Change Topic: Pseudorange Parameters

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.

PROBLEM STATEMENT:
Currently the public documents lack the definitions for the inter-signal correction (ISC) values. These values are necessary for receivers to correctly and consistently interpret the NAV message.
SOLUTION: *(Proposed)*
Define the inter-signal correction (ISC) parameters for each of the civil signals to ensure that users can correctly interpret the NAV message.

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

Section Number	Pseudorange Parameters Proposed Heading	IS-GPS-200 Rev E Navstar GPS Space Segment/Navigation User Interfaces	Pseudorange Parameters Redlines	Rationale
6.2.1		User Range Accuracy (URA) is a statistical indicator of the GPS ranging accuracy obtainable with a specific signal and SV. Whether the integrity status flag is 'off' or 'on', 4.42 times URA bounds instantaneous URE under all conditions with 1 -1e-5 per hour probability. When the integrity status flag is 'on', 5.73 times URA bounds instantaneous URE under all conditions with 1-1e-8 per hour probability. Integrity properties of the URA are specified with respect to the upper bound values of the URA index.	User Range Accuracy (URA) is a statistical indicator of the GPS ranging accuracy obtainable with a specific signal and SV. Whether the integrity status flag is 'off' or 'on', 4.42 times URA bounds instantaneous URE under all conditions with 1 -(1e-5) per hour probability. When the integrity status flag is 'on', 5.73 times URA bounds instantaneous URE under all conditions with 1-(1e-8) per hour probability. Integrity properties of the URA are specified with respect to the upper bound values of the URA index.	
30.3.3.3.1		N/A	N/AThe broadcast group delay differential correction terms apply to the pseudorange measurements produced by an ideal correlation receiver with a bandwidth of 20.46 MHz centered at the reference waveform nominal frequency whose phase is linear over that bandwidth using an exact replica of the reference waveform in an early-late discriminator having a correlator spacing of 97.75 nanoseconds. The group delay differential correction terms may not apply to pseudorange measurements produced by different methods due to potential distortion of the transmitted waveform. Users employing pseudorange measurement methods different from the defined method must account for the potential inapplicability of the group delay differential correction terms.	The reason this text was placed in this document was to explicitly state the method by which the control segment is defining pseudorange. Consequently, this is the method by which a majority of the users perform pseudorange. Users that experience errors by not performing pseudorange by the same method now have baseline language in the IS document to account for this error.

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

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

Section Number	Psuedorange Parameters Proposed Heading	IS-GPS-705 Rev A L5 SS and Nav User Segment Interfaces	Psuedorange Parameters Redlines	Rationale
20.3.3.1.1		N/A	~~N/A~~The broadcast group delay differential correction terms apply to the pseudorange measurements produced by an ideal correlation receiver with a bandwidth of 20.46 MHz centered at the reference waveform nominal frequency whose phase is linear over that bandwidth using an exact replica of the reference waveform in an early-late discriminator having a correlator spacing of 97.75 nanoseconds. The group delay differential correction terms may not apply to pseudorange measurements produced by different methods due to potential distortion of the transmitted waveform. Users employing pseudorange measurement methods different from the defined method must account for the potential inapplicability of the group delay differential correction terms.	The reason this text was placed in this document was to explicitly state the method by which the control segment is defining pseudorange. Consequently, this is the method by which a majority of the users perform pseudorange. Users that experience errors by not performing pseudorange by the same method now have baseline language in the IS document to account for this error.

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

4-Aug-11

Section Number	IS-GPS-800 Rev A Navstar GPS Space Segment/User Segment L1C Interface	Proposed Heading	Pseudorange Parameters Proposed Text	Rationale
3.5.3.9	N/A		The broadcast group delay differential correction terms apply to the pseudorange measurements produced by an ideal correlation receiver with a bandwidth of 20.46 MHz centered at the reference waveform nominal frequency whose phase is linear over that bandwidth using an exact replica of the reference waveform in an early-late discriminator having a correlator spacing of 97.75 nanoseconds. The group delay differential correction terms may not apply to pseudorange measurements produced by different methods due to potential distortion of the transmitted waveform. Users employing pseudorange measurement methods different from the defined method must account for the potential inapplicability of the group delay differential correction terms.	The reason this text was placed in this document was to explicitly state the method by which the control segment is defining pseudorange. Consequently, this is the method by which a majority of the users perform pseudorange. Users that experience errors by not performing pseudorange by the same method now have baseline language in the IS document to account for this error.
6.2.1	User Range Accuracy (URA) is a statistical indicator of the GPS ranging accuracy obtainable with a specific signal and SV. Whether the integrity status flag is 'off' or 'on', 4.42 times URA bounds instantaneous URE under all conditions with 1 -1e-5 per hour probability. When the integrity status flag is 'on', 5.73 times URA bounds instantaneous URE under all conditions with 1-1e-8 per hour probability.		User Range Accuracy (URA) is a statistical indicator of the GPS ranging accuracy obtainable with a specific signal and SV. Whether the integrity status flag is 'off' or 'on', 4.42 times URA bounds instantaneous URE under all conditions with 1-(1e-5) per hour probability. When the integrity status flag is 'on', 5.73 times URA bounds instantaneous URE under all conditions with 1-(1e-8) per hour probability.	Text has been added to clearly convey the numeric expression in the paragraph.

End of WAS/IS for IS-GPS-800A