

**Change Topic: Civil Navigation (CNAV) Durations**

This change package accommodates the text changes to support the proposed solution (see table below) within the public Signals-in-Space (SiS) documents. All comments must be submitted in Comments Resolution Matrix (CRM) form.

The columns in the WAS/IS table following this page are defined below:

Section Number: This number indicates the location of the text change within the document.

(WAS) <Document Title>: Contains the baseline text of the impacted document.

Proposed Heading: Contains proposed changes to existing section titles and/or the titles to new sections

Proposed Text: Contains proposed changes to baseline text.

Rationale: Contains the supporting information to explain the reason for the proposed changes.

<b>PROBLEM STATEMENT:</b>
The CNAV broadcast durations for clock & ephemeris data are undefined.
<b>SOLUTION: (Proposed)</b>
Define the CNAV broadcast durations for clock & ephemeris data as 48 hours.

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## Change Topic: Civil Navigation (CNAV) Durations

Start of WAS/IS for IS-GPS-200E Changes

Section Number	IS-GPS-200 Rev E Navstar GPS Space Segment/Navigation User Interfaces	Proposed Heading	CNAV Durations Proposed Text	Rationale																																																
20.3.4.4	<p>Table 20-XII. IODC Values and Data Set Lengths (Block IIR/IIR-M/IIF/IIIA)</p> <table border="1"> <thead> <tr> <th>Days Spanned</th> <th>Transmission Interval (hours) (Note 5)</th> <th>Curve Fit Interval (hours)</th> <th>IODC Range</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2 (Note 4)</td> <td>4</td> <td>(Note 2)</td> </tr> <tr> <td>2-14</td> <td>4</td> <td>6</td> <td>(Note 2)</td> </tr> <tr> <td>15-16</td> <td>6</td> <td>8</td> <td>240-247 (Note 1)</td> </tr> <tr> <td>17-20</td> <td>12</td> <td>14</td> <td>248-255, 496 (Note 1) (Note 3)</td> </tr> <tr> <td>21-62</td> <td>24</td> <td>26</td> <td>497-503, 1021-1023</td> </tr> </tbody> </table> <p>Note 1: For transmission intervals of 6 and 12 hours, the IODC values shown will be transmitted in increasing order.</p> <p>Note 2: IODC values for blocks with 1-, 2- or 4-hour transmission intervals (at least the first 14 days after upload) shall be any numbers in the range 0 to 1023 excluding those values of IODC that correspond to IODE values in the range 240-255, subject to the constraints on re-transmission given in paragraph 20.3.4.4.</p> <p>Note 3: The ninth 12-hour data set may not be transmitted.</p> <p>Note 4: SVs operating in the Autonav mode will have transmission intervals of 1 hour per paragraph 20.3.4.4.</p> <p>Note 5: The first data set of a new upload may be cut-in at any time and therefore the transmission interval may be less than the specified value.</p>	Days Spanned	Transmission Interval (hours) (Note 5)	Curve Fit Interval (hours)	IODC Range	1	2 (Note 4)	4	(Note 2)	2-14	4	6	(Note 2)	15-16	6	8	240-247 (Note 1)	17-20	12	14	248-255, 496 (Note 1) (Note 3)	21-62	24	26	497-503, 1021-1023		<p>Table 20-XII. IODC Values and Data Set Lengths (Block IIR/IIR-M/IIF/IIIA)</p> <table border="1"> <thead> <tr> <th>Days Spanned</th> <th>Transmission Interval (hours) (Note 5)</th> <th>Curve Fit Interval (hours)</th> <th>IODC Range</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2 (Note 4)</td> <td>4</td> <td>(Note 2)</td> </tr> <tr> <td>2-14</td> <td>4</td> <td>6</td> <td>(Note 2)</td> </tr> <tr> <td>15-16</td> <td>6</td> <td>8</td> <td>240-247 (Note 1)</td> </tr> <tr> <td>17-20</td> <td>12</td> <td>14</td> <td>248-255, 496 (Note 1) (Note 3)</td> </tr> <tr> <td>21-62</td> <td>24</td> <td>26</td> <td>497-503, 1021-1023</td> </tr> </tbody> </table> <p>Note 1: For transmission intervals of 6 and 12 hours, the IODC values shown will be transmitted in increasing order.</p> <p>Note 2: IODC values for blocks with 1-, 2- or 4-hour transmission intervals (at least the first 14 days after upload) shall be any numbers in the range 0 to 1023 excluding those values of IODC that correspond to IODE values in the range 240-255, subject to the constraints on re-transmission given in paragraph 20.3.4.4. The CS can define the Block III SV time of transition from the 4 hour curve fits into extended navigation (beyond 4 hour curve fits). Following the transition time, the SV will follow the timeframes defined in the table, including appropriately setting IODC values.</p> <p>Note 3: The ninth 12-hour data set may not be transmitted.</p> <p>Note 4: SVs operating in the Autonav mode will have transmission intervals of 1 hour per paragraph 20.3.4.4.</p> <p>Note 5: The first data set of a new upload may be cut-in at any time and therefore the transmission interval may be less than the specified value.</p>	Days Spanned	Transmission Interval (hours) (Note 5)	Curve Fit Interval (hours)	IODC Range	1	2 (Note 4)	4	(Note 2)	2-14	4	6	(Note 2)	15-16	6	8	240-247 (Note 1)	17-20	12	14	248-255, 496 (Note 1) (Note 3)	21-62	24	26	497-503, 1021-1023	<p>Supports the CS ability to define the transition out of 4 hour curve fits into extended navigation. This is defineable in 1 hour increments. Once the transition occurs, the SV will broadcast the intervals and curve fits as defined in this table.</p>
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30.3.2			<p>Block IIR-Ms, IIFs, and IIIA SVs have the capability of storing at least 48 hours of CNAV navigation data, with current memory margins, to provide CNAV positioning service without contact from the CS for that period.</p>	<p>Defines the CNAV data duration (48 hours) that supports the SV broadcast of CNAV clock and ephemeris.</p>																																																

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End of WAS/IS for IS-GPS-200E

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**Change Topic: Civil Navigation (CNAV) Durations**

Start of WAS/IS for IS-GPS-705A Changes

<b>Section Number</b>	<b>IS-GPS-705 Rev A L5 SS and Nav User Segment Interfaces</b>	<b>Proposed Heading</b>	<b>CNAV Durations Proposed Text</b>	<b>Rationale</b>
20.3.2			Block IIR-Ms, IIFs, and IIIA SVs have the capability of storing at least 48 hours of CNAV navigation data, with current memory margins, to provide CNAV positioning service without contact from the CS for that period.	Defines the CNAV data duration (48 hours) that supports the SV broadcast of CNAV clock and ephemeris.

End of WAS/IS for IS-GPS-705A