

Before the
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
Washington, DC 20230

In the Matter of)	
)	
A Request For Information)	
)	Agency Docket Number:
On the Scope of Civil Space and Situational)	RTID: 0648-XV190
Awareness Services)	
)	
)	

COMMENTS OF AL YAH SATELLITE CORPORATION PJSC

Al Yah Satellite Communications Company respectfully submits these comments in response to NOAA’s “Request For Information on the Scope of Civil Space and Situational Awareness Services” (the “RFI”)¹. As a satellite operator providing a wide range of satellite services using multiple geostationary satellites, Yahsat welcomes the opportunity to present its views as they pertain to the items raised in this RFI.

Al Yah Satellite Communications Company P.J.S.C. (“Yahsat”) is a public company² listed on the Abu Dhabi Securities Exchange and a subsidiary of Mubadala Investment Company, offering multi-mission satellite services in more than 150 countries across Europe, the Middle East, Africa, South America, Asia and Australasia. Yahsat’s current fleet of five satellites reaches more than 80% of the world’s population, enabling critical communications including broadband, video broadcasting, backhauling, and mobile voice and data solutions. Yahsat is headquartered in Abu Dhabi, United Arab Emirates and as of the date of submission of these comments Yahsat does not hold any

¹ Federal Register dated 01/26/2023 pages 4970-4973.

spectrum authorizations from the Federal Communication Commission nor does it offer satellite service in the United States.

In October 2011, shortly after the launch of its first satellite, Yahsat ratified an information exchange agreement³ with the US Department of Defense’s Strategic Command (“USSTRATCOM”) and through this agreement Yahsat secured access to reliable space situational awareness information from JSPOC⁴. As part of the agreement, Yahsat routinely provides updated ephemeris information to JSPOC (now CSPOC) relating to its satellites. Access to this critical information enhances Yahsat’s ability to ensure that its spacecraft are safely maneuvered in a manner to avoid mishaps with either other spacecraft or cataloged space debris. Since its inception, Yahsat has understood the global importance of sustainability of space and has taken significant efforts through the years to ensure that its operations in space do not lead to unnecessary space debris. We continue to appreciate the US government’s efforts in space object tracking and willingness to share this data with all satellite operators.

More recently and through the public announcement of the 2018 Presidential Directive⁵, Yahsat has come to appreciate that the responsibility for sharing space situational awareness information as offered by the US government will eventually be transformed. Specifically, we understand that the current interaction between Yahsat and CSPOC will migrate to the National Oceanic and Atmospheric Administration’s (“NOAA”) Office of Space

² See Abu Dhabi Exchange web page at:
<https://www.adx.ae/English/Pages/default.aspx#>

³ Memorandum of Understanding titled, “Agreement for Sharing Space Situational Awareness Services between The Department of Defense of the United States and Al Yah Satellite Communications Company PrJSC” dated 29 November 2011

⁴ Joint Space Operations Center (“JSPOC”), a unit of STRATCOM based at Vandenberg AFB, has been re-organized to include allied involvement and re-titled as the Combined Space Operations Center (“CSPOC”) in July 2018. Both terms are used synonymously through the document.

⁵ US Space Policy Directive-3, “National Space Traffic Management Policy”, signed June 18th, 2018.

Commerce (“OSC”). We look forward to support OSC in this transition and offer these comments as a first step in this direction.

As part of this transition, and in light of the significant developments over the past decade in the commercial use of space, it is opportune to reconsider the extent of the data being shared by the US government with commercial entities. To that end, Yahsat welcomes the opportunity to respond to the questions put forward in the RFI. As the RFI puts forward specific technical questions, Yahsat provides in annex specific responses in a manner consistent with this format. In addition, Yahsat wishes to supplement these specific responses with two overlying concepts.

The first general concept is that Yahsat has integrated the data to which it presently has access as part of the core operational procedures which it uses in its flight planning activities. Ongoing access to the current two-line elements (“TLE”), special perturbation vectors (“SPV”) and conjunction data messages (“CDM”) are now critical to our flight safety activities. While the RFI does not directly suggest a reduction in access to the current baseline of data being made available by CSPOC, the RFI also does not put forward OSC intention as it pertains to the data presently being shared with owners and operators (“O/O”). Regardless of the final decision by OSC as to the format and content of the basic safety SSA service, a reassurance to all O/O of continuity of access to the current data as a minimum baseline would provide confidence that this transition will not create a need for an alternative source for part of the current SSA data.

In the same context, Yahsat second general concept is that, as an O/O not based in the US, we understand that space is a “commons” for which the responsibility of its management is shared by all. As such, a collaboration is in the public interest by both the UAE and US, and

in this light Yahsat has gladly joined to the original JSPOC MOU. As OSC reviews its processes and procedures for data sharing, we would request that no distinction be made between US or non-US O/O in matters pertaining to the continued access to basic safety SSA service. Access to degraded services by non-US O/O could adversely impact flight safety by those depending on continued access to a quality and complete data set, to the detriment of all.

In conclusion, Yahsat supports the ongoing transition of the responsibilities of JSPOC to OSC and looks forward to an ongoing collaboration.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'S. Doiron', written over a horizontal line.

By: _____

Steven. Doiron
EVP Spectrum and Regulatory Affairs
Al Yah Satellite Company

February 27, 2023

ANNEX – RFI RESPONSES

A. SCOPE OF PROPOSED BASIC SSA SAFETY SERVICES	
OSC Question	Yahsat Response
Does the proposed basic safety SSA service provide sufficient data to allow ongoing operations of orbital assets at a level equal to or beyond that currently provided by the DoD?	<p>Under the current MOU with CSpOC, Yahsat’s data usage is focused on collision avoidance and as such we make extensive use of Two-Line Elements-General Perturbation (“TLE-GP”) and Special Perturbation Vector (“SPV”) data, as well as the Conjunction Data Messages (“CDM”) we receive. All these are used in our maneuver planning to maximize flight safety.</p> <p>From the above description of the basic safety SSA service, there appears to be an emphasis in its description suggesting that the service will be based exclusively on O/O provided ephemerides. However, as Yahsat uses more than this limited CSPOC data, it is seen as critical for access to the TLE, SPV and CDM to continue. We seek confirmation from OSC that the basic safety SSA service will continue to include access to these critical data elements, particularly for space debris.</p>
What proposed basic safety SSA services are essential to your ongoing operations? If the U.S. Government were to prioritize the delivery of individual services as part of TraCSS, which ones should be provided soonest?	As mentioned in the previous response, Yahsat deems it critical to maintain access, by either manual or by Application Processing Interface (“API”) means, the data it presently receives from a Space-Track equivalent platform. This data presently consists of TLE, SPV and CDM for the complete (with stated exceptions) catalogue.
What, if any, additional capabilities beyond those currently provided by the DoD should be included in the TraCSS?	No additional data or capabilities beyond that which is presently provided is seen as necessary at this time.

<p>Are there any additional capabilities not listed that should be included in the basic SSA safety service to provide a baseline level of safety for owners and operators?</p>	<p>As mentioned in our response above, the baseline level of the basic SSA service should at a minimum include the TLE, SPV and CDM for all objects in the catalog. If OCS does not deem this information to already be part of the baseline, it should consider doing so.</p>
<p>Where applicable, at what level or how often should the service be performed? For example, comments may address how often routine collision assessments should be conducted as part of the basic SSA safety service. DoD currently provides these assessments three times a day. How often should OSC's basic safety SSA service provide these assessments?</p>	<p>Daily is acceptable, if the ability to provide on-demand requests, by upload of a special (SP) O/O ephemeris leading to a CDM response, is maintained.</p>

**B. IMPACTS OF PROPOSED BASIC SSA SAFETY SERVICES ON
COMMERCIAL SSA PROVIDERS**

OSC Question	Yahsat Response
<p>Are any of the basic SSA safety services readily available from the current U.S. SSA industry? If so, is the service affordable to owners and operators of spacecraft?</p>	<p>Yahsat has approached independent SSA providers, but none are willing to modify their services to provide the service we require. Yahsat is presently in discussions with the Space Data Association aimed at a possible membership, and the data this organization may potentially provide part or all of Yahsat's SSA requirements.</p>
<p>For commercial SSA service providers, does the current SSA capability offered by the DoD have any impacts on your current or future product offerings?</p>	<p>Yahsat does not offer SSA services on a commercial basis, nor does it intend to do so in the future.</p>
<p>For commercial SSA service providers, do any of the basic SSA safety services identified for inclusion in TraCSS have any impacts or implications on your current or future product offerings? If so, which services proposed to be part of TraCSS would have an impact on your offerings and why?</p>	<p>Yahsat does not offer SSA services on a commercial basis, nor does it intend to do so in the future.</p>
<p>For O/Os, are any of the basic SSA safety services identified for inclusion in TraCSS duplicative of what O/Os of spacecraft are already responsible for obtaining or providing?</p>	<p>Yahsat presently exchanges information directly with O/O having adjacent space objects. Yahsat has little to no recourse if the other operator is uncooperative provides degraded data.</p>
<p>Are there unique advantages to the government purchasing and redistributing certain commercial services rather than leaving these to the commercial marketplace?</p>	<p>In matters having such a strong public interest, there is a compelling need to ensure that the data being used by all O/O is of a consistent and high standard. Leaving SSA as a commercial service opens the possibility of lower cost/lower grade services that could impair flight safety.</p>

C. TENETS OF PARTICIPATION AND RECEIPT OF BASIC SSA SAFETY SERVICES

OSC Question	Yahsat Response
Which basic SSA safety services identified for inclusion in TraCSS should be made publicly available?	Manual and API delivery from a Space-Track equivalent platform of TLEs, SPVs and CDMs for the complete (with stated exceptions) catalogue.
What, if any, information should owners and operators of spacecraft be required to provide to OSC to participate in TraCSS?	Yahsat is of the view that providing ephemerides, general spacecraft characteristics and maneuverability should be provided by any O/O to OSC. These data items were highlighted in this RFI as requirements under the basic service and are perceived as a reasonable obligation.
What, if any, actions should owners and operators agree to take to participate in TraCSS as part of the tenets of participation?	All O/O should agree to the provision of up-to-date ephemerides and notifications of changes to basic information above as it pertains to the space objects under their control.
What should happen when owners or operators fail to provide the relevant information to OSC or fail to take actions consistent with the tenets of participation?	As the reason for the behavior can vary depending on specific circumstance, and as such no single solution can be put forward. Yahsat can see situations occur whereby novice operators may need mentoring by OSC in establishing the necessary infrastructure and staff expertise. Other operators may experience a temporary shortage of resources causing ineffective responses or actions. While OSC should maintain to itself the right to terminate its engagement with any operator, Yahsat encourages restraint in this matter. The public interest is best served by ensuring that novice or understaffed operators are supported so as to ensure no undue event occurs.