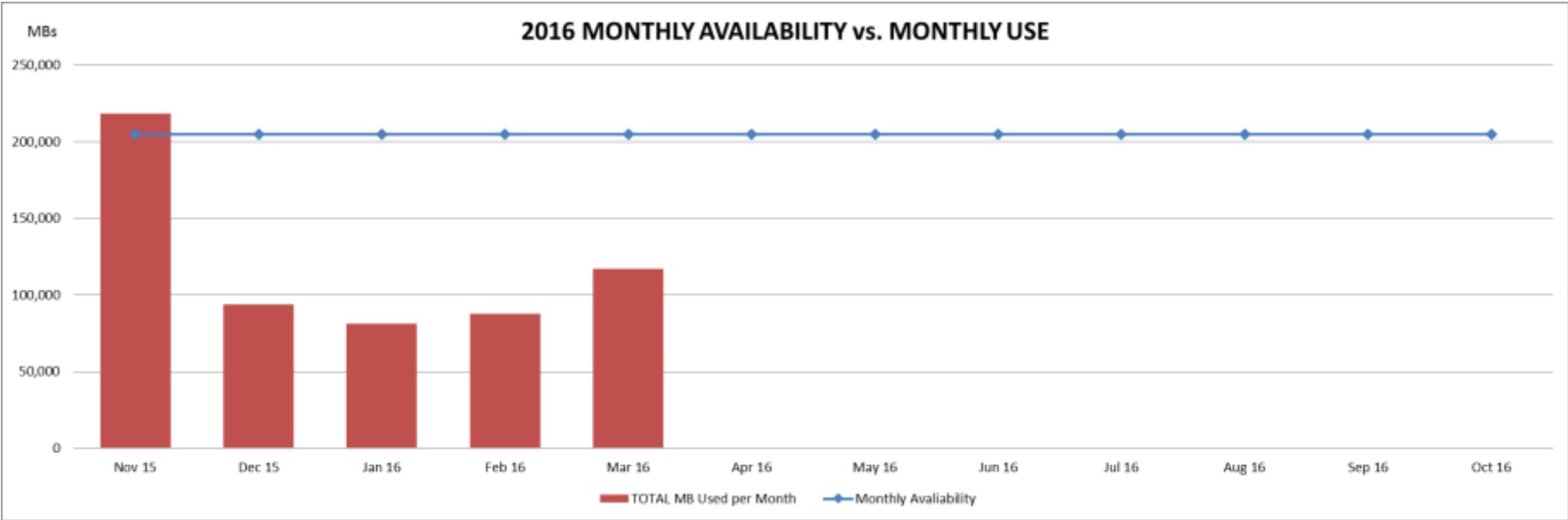


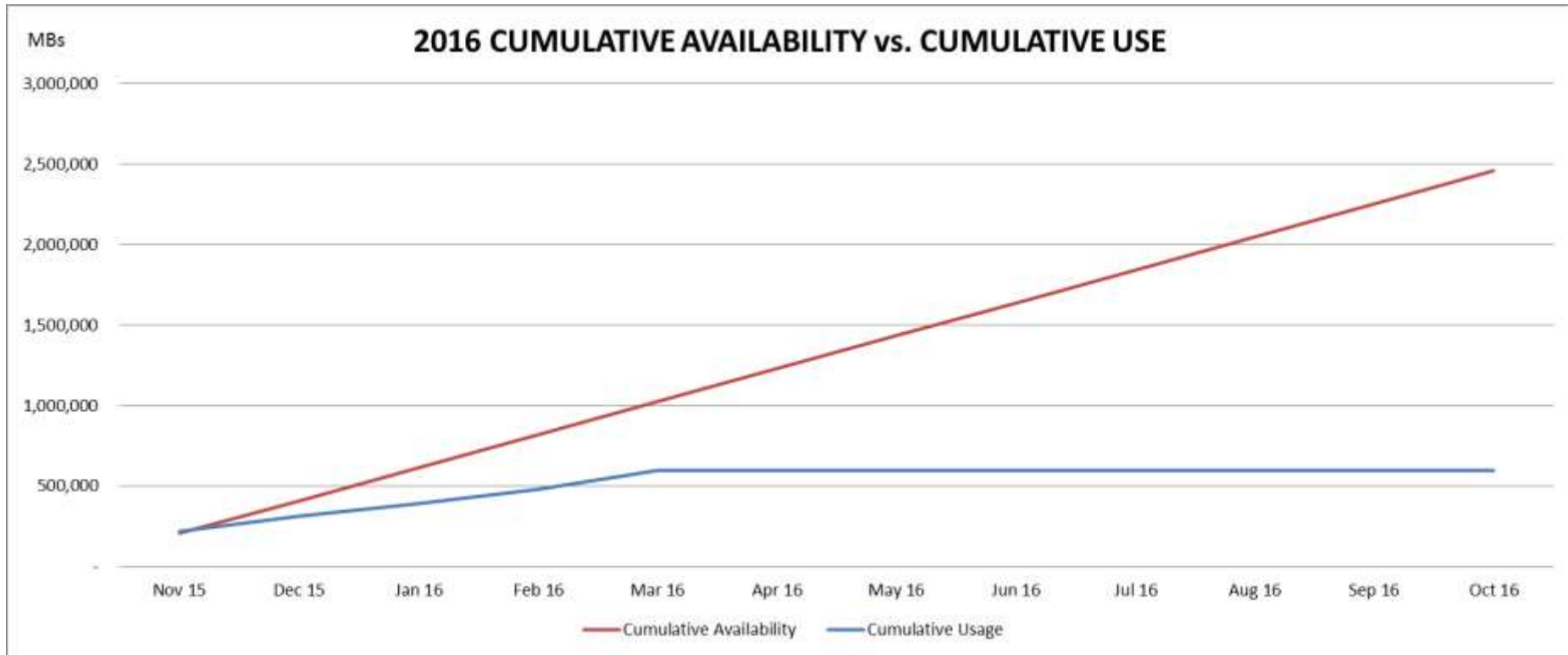
2015 – 2016 FBB/HSN Program

- **Upgraded FBB Program to 204,800 MB per Month in November 2014**
- **Current rate is \$0.70 per MB**
- **Over 75 FBB Systems currently in use**
- **HiSeasNet AOR and both Ku-band services have been boosted to new bandwidths:**
 - **AOR/POR now has 2Mbit shore-to-ship to share with 256 kbps ship-to-shore.**
 - **Ku 1 has 768kbps, and Ku2 has 1Mbit.**

2016 Monthly FBB Supply - Demand



2016 Cumulative FBB Supply - Demand



FUTURE SAT COMMS SYSTEMS

- INMARSAT GlobalXpress Update:
 - Combination of Ka and L (FBB) bands
 - Gx100 Ka Antennas are 1M antenna with Radome dimensions of 1.3 m by 1.5 m
 - Purchased 4 Gx100 Ka antennas for Testing:
 - Revelle September 2015
 - Armstrong February 2016
 - Sikuliaq March 2016
 - Palmer Installation this Summer

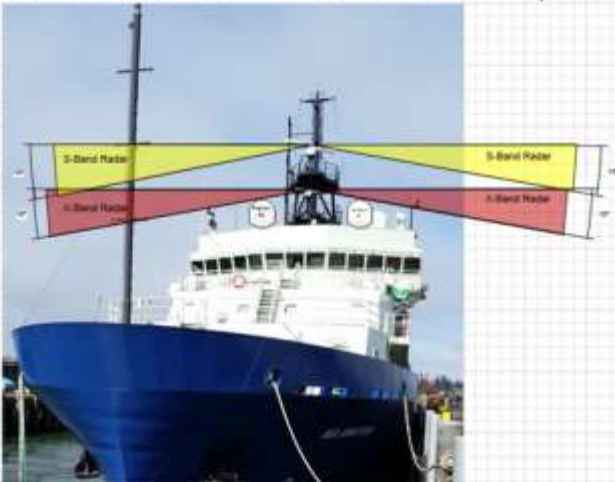
FUTURE SAT COMMS SYSTEMS

- INMARSAT Data Plan:
 - \$4,500/month for as much data as can be passed through 2 Mbps (shore to ship) & 512 Kbps (ship to shore) Ka bandwidth and 432 Kbps FBB bandwidth
 - More bandwidth available as systems become global
- Service Availability anticipated in May
- Would like to get a couple more Gx Systems into Operation
- 2016 RVTEC Subcommittee continues to review fleet needs



nmarsat

R/V Neil Armstrong



Antenna Location	Antenna	SW
1	4000 MHz	1000 W

Antenna Location	
Inmarsat Maritime	
Height Above Water (ft)	SW
By To	SW
Make No.	Antenna No.