Amendment to Experimental License Application

Row 44, Inc. ("Row 44") hereby amends its pending experimental licensing application (File No. 0168-EX-CN-2016) in response to the correspondence from OET staff dated October 20, 2016, and in light of an additional coordination certification letter received from EchoStar Satellite Operating Corporation ("EchoStar"), the operator of an additional desired satellite point of communications for the experimental program. The pending application is amended in the following respects:

(1) Additional justification is provided to support a nationwide area of operation;

(2) The AMC-2 satellite at W.L. is added to the points of communication requested with the support of an operator coordination certification letter signed by EchoStar;

(3) Requested operating parameters are added to Form 442 for the hub antennas located at North Las Vegas, Nevada and Woodbine, Virginia, and additional technical information not included in Form 442 is also provided;

(4) Additional technical information is provided with respect to the four target satellites;

(5) Additional operating information concerning the aircraft terminals is provided.

1. Justification for Nationwide Operating Authority

By seeking "nationwide" authority, Row 44 is not requesting the authority to deploy antennas widely throughout the country. Instead, it is asking permission to use one or, at most, two antennas at any geographic point within CONUS for the purpose of testing antenna operating performance and Part 25 Rule compliance under as many real world operating scenarios as possible. The extensive operational range for these two antennas is necessitated by the fact that each will be mounted on an aircraft, and the goals of the testing require that they be subject to a variety of operating conditions in terms of altitude, pitch and skew angle relevant to the range of satellites necessary to permit use on flight routes throughout CONUS. Only one antenna is likely to be used in flight at one time, and the use will be transient, not continuous. The initial and primary aircraft used for experimental testing will be an HU-16B Albatross test aircraft (US registration N44HQ). If a second aircraft is added later in the testing program, it would be an early stage installation on a commercial airliner with the intent of assessing performance on the exact type of aircraft on which in-flight Internet connectivity service will be offered.

2. Addition of the AMC-2 Satellite to the Experimental License Application

As noted in the foregoing section, one of the purposes of the experimental program is to assess performance using a range of satellites, allowing full CONUS coverage for in-flight operations. For this reason, the initial application requests access to space segment on AMC-1 at 129° W.L., SES-1 at 101° W.L. and AMC-9 at 83° W.L. These points of communication provide a broad arc for in-flight communications encompassing a range of U.S. flight routes. Row 44 had intended also to include the AMC-2 satellite, operated by EchoStar, located at the 85° W.L. orbital location, but filed the application before the necessary coordination certification letter was received. As that letter has now been obtained, Row 44 is amending the application to add this satellite. *See* Attachment 1, Letter from Pat Amodio, Director, Spectrum Development, EchoStar. The inclusion of a second satellite with expansive Eastern CONUS coverage will allow testing of satellite hand-offs in areas where demand for connectivity is high.

3. Operating Parameters for Hub Antennas in Nevada and Virginia

The initial application filed by Row 44 describes two Ground Earth Station locations (three antennas) that will serve as hubs for the experimental program. One is licensed to Hughes Network Systems (Call Sign E940460) and located in North Las Vegas, Nevada. The second is licensed to SES (Call Signs E900448 & E140054) and located at Woodbine, Virginia. In response to the OET staff request referenced above, Row 44 is amending its Form 442 to provide full detail concerning the relevant operating parameters of these earth stations. In addition, a summary of the Ground Station parameters, including some information not included in Form 442, is provided in the chart below. *See also* Updated Form 442.

Parameter	**N. Las Vegas (E940460)**	**Woodbine (E900448)**	**Woodbine (E140054)**
Receive/Transmitter antenna gain (dbi)	57.8 @ 11.95 GHz 59.3 @ 14.25 GHz	59.2 @ 12 GHz 60.2 @ 14 GHz	57.3 @ 11.95 GHz 59.0 @ 14.25 GHz
Beamwidth of Rx/Tx antenna at the half-power points	0.22 Degrees (Rx) 0.18 Degrees (Tx)	0.2 Degrees	0.14 Degrees
Receive/Transmitter antenna azimuth	113.9 - 221.8 Degrees	154.2 - 255.6 Degrees	154.2 - 254.9 Degrees
Elevation of Receive/Transmitter antenna AMSL (meters)	591.6	198.7	203.1
Elevation of Receive/Transmitter antenna AGL (meters)	8.5	11.0	8.5

4. Additional Satellite Technical Parameters

Satellite coverage (Narrow Beam (NB) or Earth Coverage (EC)). *See* Attachment 2, Satellite Coverage Contours.

Parameter	Values for Each Satellite			
	AMC-9	AMC-2	SES-1	AMC-1
Peak Receive antenna gain (Vertical Pol) (dbi)	34.6	30.9	33.6	34.1
Peak Receive antenna gain (Horizontal Pol) (dbi)	34.6	33.6	33.9	34.2
Peak Transmit antenna gain (Vertical Pol) (dbi)	34.6	33.0	34.4	33.9
Peak Transmit antenna gain (Horizontal Pol) (dbi)	34.6	33.3	35.4	33.1

5. Additional Remote Aircraft-Mounted Antenna Parameters

Parameter	Value
Receive/Transmit antenna gain (dbi)	32.2 @ 11.95 GHz 33.6 @ 14.25 GHz
Beamwidth of Rx/Tx antenna at the half-power points	2.3° @ 11.95 GHz 2.0° @ 14.25 GHz
Maximum height of the aircraft during flight	41,000 feet

Attachment 1

Coordination Certification Letter from Pat Amodio, Director, Spectrum Development, EchoStar

ECHOSTAR

Federal Communications Commission
International Bureau
445 12th Street, S.W.
Washington, D.C. 20554

20 October 2016

Subject: Engineering Certification of EchoStar Satellite Operating Corporation ("Echostar") for the AMC-2 Satellite

To whom it may concern,

This letter confirms that EchoStar is aware that Global Eagle Entertainment, Inc. ("GEE"), licensed by the Federal Communications Commission ("FCC") as Row 44, Inc., is seeking FCC authority to operate an additional transmit/receive remote terminal in conjunction with its blanket authorization to operate technically identical Ku-band Earth Stations Aboard Aircraft ("ESAA") pursuant to ITU RR 5.504A and Section 25.227 of the Commission's rules (Call Sign E080100). Row 44 seeks authority for GEE's new ESAA terminals to communicate with the AMC-2 satellite at 85° W.L., under the current ESAA rules, including Section 25.227[1].

Based upon the contents of the applications (we understand that Row 44 will seek both an experimental license and the modification of its ESAA license) and the representations made to SES by GEE concerning how it will operate on AMC-2 according to its letter dated September 28, 2016:

- EchoStar certifies that it has completed coordination as required under the FCC's rules and that the power density levels specified by GEE are consistent with any existing coordination agreements to which EchoStar is a party with adjacent satellite operators within +/- 6 degrees of orbital separation from AMC-2.

- If the FCC authorizes the operations proposed by GEE, EchoStar will include the power density levels specified by GEE in all future satellite network coordination with other operators of satellites adjacent to AMC-2.

Yours Sincerely,

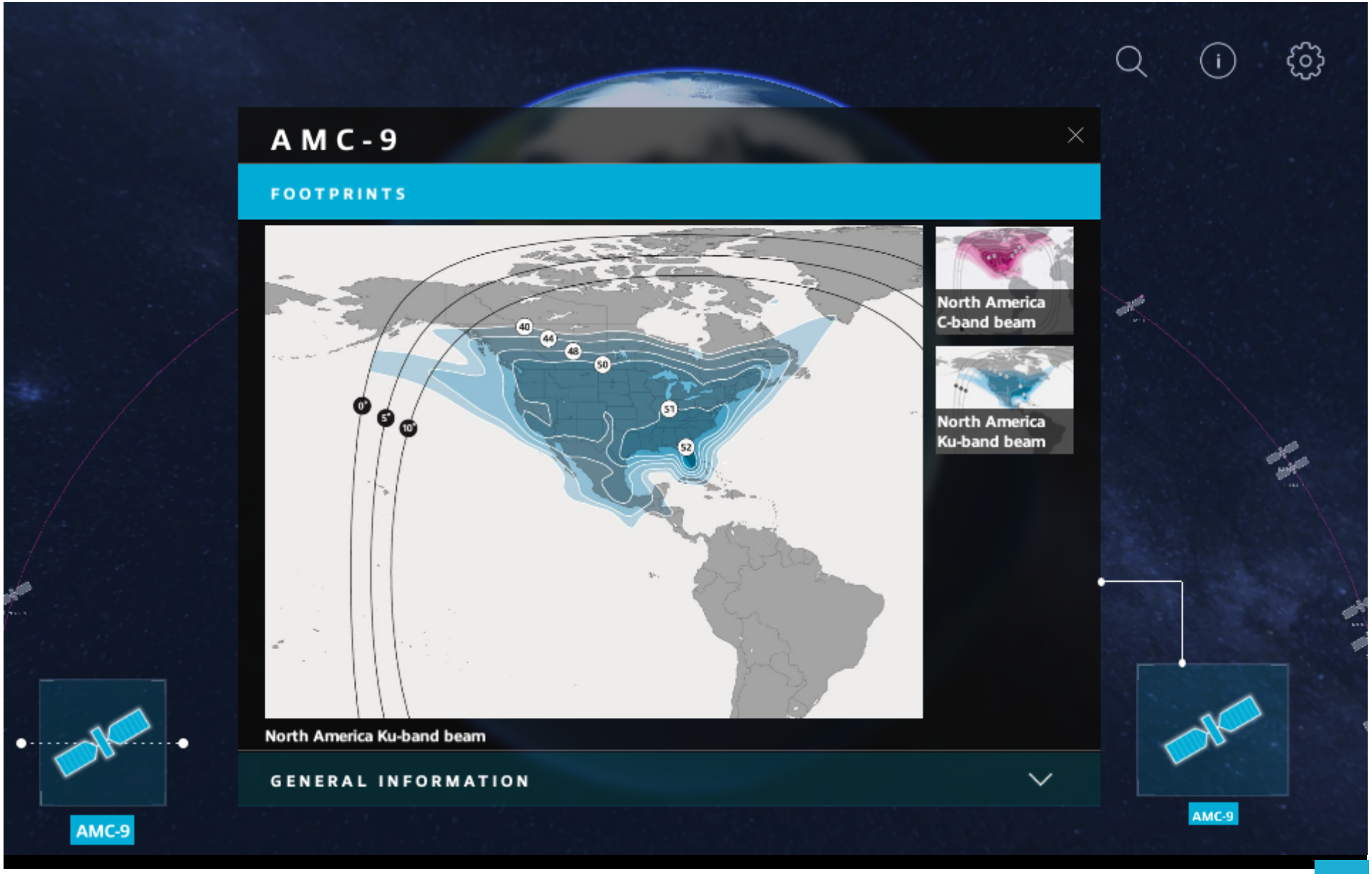
Pat Amodio
Director, Spectrum Development
EchoStar Satellite Operating Corporation

[1] 47 C.F.R. § 25.227.

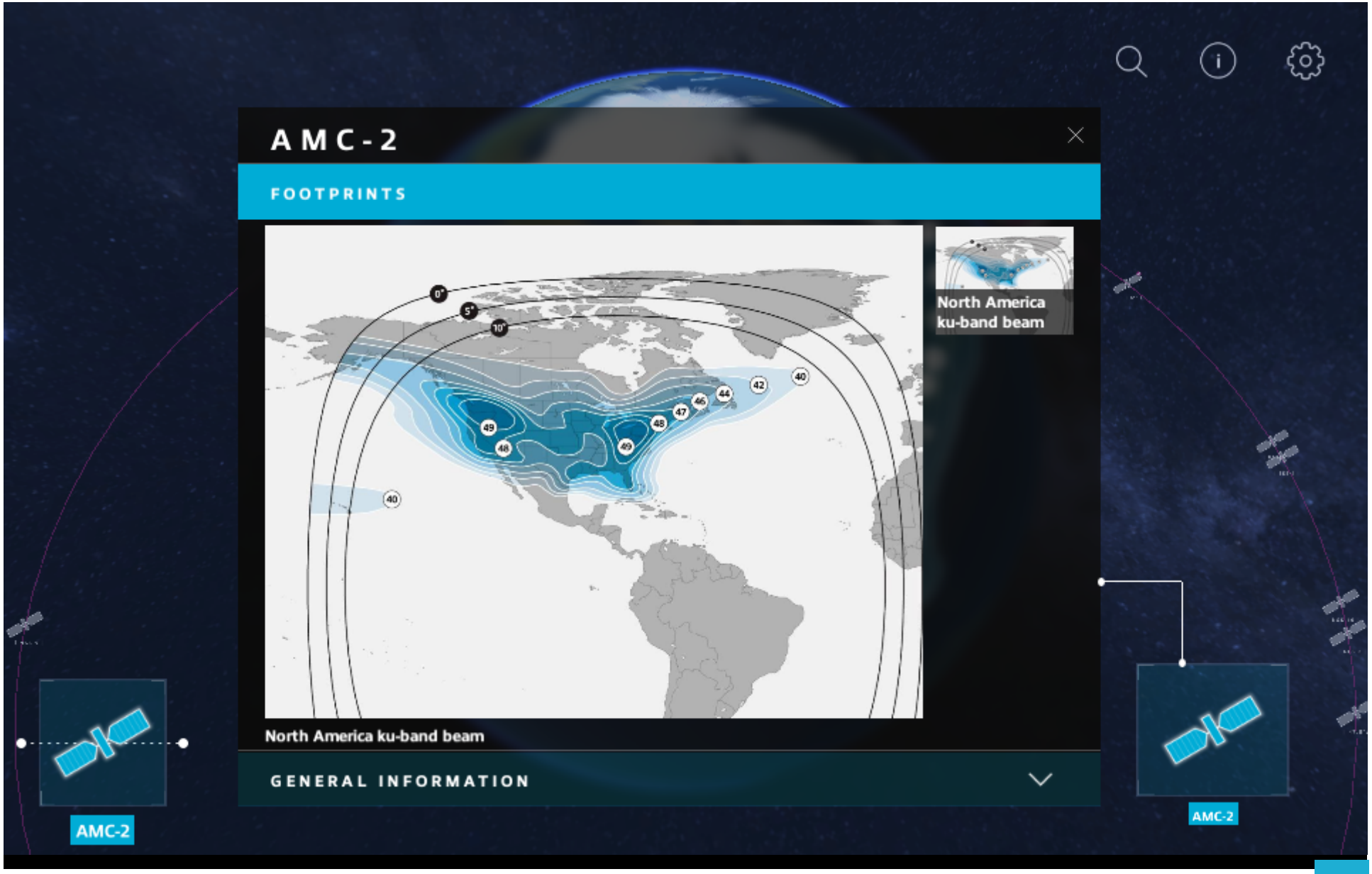
Attachment 2

Satellite Coverage Contours

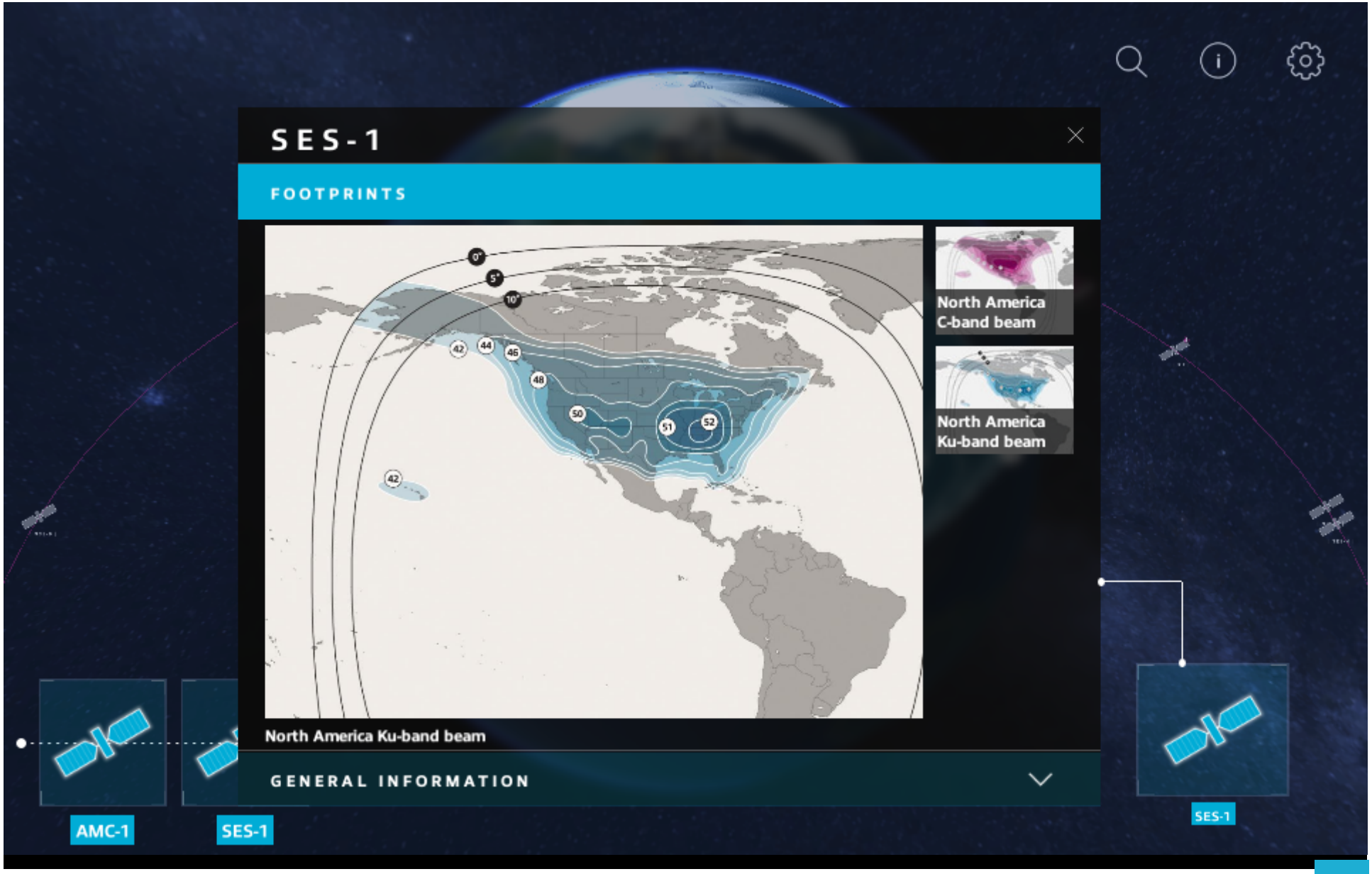
Attachment 2 - Satellite Coverage Contours
AMC-9 @ 83 W.L.



Attachment 2 - Satellite Coverage Contours
AMC-2 @ 85 W.L.



Attachment 2 - Satellite Coverage Contours
SES-1 @ 101 W.L.



Attachment 2 - Satellite Coverage Contours
AMC-1 @ 129 W.L.