Guidance for Scenario Pricing to support pricing evaluation of UKSA procurement (UKSAC21_0014 June 2021).

Lot 1 Scenario Pricing Guidance: SST data in deep space (MEO, GTO, GEO)

To ensure that bidder pricing is evaluated fairly the different prices that you provide as part of the submission will be applied to a scenario that uses indicative volumes. This scenario has been developed using historical data from the UKSA to provide a realistic indication of what the potential throughput for Routine and Event Based Tasking could be on this contract.

The volumes applied to the scenario and therefore the prices requested from bidders are as follows:

A) **A price for Routine List-Based Tasking to track UK licensed RSO based on the registry of outer space objects included at Annex A to this document** (supplementary information available at this link). Bidders are requested to specify how many of the listed UK RSOs their sensor (s) are capable of observing and provide a total price per month for data provision on these RSO. Bidders must be able to observe a minimum of 50 per cent of the UK RSO's listed in deep space (at least 46 of the 92 RSO's detailed at Annex A).

   A The total price per month will be divided by the number of RSOs to determine a monthly price per RSO.

   The scenario will use 46 as the assumed number of RSO's requiring coverage for Routine List-Based Tasking per month.

   For the purposes of evaluation, the UKSA will take this monthly price and multiply it by 19 to provide a total indicative price for Routine List-Based Tasking for 46 RSO's for the full contract duration (7 months plus 6 optional months, plus 6 further optional months).

   *To note: the volume of RSO's will be subject to change throughout the life of the contract as new objects are launched and on-boarded.

B) **A price per High-interest event (HIE) and per Critical Event (CE) under the Event-Based Tasking requirement to track UK licensed RSO and/or secondary space objects (to include spacecraft or space debris) posing a hazard to UK RSO assuming the following volumes*:**

   HIE – 5 per month
   CE – 5 per month

   The scenario will use 5 as the assumed number of HIE's per month and 5 as the assumed number of CE's per month. For the avoidance of doubt, for the purposes of this scenario, each HIE or CE will include 1 tasking to examine the relevant object(s) once.

   For the purposes of evaluation, the UKSA will take the price per HIE and price per CE and multiply each by 5 to provide and add the totals together to provide an indicative total monthly price for Event-Based Tasking. This monthly price will be multiplied by 19 to provide a total indicative price for Event-Based Tasking for the full contract duration (7 months plus 6 optional months, plus 6 further optional months).

C) **A price for on-boarding additional satellites (per satellite)** assuming an increase of c.10 satellites across the 19 month duration of the full contract term (including the two 6 month options).

For the purposes of evaluation, the UKSA will take this cost per satellite and multiply it by 10 to provide a final indicative price for on-boarding of new satellites for the full contract duration (7 months plus 6 months, plus 6 months).

The total indicative price for on-boarding additional satellites will then be added to your total indicative prices for Routine List-Based Tasking and Event-Based Tasking to provide a total final price for the full life of the contract to be compared alongside other bids for evaluation purposes.

As an example:

If you provide the following prices:

- **£80 per RSO per month** will equate to £3,680 per month for Routine List-Based Tracking of 46 RSO's. This would result in a total indicative contract cost of £69,920 for Routine List-Based Tasking (£3,680 *19).

- **£500 per HIE** will equate to £2,500 per month. This would result in a total indicative contract cost of £47,500 for HIE (£2,500 *19).

- **£600 per CE** will equate to £3,000 per month. This would result in a total indicative contract cost of £57,000 for CE (£3,000 *19).

- **£15 per onboarding of a new satellite** would result in a total indicative contract cost of £150 (£15 *10).

Your total indicative price for the full contract using the scenario would therefore be: **£174, 570** (VAT ex). (£69,920 + £47,500 + £57,000 + 150)

*please note that these figures are indicative only and are subject to change. The UKSA reserves the right to change or to not utilise any of the services under Event-Based tasking.

The pricing element of the supplier proposal is worth 30% of the total score to be awarded to each bidder. The remaining 70% of the total score will be awarded through the technical assessment.

For guidance on how the score for your price will be calculated, please consult the guidance in Section 5 of the Request For Proposal question document.

Lot 2 Scenario: SST data in Low Earth Orbit (LEO)

To ensure that bidder pricing is evaluated fairly the different prices that you provide as part of the submission will be applied to a scenario that uses indicative volumes. This scenario has been developed using historical data from the UKSA to provide a realistic indication of what the potential throughput for Routine and Event Based Tasking could be on this contract.

The volumes applied to the scenario and therefore the prices requested from bidders are as follows:

A) **A price for Routine List-Based Tasking to track UK licensed RSO based on the registry of outer space objects included at Annex A to this document** (supplementary information available at this link). Bidders are requested to specify how many of the listed UK RSOs their sensor (s) are capable of observing and provide a total price per month for data provision on these RSO. Bidders must be able to observe a minimum of 50 per cent of UK RSO's listed in LEO (at least 138 of the 275 RSO's detailed at Annex A)

The total price per month will be divided by the number of RSO to determine a monthly price per RSO.

The scenario will use 138 as the assumed number of RSO's requiring coverage for Routine List-Based Tasking per month. For the avoidance of doubt, for the purposes of this scenario, each HIE or CE will include 1 tasking to examine the relevant object(s) once.

For the purposes of evaluation, the UKSA will take this monthly price and multiply it by 19 to provide a total indicative price for Routine List-Based Tasking for 138 RSO's for the full contract duration (7 months plus 6 optional months, plus 6 further optional months).

*To note: the volume of RSO's will be subject to change throughout the life of the contract as new objects are launched and on-boarded.

B) **A price per High-interest event (HIE) and per Critical Event (CE) under the Event-Based Tasking requirement to track UK licensed RSO and/or secondary space objects (to include spacecraft or space debris) posing a hazard to UK RSO assuming the following volumes*:**

High-interest event (HIE) – 30 per month
Critical Event – 5 per month

The scenario will use 30 as the assumed number of HIEs per month and 5 as the assumed number of CEs per month.

For the purposes of evaluation, the UKSA will take the price per HIE and price per CE and multiply each by the assumed volumes per month (30 and 5) and then add the totals together to provide an indicative total monthly price for Event-Based Tasking. This monthly price will be multiplied by 19 to provide a total indicative price for Event-Based Tasking for the full contract duration (7 months plus 6 months, plus 6 months).

C) **A price for on-boarding additional satellites (per satellite)** assuming an increase of c.200 satellites across the 19 month duration of the full contract term (including the two 6 month options).

For the purposes of evaluation, the UKSA will take this cost per satellite and multiply it by 200 to provide a final indicative price for on-boarding of new satellites for the full contract duration (7 months plus 6 months, plus 6 months).

The total indicative price for on-boarding additional satellites will then be added to your total indicative prices for Routine List-Based Tasking and Event-Based Tasking to provide a total final price for the full life of the contract to be compared alongside other bids for evaluation purposes.

As an example:

If you provide the following prices:

- **£80 per RSO per month** will equate to £11,040 per month for Routine List-Based Tracking of 138 RSO's. This would result in a total indicative contract cost of £209,750 for Routine List-Based Tasking (£11,040 *19).

- **£100 per HIE** will equate to £3,000 per month. This would result in a total indicative contract cost of £57,000 for HIE (£3,000 *19).

- **£125 per CE** will equate to £625 per month. This would result in a total indicative contract cost of £11,875 for CE (£625 *19).

- **£15 per onboarding of a new satellite** would result in a total indicative contract cost of £3,000 (£15 *200).

Your total indicative price for the full contract using the scenario would therefore be: **£281,635** (VAT ex) (£209,750 + £57000 + £11,875 + £3,000).

*please note that these figures are indicative only and are subject to change. The UKSA reserves the right to change or indeed not utilise any of the services under Event-Based tasking.

The pricing element of the supplier proposal is worth 30% of the total score to be awarded to each bidder.

For guidance on how the score for your price will be calculated, please consult the guidance in Section 5 of the Request For Proposal question document.

Annex A

UK REGISTRY OF OUTER SPACE OBJECTS FOR THE PROVISION OF SPACE SURVEILLANCE AND TRACKING DATA

Glossary of Terms

Apogee
The point on the orbit where the space object is furthest from the Earth.

Designation
This is the designation assigned by the Committee on Space Research (COSPAR) to each space object launched. This number remains constant and reflects the year of the launch and the sequence of launch within that year. The inclusion of a letter, for example, 'A' indicates that the object was the first satellite catalogued from that launch.

Geostationary orbit (GEO)
A geosynchronous orbit with an inclination of zero degrees and one in which the object is synchronised with the Earth's rotation. The space object will appear to remain fixed above one particular point on the Earth's equator. In geostationary orbit the space object is positioned approximately 35,900 km above the Earth.

Geostationary Transfer Orbit (GTO)
An elliptical orbit used to transfer a space object from low Earth orbit to geostationary/ geosynchronous orbit.

Geosynchronous orbit
A prograde, circular, low inclination orbit about the Earth having a period of 23 hours 56 minutes 4 seconds. A space object in such an orbit is tilted with respect to the plane of the equator. This means that the space object will remain over the same line of longitude but will wander up and down in latitude.

Inclination
The angular distance of the orbital plane from the Earth's equator, stated in degrees.

Low Earth Orbit (LEO)
A space object in low Earth orbit is positioned between 160 km and 2,000 km above the Earth.

Medium Earth Orbit (MEO)
A space object that orbits the Earth below geostationary orbit and above low Earth orbit.

LOT1: UK Resident Space Objects in MEO, GTO, GEO

Orbit Category	International Designation	Apogee	Perigee	Orbital Location (if GEO)	Inclination
GEO	1969-101A	35,875	35,700	N/A	5.88
GEO	1974-094A	35,795	35,769	N/A	9.64
GEO	1988-109A	35,966	35,946	N/A	15.42
GEO	1989-067A	36,134	36,053	18.47E	14.15
GEO	1990-001A	36,201	36,093	179.25E	13.37
GEO	1990-074A	36,094	36,080	20.48E	13.17
GEO	1990-079A	35,804.95	35,773.04	33.8 E	13.11
GEO	1991-001A	36,358.0	36,349.0	58.87W	13.28
GEO	1992-057A	36,159	36,126	38.46E	11.31
GTO	1994-034B	25,983	233	N/A	7.23
GTO	1994-034C	24,764	207	N/A	6.17
GEO	1996-020A	35,812	35,762	Drifting	4.35
GEO	1996-053A	35,893	35,834	Drifting	3.24
GEO	1996-070A	35,809	35,763	Drifting	3.89
GEO	1997-007A	35,806	35,767	66.125E	7.98
GEO	1997-027A	36,059	35,952	78.650W	7.01
GEO	1998-002A	36,129	36,088	68.85E	11.15
GEO	1998-006B	35,807	35,768	54.03°W	2.93
GEO	1999-009B	35,798.000	35,773.000	1.67W	10.50
GTO	1999-014B	35,983	564	N/A	0.87
GTO	1999-056B	35,724	2,687	N/A	0.33
GEO	2000-059A	35,798.0	35,776	176.01 E	0.12
GEO	2000-068A	35,810	35,763	64.24 E	0.96
GTO	2000-072C	39,276	576	GTO	6.17
GTO	2000-072D	39,303	574	GTO	6.16
GEO	2001-005B	35,796.433	35,773.160	61.73E	9.20

GEO	2005-009A	35,800	35,774	143.54 E	2.94
GEO	2005-044A	35,800	35,773	63.92 E	2.71
GEO	2006-054B	35,797	35,777	83W	0.15
GEO	2007-007B	35,804.000	35,769.000	95.24°E	0.15
GEO	2007-056B	35,804.000	35,771.000	25.06 E	0.15
GEO	2007-057A	35,798.00	35,775.00	4.79E	0.12
GEO	2008-030A	35,803.000	35,771.000	17.8 E	0.15
GEO	2008-038B	35,797	35,777	124.9 W	0.16
GEO	2008-039A	35,799	35,775	97.65 W	3.08
GEO	2009-008A	35,795	35,779	176.93 E	0.16
GEO	2009-027A	35,790	35,784	108.26 E	0.17
GEO	2009-058A	35,798	35,775	56.99 E	0.17
GEO	2010-016A	35,796.0	35,777.0	101.01 W	0.20
GEO	2010-021A	35,801.00	35,773.00	23.44 E	0.14
GEO	2010-065A	35,794.00	35,779.00	158.75E	0.06
GEO	2011-041A	35,807	35,765	19.21 E	0.22
GEO	2011-049A	35,797	35,776	87.02 W	0.09
GEO	2011-054A	35,797	35,776	77.03 W	0.19
GEO	2012-007A	35,797	35,776	22.04°W	0.18
GEO	2012-036A	35,794	35,778	5 E	0.14
GEO	2012-043B	35,793.0	35,778.0	31.02 E	0.20
GEO	2012-051A	35,793	35,779	28.15 E	0.10
GEO	2012-075A	35,800.000	35,773.000	53 E	0.19
GEO	2013-026A	35,795	35,778	40.53 W	0.13
MEO	2013-031A	8,068	8,062	N/A	0.04
MEO	2013-031B	8,065	8,058	N/A	0.03
MEO	2013-031C	8,075	8,056	N/A	0.04
MEO	2013-031D	8,069	8,063	N/A	0.02
GEO	2013-038A	35,794	35,779	24.81 E	1.97
GEO	2013-056A	35,798	35,779	28.50 E	0.22
GEO	2013-071A	35,798	35,775	95.02°E	0.09

GEO	2013-073A	35,790	35,784	62.59 E	0.03
GEO	2014-011B	35,801	35,774	31.50 E	0.09
MEO	2014-038A	8,070	8,061	N/A	0.04
MEO	2014-038B	8,069	8,062	N/A	0.04
MEO	2014-038C	8,070	8,062	N/A	0.04
MEO	2014-038D	8,070	8,062	N/A	0.04
MEO	2014-083A	8,070	8,062	N/A	0.05
MEO	2014-083B	8,069	8,063	N/A	0.05
MEO	2014-083C	8,070	8,062	N/A	0.05
MEO	2014-083D	8,070	8,062	N/A	0.05
GEO	2014-089A	35,805	35,769	28.19 E	0.15
GEO	2015-005A	35,790.0	35,786.0	N/A	0.03
GEO	2015-042A	35,787.0	35,786.0	179.59	0.08
GEO	2016-013A	35,794	35,779	108.32 E	0.14
GEO	2017-014A	35,796	35,776	67.91 WL	0.00
GEO	2017-017A	35820	35752	67 W	0.04
GEO	2017-025A	35,790	35,784	56.47°E	0.05
GEO	2017-026A	35788	35785	129.14 W	
GEO	2017-029A	35,789	35,786	69.91 W	0.00
GEO	2017-032A	35,795	35,778	10.37E	7.50
GEO	2017-040A	35804	35768	39.04 E	
GEO	2017-063A	35796	35778	104.97 W	
GEO	2018-012B	35790	35783	47.51W	
MEO	2018-024A	8074	8064	N/A	0.05
MEO	2018-024B	8070	8062	N/A	0.04
MEO	2018-024C	8068	8057	N/A	0.04
MEO	2018-024D	8067	8065	N/A	0.04
GEO	2018-033B	35802	35770	33.54W	0.00
GEO	2018-049A	35793	35780	94.99 E	0.00
MEO	2019-020A	8,069	8,063	N/A	0.05
MEO	2019-020B	8,070	8,062	N/A	0.04

MEO	2019-020C	8,069	8059	N/A	0.04
MEO	2019-020D	8,070	8,062	N/A	0.05
GEO	2019-080B	35786	35786	11E	0.00
GEO	2021-001A	35792	35781	31E	0.00

LOT2: UK Resident Space Objects in LEO

Orbit Category	International Designation	Apogee	Perigee	Orbital Location (if GEO)	Inclination
LEO	1971-093A	1,298	528	N/A	82.04
LEO	1971-093B	1,307.0	528.0	N/A	82.04
LEO	1974-013A	832	665	N/A	97.78
LEO	1983-004A	908	891		99.10
LEO	1984-021B	624	615	N/A	97.61
LEO	1990-005B	792	776	N/A	98.76
LEO	1990-005C	795	702	N/A	98.68
LEO	1991-050B	760	751	N/A	98.68
LEO	1992-052B	1,321	1,310	N/A	66.08
LEO	1992-052C	1,321	1,307	N/A	66.08
LEO	1993-061G	794	782	N/A	98.89
LEO	1995-046A	626	594	N/A	82.53
LEO	1998-043C	812	808	N/A	98.67
LEO	1999-021A	645	609	N/A	64.56
LEO	2000-033B	689.00	669.00	N/A	97.94
LEO	2000-033C	674	657	N/A	97.93
LEO	2003-042D	675	588	N/A	97.71
LEO	2005-043B	700	677	N/A	97.99
LEO	2008-040A	627	612	N/A	97.88
LEO	2008-040B	632	607	N/A	97.86
LEO	2008-040C	636	603	N/A	97.94
LEO	2008-040D	627	612	N/A	97.93
LEO	2008-040E	628	611	N/A	97.85

LEO	2009-041A	657	653	N/A	97.83
LEO	2009-041C	659	656	N/A	97.75
LEO	2011-044B	695	678	N/A	97.89
LEO	2011-044C	707.0	688.0	N/A	98.14
LEO	2012-039C	819	805	N/A	99.14
LEO	2013-009C	785	770	N/A	98.49
LEO	2013-009E	780	769	N/A	98.36
LEO	2014-033A	635.0	611.0	N/A	97.45
LEO	2014-037F	620	613	N/A	98.49
LEO	2015-032A	659.0	639.0	N/A	97.97
LEO	2015-032B	658.0	641.2	N/A	97.97
LEO	2015-032C	660.0	638.0	N/A	97.97
LEO	2015-032D	657.0	635.0	N/A	97.88
LEO	2015-032E	650.0	629.0	N/A	97.91
LEO	2016-059C	705	659	N/A	98.40
LEO	2017-036U	508	491	N/A	97.35
LEO	2017-036W	507	491	N/A	97.35
LEO	2017-036X	507	491	N/A	97.35
LEO	2018-004C	1003	997	N/A	99.43
LEO	2018-004E	506	492	N/A	97.49
LEO	1998-067NT	396	391	LEO	51.64
LEO	2018-071A	593	572	LEO	97.79
LEO	2018-071B	588	577	LEO	97.79
LEO	2018-099Z	591	574	N/A	97.74
LEO	2018-099AB	592	581	N/A	97.76
LEO	2018-099BQ	589	573	N/A	97.75
LEO	2018-104J	512	492	N/A	85.04
LEO	2019-010A	1204	1204	N/A	87.9
LEO	2019-010B	1204	1201	N/A	87.9
LEO	2019-010C	1204	1201	N/A	87.89
LEO	2019-010D	1204	1201	N/A	87.89

LEO	2019-010E	1210	1196	N/A	87.88
LEO	2019-010F	1210	1196	N/A	87.89
LEO	2019-038E	592	562	N/A	97.70
LEO	2019-038P	549	514	N/A	97.49
LEO	2020-008A	1229	1212	N/A	87.40
LEO	2020-008B	1229	1212	N/A	87.90
LEO	2020-008C	1229	1212	N/A	87.90
LEO	2020-008D	1229	1212	N/A	87.90
LEO	2020-008E	1229	1212	N/A	87.90
LEO	2020-008F	1229	1212	N/A	87.90
LEO	2020-008G	1229	1212	N/A	87.90
LEO	2020-008H	1229	1212	N/A	87.90
LEO	2020-008J	1229	1212	N/A	87.90
LEO	2020-008K	1229	1212	N/A	87.90
LEO	2020-008L	1229	1212	N/A	87.90
LEO	2020-008M	1229	1212	N/A	87.90
LEO	2020-008N	1229	1212	N/A	87.90
LEO	2020-008P	1229	1212	N/A	87.90
LEO	2020-008Q	1229	1212	N/A	87.90
LEO	2020-008R	1229	1212	N/A	87.90
LEO	2020-008S	1229	1212	N/A	87.90
LEO	2020-008T	1229	1212	N/A	87.90
LEO	2020-008U	1229	1212	N/A	87.90
LEO	2020-008V	1229	1212	N/A	87.90
LEO	2020-008W	1229	1212	N/A	87.90
LEO	2020-008X	1229	1212	N/A	87.90
LEO	2020-008Y	1229	1212	N/A	87.90
LEO	2020-008Z	1229	1212	N/A	87.90
LEO	2020-008AA	1229	1212	N/A	87.90
LEO	2020-008AB	1229	1212	N/A	87.90
LEO	2020-008AC	1229	1212	N/A	87.90

LEO	2020-008AD	1229	1212	N/A	87.90
LEO	2020-008AE	1229	1212	N/A	87.90
LEO	2020-008AF	1229	1212	N/A	87.90
LEO	2020-008AG	1229	1212	N/A	87.90
LEO	2020-008AH	1229	1212	N/A	87.90
LEO	2020-008AJ	1229	1212	N/A	87.90
LEO	2020-008AK	1229	1212	N/A	87.90
LEO	2020-020A	1229	1212	N/A	87.90
LEO	2020-020B	1229	1212	N/A	87.90
LEO	2020-020C	1229	1212	N/A	87.90
LEO	2020-020D	1229	1212	N/A	87.90
LEO	2020-020E	1229	1212	N/A	87.90
LEO	2020-020F	1229	1212	N/A	87.90
LEO	2020-020G	1229	1212	N/A	87.90
LEO	2020-020H	1229	1212	N/A	87.90
LEO	2020-020J	1229	1212	N/A	87.90
LEO	2020-020K	1229	1212	N/A	87.90
LEO	2020-020L	1229	1212	N/A	87.90
LEO	2020-020M	1229	1212	N/A	87.90
LEO	2020-020N	1229	1212	N/A	87.90
LEO	2020-020P	1229	1212	N/A	87.90
LEO	2020-020Q	1229	1212	N/A	87.90
LEO	2020-020R	1229	1212	N/A	87.90
LEO	2020-020S	1229	1212	N/A	87.90
LEO	2020-020T	1229	1212	N/A	87.90
LEO	2020-020U	1229	1212	N/A	87.90
LEO	2020-020V	1229	1212	N/A	87.90
LEO	2020-020W	1229	1212	N/A	87.90
LEO	2020-020X	1229	1212	N/A	87.90
LEO	2020-020Y	1229	1212	N/A	87.90
LEO	2020-020Z	1229	1212	N/A	87.90

LEO	2020-020AA	1229	1212	N/A	87.90
LEO	2020-020AB	1229	1212	N/A	87.90
LEO	2020-020AC	1229	1212	N/A	87.90
LEO	2020-020AD	1229	1212	N/A	87.90
LEO	2020-020AE	1229	1212	N/A	87.90
LEO	2020-020AF	1229	1212	N/A	87.90
LEO	2020-020AG	1229	1212	N/A	87.90
LEO	2020-020AH	1229	1212	N/A	87.90
LEO	2020-020AJ	1229	1212	N/A	87.90
LEO	2020-020AK	1229	1212	N/A	87.90
LEO	2020-061K	539	535	N/A	97.52
LEO	2020-100A	1213	1209	N/A	87.90
LEO	2020-100B	1213	1209	N/A	87.90
LEO	2020-100C	1213	1209	N/A	87.90
LEO	2020-100D	1213	1209	N/A	87.90
LEO	2020-100E	1213	1209	N/A	87.90
LEO	2020-100F	1213	1209	N/A	87.90
LEO	2020-100G	1213	1209	N/A	87.90
LEO	2020-100H	1213	1209	N/A	87.90
LEO	2020-100J	1213	1209	N/A	87.90
LEO	2020-100K	1213	1209	N/A	87.90
LEO	2020-100L	1213	1209	N/A	87.90
LEO	2020-100M	1213	1209	N/A	87.90
LEO	2020-100N	1213	1209	N/A	87.90
LEO	2020-100P	1213	1209	N/A	87.90
LEO	2020-100Q	1213	1209	N/A	87.90
LEO	2020-100R	1213	1209	N/A	87.90
LEO	2020-100S	1213	1209	N/A	87.90
LEO	2020-100T	1213	1209	N/A	87.90
LEO	2020-100U	1213	1209	N/A	87.90
LEO	2020-100V	1213	1209	N/A	87.90

LEO	2020-100W	1213	1209	N/A	87.90
LEO	2020-100X	1213	1209	N/A	87.90
LEO	2020-100Y	1213	1209	N/A	87.90
LEO	2020-100Z	1213	1209	N/A	87.90
LEO	2020-100AA	1213	1209	N/A	87.90
LEO	2020-100AB	1213	1209	N/A	87.90
LEO	2020-100AC	1213	1209	N/A	87.90
LEO	2020-100AD	1213	1209	N/A	87.90
LEO	2020-100AE	1213	1209	N/A	87.90
LEO	2020-100AF	1213	1209	N/A	87.90
LEO	2020-100AG	1213	1209	N/A	87.90
LEO	2020-100AH	1213	1209	N/A	87.90
LEO	2020-100AJ	1213	1209	N/A	87.90
LEO	2020-100AK	1213	1209	N/A	87.90
LEO	2020-100AL	1213	1209	N/A	87.90
LEO	2020-100AM	1213	1209	N/A	87.90
LEO	2021-022AF	564	535	N/A	97.57
LEO	2021-022S	562	535	N/A	97.57
LEO	2021-022N	535	558	N/A	97.60
LEO	2021-025A	818	806	N/A	87.90
LEO	2021-025B	818	806	N/A	87.90
LEO	2021-025C	818	806	N/A	87.90
LEO	2021-025D	818	806	N/A	87.90
LEO	2021-025E	818	806	N/A	87.90
LEO	2021-025F	818	806	N/A	87.90
LEO	2021-025G	818	806	N/A	87.90
LEO	2021-025H	818	806	N/A	87.90
LEO	2021-025J	818	806	N/A	87.90
LEO	2021-025K	818	806	N/A	87.90
LEO	2021-025L	818	806	N/A	87.90
LEO	2021-025M	818	806	N/A	87.90

LEO	2021-025N	818	806	N/A	87.90
LEO	2021-025P	818	806	N/A	87.90
LEO	2021-025Q	818	806	N/A	87.90
LEO	2021-025R	818	806	N/A	87.90
LEO	2021-025S	818	806	N/A	87.90
LEO	2021-025T	818	806	N/A	87.90
LEO	2021-025U	818	806	N/A	87.90
LEO	2021-025V	818	806	N/A	87.90
LEO	2021-025W	818	806	N/A	87.90
LEO	2021-025X	818	806	N/A	87.90
LEO	2021-025Y	818	806	N/A	87.90
LEO	2021-025Z	818	806	N/A	87.90
LEO	2021-025AA	818	806	N/A	87.90
LEO	2021-025AB	818	806	N/A	87.90
LEO	2021-025AC	818	806	N/A	87.90
LEO	2021-025AD	818	806	N/A	87.90
LEO	2021-025AE	818	806	N/A	87.90
LEO	2021-025AF	818	806	N/A	87.90
LEO	2021-025AG	818	806	N/A	87.90
LEO	2021-025AH	818	806	N/A	87.90
LEO	2021-025AJ	818	806	N/A	87.90
LEO	2021-025AK	818	806	N/A	87.90
LEO	2021-025AL	818	806	N/A	87.90
LEO	2021-025AM	818	806	N/A	87.90
LEO	2021-031A	582	569	N/A	87.90
LEO	2021-031B	582	569	N/A	87.90
LEO	2021-031C	582	569	N/A	87.90
LEO	2021-031D	582	569	N/A	87.90
LEO	2021-031E	582	569	N/A	87.90
LEO	2021-031F	582	569	N/A	87.90
LEO	2021-031G	582	569	N/A	87.90

LEO	2021-031H	582	569	N/A	87.90
LEO	2021-031J	582	569	N/A	87.90
LEO	2021-031K	582	569	N/A	87.90
LEO	2021-031L	582	569	N/A	87.90
LEO	2021-031M	582	569	N/A	87.90
LEO	2021-031N	582	569	N/A	87.90
LEO	2021-031P	582	569	N/A	87.90
LEO	2021-031Q	582	569	N/A	87.90
LEO	2021-031R	582	569	N/A	87.90
LEO	2021-031S	582	569	N/A	87.90
LEO	2021-031T	582	569	N/A	87.90
LEO	2021-031U	582	569	N/A	87.90
LEO	2021-031V	582	569	N/A	87.90
LEO	2021-031W	582	569	N/A	87.90
LEO	2021-031X	582	569	N/A	87.90
LEO	2021-031Y	582	569	N/A	87.90
LEO	2021-031Z	582	569	N/A	87.90
LEO	2021-031AA	582	569	N/A	87.90
LEO	2021-031AB	582	569	N/A	87.90
LEO	2021-031AC	582	569	N/A	87.90
LEO	2021-031AD	582	569	N/A	87.90
LEO	2021-031AE	582	569	N/A	87.90
LEO	2021-031AF	582	569	N/A	87.90
LEO	2021-031AG	582	569	N/A	87.90
LEO	2021-031AH	582	569	N/A	87.90
LEO	2021-031AJ	582	569	N/A	87.90
LEO	2021-031AK	582	569	N/A	87.90
LEO	2021-031AL	582	569	N/A	87.90
LEO	2021-031AM	582	569	N/A	87.90
LEO	2021-045A	450	450	N/A	87.90
LEO	2021-045B	450	450	N/A	87.90

LEO	2021-045C	450	450	N/A	87.90
LEO	2021-045D	450	450	N/A	87.90
LEO	2021-045E	450	450	N/A	87.90
LEO	2021-045F	450	450	N/A	87.90
LEO	2021-045G	450	450	N/A	87.90
LEO	2021-045H	450	450	N/A	87.90
LEO	2021-045J	450	450	N/A	87.90
LEO	2021-045K	450	450	N/A	87.90
LEO	2021-045L	450	450	N/A	87.90
LEO	2021-045M	450	450	N/A	87.90
LEO	2021-045N	450	450	N/A	87.90
LEO	2021-045P	450	450	N/A	87.90
LEO	2021-045Q	450	450	N/A	87.90
LEO	2021-045R	450	450	N/A	87.90
LEO	2021-045S	450	450	N/A	87.90
LEO	2021-045T	450	450	N/A	87.90
LEO	2021-045U	450	450	N/A	87.90
LEO	2021-045V	450	450	N/A	87.90
LEO	2021-045W	450	450	N/A	87.90
LEO	2021-045X	450	450	N/A	87.90
LEO	2021-045Y	450	450	N/A	87.90
LEO	2021-045Z	450	450	N/A	87.90
LEO	2021-045AA	450	450	N/A	87.90
LEO	2021-045AB	450	450	N/A	87.90
LEO	2021-045AC	450	450	N/A	87.90
LEO	2021-045AD	450	450	N/A	87.90
LEO	2021-045AE	450	450	N/A	87.90
LEO	2021-045AF	450	450	N/A	87.90
LEO	2021-045AG	450	450	N/A	87.90
LEO	2021-045AH	450	450	N/A	87.90
LEO	2021-045AJ	450	450	N/A	87.90

LEO	2021-045AK	450	450	N/A	87.90
LEO	2021-045AL	450	450	N/A	87.90
LEO	2021-045AM	450	450	N/A	87.90