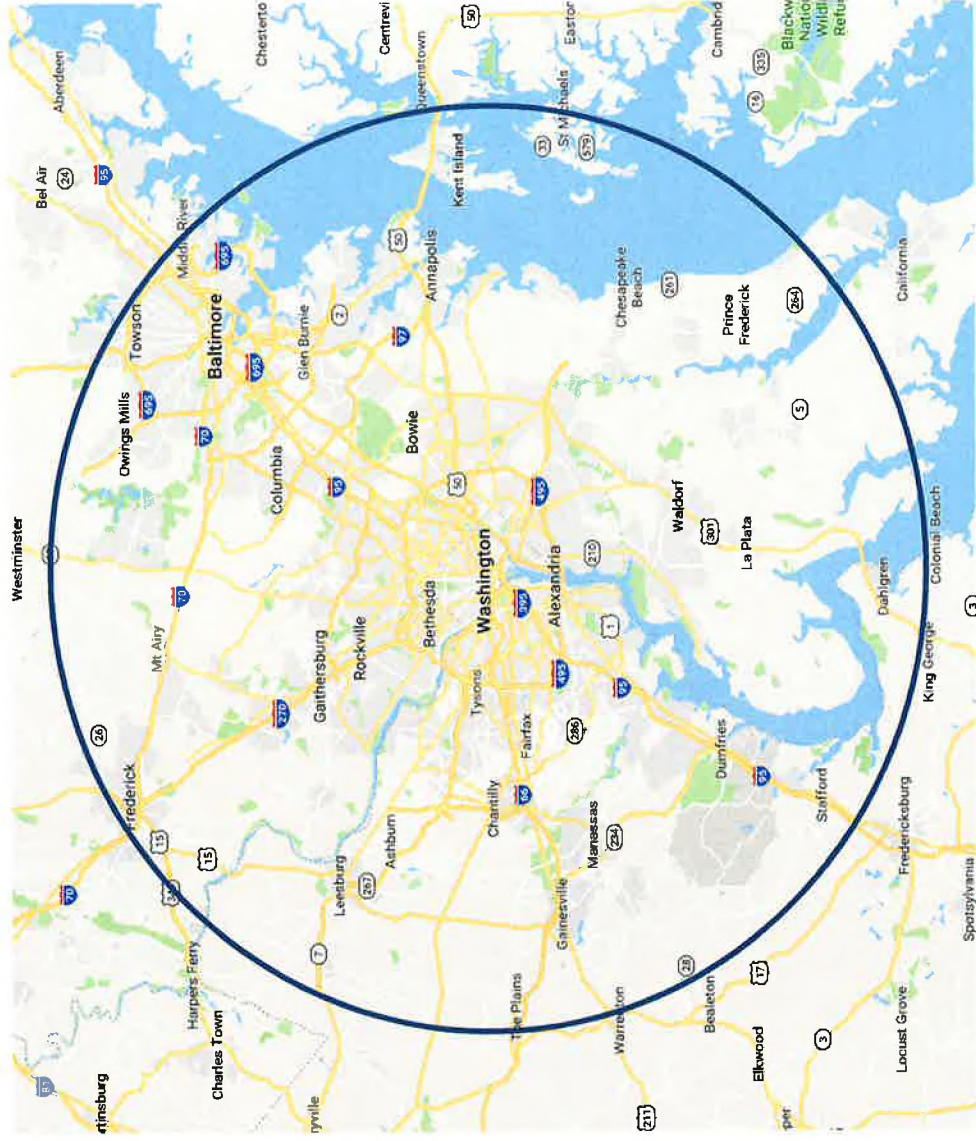
SBCS offers new technologies and services that complement ground-based fixed/mobile and satellite solutions and will serve the public interest

Stratospheric-Based Communications Architecture



Providing 1 Tbps bi-directional, low latency stratospheric capacity (per platform) to U.S. market first and help the country win the race to 5G

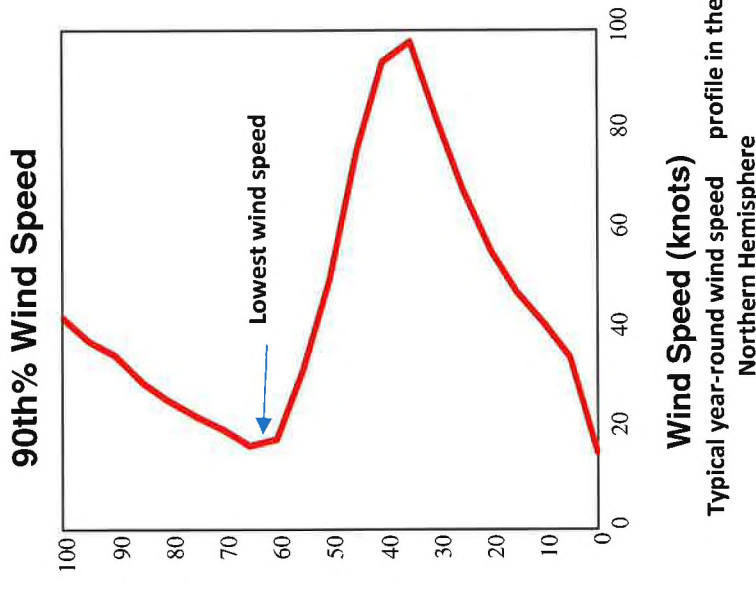
Illustrative Coverage Map: Washington DC



A single STRAPS positioned over Washington, DC would cover the District, surrounding suburbs and cities along the Beltway, and extend into many rural communities – encompassing all or part of 22 counties in three states (depending on center point), parts of Baltimore City, and other independent cities.

Key Characteristics of Elefante Group's Stratospheric Platforms

- Platforms operate at nominal fixed position at approximate altitude of 19.8km
 - Fixed point to point services
 - Ensures low latency communications (less than 5ms)
 - Stable ~15,400 km² coverage area
- 210m (687 ft) long with a 47m (155 ft) diameter
- Holding 258,000 cubic meters of helium (9.1 mcf)
- Hybrid solar/battery and fuel cell power system
- Large payload capability (1500 kg, 10 kW power)
- Fully recoverable, serviceable and payload upgradable at will
- Hybrid (solar, battery and fuel cell) power/propulsion provides 65 knot speed for station-keeping
- Ultra-long mission on station (> 6 months on average)
- 10 year minimum life
- Low operating, maintenance, and overall lifecycle costs



SBCS Spectrum Requirements to Achieve 1 Tbps

- User Links: Between Platform and Terminals
 - Bands examined between 17 and 43.5 GHz to determine suitable spectrum to deliver 1 Tbps in each direction
 - Completed over 40 sets of Federal & non-Federal spectrum compatibility studies
 - Bands selected to maximize throughput for a new service while flexibly using spectrum to remain compatible with existing services as they grow and innovate
 - Reviewed spectrum compatibility studies with multiple federal and non-Federal stakeholders
 - Conclusions:
 - 21.5-23.6 GHz (uplink) and 25.25-27.5 GHz (downlink) are clear best candidates for SBCS in the United States allowing continued growth and innovation of co-band services
 - Elefante Group will reuse the spectrum >130 times by each stratospheric platform
 - Elefante Group will provide high spectral efficiency (> 4.5 bps/Hz)
- Feeder Links: Platform to/from Terrestrial Services
 - Platform feeder links will be in the 71-76 and 81-86 GHz bands
 - Reusing the 10 GHz multiple times per platform

U.S. risks losing advantages and benefits of SBCS if no access to these bands

Petition for Rulemaking

Scope

- Elefante Group seeks non-exclusive, co-primary spectrum access in candidate frequency bands (21.5-23.6, 25.25-27.5, 71-76, and 81-86 GHz) for SBCS systems operating in both urban and rural areas
 - No mutual exclusivity requiring auctions
 - SBCS licenses should be granted on a rolling-wide area geographic basis (REAs)
- Elefante Group proposes SBCS service and operational rules
 - Appropriate rural commitments may be considered
- Foundation for SBCS technical rules would be compatibility with other spectrum users and ability for multiple SBCS systems to serve same geographic areas
 - Inherent capabilities of SBCS deployments to exploit mitigation methods plus appropriate interference protection criteria for other users
 - Both SBCS and incumbent uses can grow and innovate

[Elefante Group has been and remains engaged with federal and non-federal stakeholders](#)

Petition for Rulemaking (cont'd)

Process

- Petition filed May 31, 2018 – comment cycle completed in August 2018
- The Petition (and ensuing rulemaking) qualifies for treatment under Section 7 of the Communications Act
- The Commission could proceed with a new further notice in *Spectrum Frontiers* that addresses 26 GHz and the other proposed SBCS bands or initiate a separate rulemaking

Our national spectrum strategy should accommodate stratospheric airborne communications in addition to ground-based fixed/mobile and satellite platforms as essential elements to achieving next generation solutions and promoting innovation

ELEFANTE GROUP THANKS YOU!

CONTACTS:

Chris DeMarche

Chief Operations Officer

Elefante Group

303-229-5555

chris.demarche@elefantegroup.com

Chip Yorkgitis

Partner, Kelley, Drye & Warren LLP

202-342-8540

cyorkgitis@kelleydrye.com