CHANGE NOTICE

Affected Document:	IRN/SCN Number	Date:
ICD-GPS-870 Rev C	IRN-ICD-870C-001	05-APR-2019
Authority:	**Proposed Change Notice**	**Date:**
RFC-00374	ICD870C_RFC374	28-SEP-2018

CLASSIFIED BY: N/A
DECLASSIFY ON: N/A

Document Title: NAVSTAR Next Generation GPS Operational Control Segment (OCX) to User Support Community Interface

RFC Title: 2018 Proposed Changes to the Public Documents

Reason For Change (Driver):

The following topic was deferred from the 2017 Public ICWG and will now be resolved by this RFC.

1. Currently the Operational Advisories (OAs) that are published and archived contain plane/slot descriptions that are not in the constellation definition provided to the public in the Standard Positioning Service (SPS) Performance Standard (PS). The OA does not have the capability to correctly publish information regarding fore/aft position since moving to the 24+3 constellation with three expanded slots. In addition, the Points of Contact of the OA are not represented in a way that allows for efficient updates. This is a follow-up to RFC-351, which was CCB-approved on 8-Jan-2018.

The following topic resolves 3 document clean-up related activities:

2. a) Signal-in-space topics need clarification, as identified by the public in past Public ICWGs. b) There were some administrative errors found during the UpRev process of the public documents. c) Contractor signatories are required for government-controlled documents.

(Pre-RFCs 819, 861)

Description of Change:

1. Modify the OA as agreed to in ICD-GPS-240 and ICD-GPS-870.
2. a) Provide clarity for the list of signal-in-space topics identified by the public. b) Clean up identified administrative changes in all public documents. c) Remove required contractor signatories from government-controlled documents.

Authored By: Philip Kwan **Checked By: Jennifer Lemus**

AUTHORIZED SIGNATURES	REPRESENTING	DATE
	GPS Directorate Space & Missile Systems Center (SMC) – LAAFB	5 APR 2019
	Department of Homeland Security (DHS), United States Coast Guard (USCG), Navigation Center (NAVCEN)	
	Department of Transportation (DOT) Federal Aviation Administration (FAA)	
	HQ Air Force Space Command (AFSPC/50 OG)	

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THIS DOCUMENT SPECIFIES TECHNICAL REQUIREMENTS AND NOTHING HEREIN CONTAINED SHALL BE DEEMED TO ALTER THE TERMS OF ANY CONTRACT OR PURCHASE ORDER BETWEEN ALL PARTIES AFFECTED.

Interface Control Contractor:
Engility (GPS SE&I)
200 N. Pacific Coast Highway, Suite 1800
El Segundo, CA 90245

CODE IDENT 66RP1

CHANGE NOTICE

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ICD-GPS-870 Rev C	IRN-ICD-870C-001	05-APR-2019
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Authored By: Philip Kwan **Checked By: Jennifer Lemus**

AUTHORIZED SIGNATURES	REPRESENTING	DATE
	GPS Directorate Space & Missile Systems Center (SMC) – LAAFB	
GLANDER.MICHAEL.WILLIAM.1015659102 Digitally signed by GLANDER.MICHAEL.WILLIAM.1015659102 Date: 2019.04.22 11:43:29 -04'00'	Department of Homeland Security (DHS), United States Coast Guard (USCG), Navigation Center (NAVCEN)	
	Department of Transportation (DOT) Federal Aviation Administration (FAA)	
	HQ Air Force Space Command (AFSPC/50 OG)	

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ICD-GPS-870 Rev C	IRN-ICD-870C-001	05-APR-2019
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RFC-00374	ICD870C_RFC374	28-SEP-2018

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Authored By: Philip Kwan **Checked By: Jennifer Lemus**

AUTHORIZED SIGNATURES	REPRESENTING	DATE
	GPS Directorate Space & Missile Systems Center (SMC) – LAAFB	
	Department of Homeland Security (DHS), United States Coast Guard (USCG), Navigation Center (NAVCEN)	
NGUYEN.HA.A.1398246043 Digitally signed by NGUYEN.HA.A.1398246043 Date: 2019.04.11 09:23:42 -07'00'	Department of Transportation (DOT) Federal Aviation Administration (FAA)	
	HQ Air Force Space Command (AFSPC/50 OG)	

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Interface Control Contractor:
Engility (GPS SE&I)
200 N. Pacific Coast Highway, Suite 1800
El Segundo, CA 90245
CODE IDENT 66RP1

CHANGE NOTICE

Affected Document:	IRN/SCN Number	Date:
ICD-GPS-870 Rev C	IRN-ICD-870C-001	05-APR-2019
Authority:	**Proposed Change Notice**	**Date:**
RFC-00374	ICD870C_RFC374	28-SEP-2018

CLASSIFIED BY: N/A
DECLASSIFY ON: N/A

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Authored By: Philip Kwan **Checked By: Jennifer Lemus**

AUTHORIZED SIGNATURES	REPRESENTING	DATE
	GPS Directorate Space & Missile Systems Center (SMC) – LAAFB	
	Department of Homeland Security (DHS), United States Coast Guard (USCG), Navigation Center (NAVCEN)	
	Department of Transportation (DOT) Federal Aviation Administration (FAA)	
Adam Edwards	HQ Air Force Space Command (AFSPC/50 OG)	11 April 2019

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Interface Control Contractor:
Engility (GPS SE&I)
200 N. Pacific Coast Highway, Suite 1800
El Segundo, CA 90245

CODE IDENT 66RP1

Operational Advisories Proposed Changes

ICD870-88 :

Section Number :
10.1.0-1

WAS :
NANUs are used to notify Users of scheduled and unscheduled satellite outages and general GPS information. An outage is defined to be a period of time that the satellite is removed from service and not available for use. Operators determine the satellite meets the conditions for "unhealthy" provided in Section 2.3.2 of the Standard Positioning Service Performance guide. The paragraphs that follow describe the different types of NANUs. The NANU descriptions are arranged into four groups, as follows:

- Scheduled outages
- Unscheduled outages
- General text message
- Others

Redlines :
NANUs are used to notify Users of scheduled and unscheduled satellite outages and general GPS information. An outage is defined to be a period of time that the satellite is removed from service and not available for use. Operators determine the satellite meets the conditions for "unhealthy" provided in Section 2.3.2 of the Standard Positioning Service Performance guide. The paragraphs that follow describe the different types of NANUs. The NANU descriptions are arranged into four groups, as follows:

· Scheduled outages

· Unscheduled outages

· General text message

· Others

Users are advised that the Point of Contact (POC) information contained in the NANU samples are subject to change, specifically the Organization Name and Organization Primary Contact Information (i.e. Contact Website URI, Contact Email ID, Contact Telephone Number, and Contact DSN Telephone Number). The first NANU example, Figure 10-1, includes POC information that reflects the time of release of this ICD. However, users should refer to the POC information provided in the most recent NANUs for up-to-date information.

IS :
NANUs are used to notify Users of scheduled and unscheduled satellite outages and general GPS information. An outage is defined to be a period of time that the satellite is removed from service and not available for use. Operators determine the satellite meets the conditions for "unhealthy" provided in Section 2.3.2 of the Standard Positioning Service Performance guide. The paragraphs that follow describe the different types of NANUs. The NANU descriptions are arranged into four groups, as follows:

- Scheduled outages
- Unscheduled outages
- General text message

- Others

Users are advised that the Point of Contact (POC) information contained in the NANU samples are subject to change, specifically the Organization Name and Organization Primary Contact Information (i.e. Contact Website URI, Contact Email ID, Contact Telephone Number, and Contact DSN Telephone Number). The first NANU example, Figure 10-1, includes POC information that reflects the time of release of this ICD. However, users should refer to the POC information provided in the most recent NANUs for up-to-date information.

ICD870-94 :

Section Number :
10.1.1.0-5

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.     NANU TYPE: FCSTDV
       NANU NUMBER: YYYYSSS
       NANU DTG: DDHHMMZ MMM YYYY
       REFERENCE NANU: N/A
       REF NANU DTG: N/A
       SVN: XXX
       PRN: XX
       START JDAY: JJJ
       START TIME ZULU: HHMM
       START CALENDAR DATE: DD MMM YYYY
       STOP JDAY: JJJ
       STOP TIME ZULU: HHMM
       STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY) ENDING HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-1 FCSTDV NANU Message Template

Redlines :

NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1. NANU TYPE: FCSTDV
NANU NUMBER: YYYYSSS
NANU DTG: DDHHMMZ MMM YYYY
REFERENCE NANU: N/A
REF NANU DTG: N/A
SVN: XXX
PRN: XX
START JDAY: JJJ
START TIME ZULU: HHMM
START CALENDAR DATE: DD MMM YYYY
STOP JDAY: JJJ
STOP TIME ZULU: HHMM
STOP CALENDAR DATE: DD MMM YYYY

2. CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
(DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY) ENDING HHMM ZULU.

3. POC: ~~CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,~~
~~CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,~~
~~https://www.faa.gov/air_traffic/nas/gps_reports/,~~
~~MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,~~
~~GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,~~
~~MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,~~
~~JSPOCCOMBATOPS@VANDENBERG.AF.MIL~~
CIVIL NON-AVIATION – NAVCEN AT 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION – FAA NASEO AT 540-422-4178, HTTPS://WWW.FAA.GOV/AIR_TRAFFIC/NAS/GPS_REPORTS/,
MILITARY – GPS OPERATIONS CENTER AT HTTPS://GPS.AFSPC.AF.MIL/GPSOC/, DSN 560-2541, COMM 719-567-2493,
GPSOPERATIONSCENTER@US.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS/,
MILITARY ALTERNATE – COMBINED SPACE OPERATIONS CENTER, DSN 275-3522, COMM 805-605-3522,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL

Figure 10-1 FCSTDV NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.     NANU TYPE: FCSTDV
       NANU NUMBER: YYYYSSS
       NANU DTG: DDHHMMZ MMM YYYY
       REFERENCE NANU: N/A
       REF NANU DTG: N/A
       SVN: XXX
       PRN: XX
       START JDAY: JJJ
       START TIME ZULU: HHMM
       START CALENDAR DATE: DD MMM YYYY
       STOP JDAY: JJJ
       STOP TIME ZULU: HHMM
       STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY) ENDING HHMM ZULU.

3.  POC: CIVIL NON-AVIATION – NAVCEN AT 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
     CIVIL AVIATION – FAA NASEO AT 540-422-4178, HTTPS://WWW.FAA.GOV/AIR_TRAFFIC/NAS/GPS_REPORTS/,
     MILITARY – GPS OPERATIONS CENTER AT HTTPS://GPS.AFSPC.AF.MIL/GPSOC/, DSN 560-2541, COMM 719-567-
     2493, GPSOPERATIONSCENTER@US.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS/,
     MILITARY ALTERNATE – COMBINED SPACE OPERATIONS CENTER, DSN 275-3522, COMM 805-605-3522,
     JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-1 FCSTDV NANU Message Template

ICD870-96 :

Section Number :
10.1.1.0-7

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.      NANU TYPE: FCSTMX
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: JJJ
        STOP TIME ZULU: HHMM
        STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
(DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
ENDING HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-
2493, GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-2 FCSTMX NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.      NANU TYPE: FCSTMX
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: JJJ
        STOP TIME ZULU: HHMM
        STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
(DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
ENDING HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-
2493, GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
See Figure 10-1 for POC format
```

Figure 10-2 FCSTMX NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.      NANU TYPE: FCSTMX
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: JJJ
        STOP TIME ZULU: HHMM
        STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
(DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
ENDING HHMM ZULU.

3.  See Figure 10-1 for POC format
```

Figure 10-2 FCSTMX NANU Message Template

ICD870-98 :

Section Number :

10.1.1.0-9

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE EXTENDED UNTIL FURTHER NOTICE
1.      NANU TYPE: FCSTEXTD
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: YYYYNNN
        REF NANU DTG: DDHHMMZ MMM YYYY
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: UFN
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: THE FORECAST OUTAGE FOR GPS SATELLITE SVNXXX (PRNXX) IS EXTENDED UNTIL
    FURTHER NOTICE.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-3 FCSTEXTD NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE EXTENDED UNTIL FURTHER NOTICE
1.      NANU TYPE: FCSTEXTD
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: YYYYNNN
        REF NANU DTG: DDHHMMZ MMM YYYY
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: UFN
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: THE FORECAST OUTAGE FOR GPS SATELLITE SVNXXX (PRNXX) IS EXTENDED UNTIL
    FURTHER NOTICE.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS.SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
See Figure 10-1 for POC format
```

Figure 10-3 FCSTEXTD NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE EXTENDED UNTIL FURTHER NOTICE
1.      NANU TYPE: FCSTEXTD
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: YYYYNNN
        REF NANU DTG: DDHHMMZ MMM YYYY
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: UFN
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: THE FORECAST OUTAGE FOR GPS SATELLITE SVNXXX (PRNXX) IS EXTENDED UNTIL
    FURTHER NOTICE.

3.  See Figure 10-1 for POC format
```

Figure 10-3 FCSTEXTD NANU Message Template

ICD870-100 :

Section Number :

10.1.1.0-11

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE SUMMARY JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.     NANU TYPE: FCSTSUMM
       NANU NUMBER: YYYYSSS
       NANU DTG: DDHHMMZ MMM YYYY
       REFERENCE NANU: YYYYNNN
       REF NANU DTG: DDHHMMZ MMM YYYY
       SVN: XXX
       PRN: XX
       START JDAY: JJJ
       START TIME ZULU: HHMM
       START CALENDAR DATE: DD MMM YYYY
       STOP JDAY: JJJ
       STOP TIME ZULU: HHMM
       STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
    ENDING HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-4 FCSTSUMM NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE SUMMARY JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.     NANU TYPE: FCSTSUMM
       NANU NUMBER: YYYYSSS
       NANU DTG: DDHHMMZ MMM YYYY
       REFERENCE NANU: YYYYNNN
       REF NANU DTG: DDHHMMZ MMM YYYY
       SVN: XXX
       PRN: XX
       START JDAY: JJJ
       START TIME ZULU: HHMM
       START CALENDAR DATE: DD MMM YYYY
       STOP JDAY: JJJ
       STOP TIME ZULU: HHMM
       STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
    ENDING HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
See Figure 10-1 for POC format
```

Figure 10-4 FCSTSUMM NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE SUMMARY JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.      NANU TYPE: FCSTSUMM
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: YYYYNNN
        REF NANU DTG: DDHHMMZ MMM YYYY
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: JJJ
        STOP TIME ZULU: HHMM
        STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
    ENDING HHMM ZULU.

3.  See Figure 10-1 for POC format
```

Figure 10-4 FCSTSUMM NANU Message Template

ICD870-102 :

Section Number :

10.1.1.0-13

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE CANCELLED
1.      NANU TYPE: FCSTCANC
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: YYYYNNN
        REF NANU DTG: DDHHMMZ MMM YYYY
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: CANCELLED
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: THE FORECAST OUTAGE FOR GPS SATELLITE SVNXXX (PRNXX) SCHEDULED FOR
    JDAY JJJ (DD MMM YYYY) BEGINNING HHMM ZULU HAS BEEN CANCELLED.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-5 FCSTCANC NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE CANCELLED
1.      NANU TYPE: FCSTCANC
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: YYYYNNN
        REF NANU DTG: DDHHMMZ MMM YYYY
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: CANCELLED
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: THE FORECAST OUTAGE FOR GPS SATELLITE SVNXXX (PRNXX) SCHEDULED FOR
    JDAY JJJ (DD MMM YYYY) BEGINNING HHMM ZULU HAS BEEN CANCELLED.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
See Figure 10-1 for POC format
```

Figure 10-5 FCSTCANC NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE CANCELLED
1.      NANU TYPE: FCSTCANC
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: YYYYNNN
        REF NANU DTG: DDHHMMZ MMM YYYY
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: CANCELLED
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: THE FORECAST OUTAGE FOR GPS SATELLITE SVNXXX (PRNXX) SCHEDULED FOR
    JDAY JJJ (DD MMM YYYY) BEGINNING HHMM ZULU HAS BEEN CANCELLED.

3.  See Figure 10-1 for POC format
```

Figure 10-5 FCSTCANC NANU Message Template

ICD870-104 :

Section Number :

10.1.1.0-15

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE RESCHEDULED
1.     NANU TYPE: FCSTRESCD
       NANU NUMBER: YYYYSSS
       NANU DTG: DDHHMMZ MMM YYYY
       REFERENCE NANU: YYYYNNN
       REF NANU DTG: DDHHMMZ MMM YYYY
       SVN: XXX
       PRN: XX
       START JDAY: JJJ
       START TIME ZULU: HHMM
       START CALENDAR DATE: DD MMM YYYY
       STOP JDAY: JJJ
       STOP TIME ZULU: HHMM
       STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
    ENDING HHMM ZULU. PLEASE REFERENCE NANU NUMBER YYYYNNN
    DTG DDHHMMZ MMM YYYY FOR THE ORIGINAL OUTAGE TIME.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-6 FCSTRESC NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE RESCHEDULED
1.     NANU TYPE: FCSTRESCD
       NANU NUMBER: YYYYSSS
       NANU DTG: DDHHMMZ MMM YYYY
       REFERENCE NANU: YYYYNNN
       REF NANU DTG: DDHHMMZ MMM YYYY
       SVN: XXX
       PRN: XX
       START JDAY: JJJ
       START TIME ZULU: HHMM
       START CALENDAR DATE: DD MMM YYYY
       STOP JDAY: JJJ
       STOP TIME ZULU: HHMM
       STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
    ENDING HHMM ZULU. PLEASE REFERENCE NANU NUMBER YYYYNNN
    DTG DDHHMMZ MMM YYYY FOR THE ORIGINAL OUTAGE TIME.

3.  POC: ~~CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,~~
~~CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,~~
~~https://www.faa.gov/air_traffic/nas/gps_reports/,~~
~~MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,~~
~~GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,~~
~~MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,~~
~~JSPOCCOMBATOPS@VANDENBERG.AF.MIL~~
See Figure 10-1 for POC format
```

Figure 10-6 FCSTRESC NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE RESCHEDULED
1.      NANU TYPE: FCSTRESCD
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: YYYYNNN
        REF NANU DTG: DDHHMMZ MMM YYYY
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: JJJ
        STOP TIME ZULU: HHMM
        STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
    ENDING HHMM ZULU. PLEASE REFERENCE NANU NUMBER YYYYNNN
    DTG DDHHMMZ MMM YYYY FOR THE ORIGINAL OUTAGE TIME.

3.  See Figure 10-1 for POC format
```

Figure 10-6 FCSTRESC NANU Message Template

ICD870-106 :

Section Number :

10.1.1.0-17

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE JDAY JJJ/HHMM – UNTIL FURTHER NOTICE
1.      NANU TYPE: FCSTUUFN
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: UFN
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE NO EARLIER THAN JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL FURTHER NOTICE.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-7 FCSTUUFN NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE JDAY JJJ/HHMM – UNTIL FURTHER NOTICE
1.      NANU TYPE: FCSTUUFN
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: UFN
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE NO EARLIER THAN JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL FURTHER NOTICE.

3.  POC: ~~CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,~~
~~CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,~~
~~https://www.faa.gov/air_traffic/nas/gps_reports/,~~
~~MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,~~
~~GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,~~
~~MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,~~
~~JSPOCCOMBATOPS@VANDENBERG.AF.MIL~~
See Figure 10-1 for POC format
```

Figure 10-7 FCSTUUFN NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE JDAY JJJ/HHMM – UNTIL FURTHER NOTICE
1.      NANU TYPE: FCSTUUFN
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: UFN
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE NO EARLIER THAN JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL FURTHER NOTICE.

3.  See Figure 10-1 for POC format
```

Figure 10-7 FCSTUUFN NANU Message Template

ICD870-113 :

Section Number :

10.1.2.0-5

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) UNUSABLE JDAY JJJ/HHMM - UNTIL FURTHER NOTICE
1.      NANU TYPE: UNUSUFN
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: UFN
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL FURTHER NOTICE.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-8 UNUSUFN NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) UNUSABLE JDAY JJJ/HHMM - UNTIL FURTHER NOTICE
1.      NANU TYPE: UNUSUFN
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: UFN
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL FURTHER NOTICE.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
See Figure 10-1 for POC format
```

Figure 10-8 UNUSUFN NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) UNUSABLE JDAY JJJ/HHMM - UNTIL FURTHER NOTICE
1.      NANU TYPE: UNUSUFN
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: UFN
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL FURTHER NOTICE.

3.  See Figure 10-1 for POC format
```

Figure 10-8 UNUSUFN NANU Message Template

ICD870-115 :

Section Number :
10.1.2.0-7

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) UNUSABLE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.      NANU TYPE: UNUSABLE
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: YYYYNNN
        REF NANU DTG: DDHHMMZ MMM YYYY
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: JJJ
        STOP TIME ZULU: HHMM
        STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
    ENDING HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-9 UNUSABLE NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) UNUSABLE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.      NANU TYPE: UNUSABLE
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: YYYYNNN
        REF NANU DTG: DDHHMMZ MMM YYYY
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: JJJ
        STOP TIME ZULU: HHMM
        STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
    ENDING HHMM ZULU.

3.  POC: ~~CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,~~
~~CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,~~
~~https://www.faa.gov/air_traffic/nas/gps_reports/,~~
~~MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,~~
~~GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,~~
~~MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,~~
~~JSPOCCOMBATOPS@VANDENBERG.AF.MIL~~
See Figure 10-1 for POC format
```

Figure 10-9 UNUSABLE NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) UNUSABLE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.      NANU TYPE: UNUSABLE
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: YYYYNNN
        REF NANU DTG: DDHHMMZ MMM YYYY
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: JJJ
        STOP TIME ZULU: HHMM
        STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
    ENDING HHMM ZULU.

3.  See Figure 10-1 for POC format
```

Figure 10-9 UNUSABLE NANU Message Template

ICD870-117 :

Section Number :

10.1.2.0-9

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) UNUSABLE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.      NANU TYPE: UNUNOREF
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: JJJ
        STOP TIME ZULU: HHMM
        STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
    ENDING HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-10 UNUNOREF NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) UNUSABLE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.      NANU TYPE: UNUNOREF
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: JJJ
        STOP TIME ZULU: HHMM
        STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
    ENDING HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
See Figure 10-1 for POC format
```

Figure 10-10 UNUNOREF NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) UNUSABLE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.      NANU TYPE: UNUNOREF
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: JJJ
        STOP TIME ZULU: HHMM
        STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE ON JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY)
    ENDING HHMM ZULU.

3.  See Figure 10-1 for POC format
```

Figure 10-10 UNUNOREF NANU Message Template

ICD870-130 :

Section Number :
10.1.4.0-5

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) USABLE JDAY JJJ/HHMM
1.      NANU TYPE: USABINIT
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: N/A
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS USABLE AS OF JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-12 USABINIT NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) USABLE JDAY JJJ/HHMM
1.      NANU TYPE: USABINIT
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: N/A
        REF NANU DTG: N/A
        SVN: XXX
        PRN: XX
        START JDAY: JJJ
        START TIME ZULU: HHMM
        START CALENDAR DATE: DD MMM YYYY
        STOP JDAY: N/A
        STOP TIME ZULU: N/A
        STOP CALENDAR DATE: N/A

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS USABLE AS OF JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
See Figure 10-1 for POC format
```

Figure 10-12 USABINIT NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) USABLE JDAY JJJ/HHMM
1.     NANU TYPE: USABINIT
       NANU NUMBER: YYYYSSS
       NANU DTG: DDHHMMZ MMM YYYY
       REFERENCE NANU: N/A
       REF NANU DTG: N/A
       SVN: XXX
       PRN: XX
       START JDAY: JJJ
       START TIME ZULU: HHMM
       START CALENDAR DATE: DD MMM YYYY
       STOP JDAY: N/A
       STOP TIME ZULU: N/A
       STOP CALENDAR DATE: N/A

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS USABLE AS OF JDAY JJJ
    (DD MMM YYYY) BEGINNING HHMM ZULU.

3.  See Figure 10-1 for POC format
```

Figure 10-12 USABINIT NANU Message Template

ICD870-132 :

Section Number :
10.1.4.0-7

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: LEAP SECOND
1.  CONDITION: THE INTERNATIONAL EARTH ROTATION SERVICE (IERS) HAS ANNOUNCED THE
    INTRODUCTION OF A LEAP SECOND TO OCCUR AT THE END OF MMM YYYY

2.  COORDINATED UNIVERSAL TIME (UTC) WILL SEQUENCE AS FOLLOWS:
             DD MMM YYYY  HH HOURS MM MINUTES SS SECONDS
             DD MMM YYYY  HH HOURS MM MINUTES SS SECONDS
             DD MMM YYYY  HH HOURS MM MINUTES SS SECONDS

3.  FOR GPS, AS WITH PREVIOUS LEAP SECOND UPDATES, THE UTC DATA IN SUBFRAME 4, PAGE 18 OF
    THE NAVIGATION MESSAGE WILL CHANGE IN ACCORDANCE WITH IS-GPS-200.

    FOR GPS, IF/AS AVAILABLE, THE UTC DATA IN MESSAGE TYPE 33 OF THE CNAV DATA FOR L2C
    WILL CHANGE IN ACCORDANCE WITH IS-GPS-200.

    FOR GPS, IF/AS AVAILABLE, THE UTC DATA IN SUBFRAME 3, PAGE 1 OF THE CNAV-2 DATA FOR
    L1C WILL CHANGE IN ACCORDANCE WITH IS-GPS-800.

    FOR GPS, IF/AS AVAILABLE, THE UTC DATA IN MESSAGE TYPE 33 OF THE CNAV DATA FOR L5
    WILL CHANGE IN ACCORDANCE WITH IS-GPS-705.

    BEFORE THE LEAP SECOND
    GPS-UTC IS XX (GPS IS AHEAD OF UTC BY XX SECONDS)

    AFTER THE LEAP SECOND
    GPS-UTC WILL BE XX (GPS WILL BE AHEAD OF UTC BY XX SECONDS)

4.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-13 LEAPSEC NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: LEAP SECOND
1.  CONDITION: THE INTERNATIONAL EARTH ROTATION SERVICE (IERS) HAS ANNOUNCED THE
    INTRODUCTION OF A LEAP SECOND TO OCCUR AT THE END OF MMM YYYY

2.  COORDINATED UNIVERSAL TIME (UTC) WILL SEQUENCE AS FOLLOWS:
              DD MMM YYYY  HH HOURS MM MINUTES SS SECONDS
              DD MMM YYYY  HH HOURS MM MINUTES SS SECONDS
              DD MMM YYYY  HH HOURS MM MINUTES SS SECONDS

3.  FOR GPS, AS WITH PREVIOUS LEAP SECOND UPDATES, THE UTC DATA IN SUBFRAME 4, PAGE 18 OF
    THE NAVIGATION MESSAGE WILL CHANGE IN ACCORDANCE WITH IS-GPS-200.

    FOR GPS, IF/AS AVAILABLE, THE UTC DATA IN MESSAGE TYPE 33 OF THE CNAV DATA FOR L2C
    WILL CHANGE IN ACCORDANCE WITH IS-GPS-200.

    FOR GPS, IF/AS AVAILABLE, THE UTC DATA IN SUBFRAME 3, PAGE 1 OF THE CNAV-2 DATA FOR
    L1C WILL CHANGE IN ACCORDANCE WITH IS-GPS-800.

    FOR GPS, IF/AS AVAILABLE, THE UTC DATA IN MESSAGE TYPE 33 OF THE CNAV DATA FOR L5
    WILL CHANGE IN ACCORDANCE WITH IS-GPS-705.

    BEFORE THE LEAP SECOND
    GPS-UTC IS XX (GPS IS AHEAD OF UTC BY XX SECONDS)

    AFTER THE LEAP SECOND
    GPS-UTC WILL BE XX (GPS WILL BE AHEAD OF UTC BY XX SECONDS)

4.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
See Figure 10-1 for POC format
```

Figure 10-13 LEAPSEC NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: LEAP SECOND
1.  CONDITION: THE INTERNATIONAL EARTH ROTATION SERVICE (IERS) HAS ANNOUNCED THE
    INTRODUCTION OF A LEAP SECOND TO OCCUR AT THE END OF MMM YYYY

2.  COORDINATED UNIVERSAL TIME (UTC) WILL SEQUENCE AS FOLLOWS:
              DD MMM YYYY  HH HOURS MM MINUTES SS SECONDS
              DD MMM YYYY  HH HOURS MM MINUTES SS SECONDS
              DD MMM YYYY  HH HOURS MM MINUTES SS SECONDS

3.  FOR GPS, AS WITH PREVIOUS LEAP SECOND UPDATES, THE UTC DATA IN SUBFRAME 4, PAGE 18 OF
    THE NAVIGATION MESSAGE WILL CHANGE IN ACCORDANCE WITH IS-GPS-200.

    FOR GPS, IF/AS AVAILABLE, THE UTC DATA IN MESSAGE TYPE 33 OF THE CNAV DATA FOR L2C
    WILL CHANGE IN ACCORDANCE WITH IS-GPS-200.

    FOR GPS, IF/AS AVAILABLE, THE UTC DATA IN SUBFRAME 3, PAGE 1 OF THE CNAV-2 DATA FOR
    L1C WILL CHANGE IN ACCORDANCE WITH IS-GPS-800.

    FOR GPS, IF/AS AVAILABLE, THE UTC DATA IN MESSAGE TYPE 33 OF THE CNAV DATA FOR L5
    WILL CHANGE IN ACCORDANCE WITH IS-GPS-705.

    BEFORE THE LEAP SECOND
    GPS-UTC IS XX (GPS IS AHEAD OF UTC BY XX SECONDS)

    AFTER THE LEAP SECOND
    GPS-UTC WILL BE XX (GPS WILL BE AHEAD OF UTC BY XX SECONDS)

4.  See Figure 10-1 for POC format
```

Figure 10-13 LEAPSEC NANU Message Template

ICD870-134 :

Section Number :
10.1.4.0-9

WAS:

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) LAUNCH JDAY JJJ
1.     NANU TYPE: LAUNCH
       NANU NUMBER: YYYYSSS
       NANU DTG: DDHHMMZ MMM YYYY
       SVN: XXX
       PRN: XX
       LAUNCH JDAY: JJJ
       LAUNCH TIME ZULU: HHMM

2.  GPS SATELLITE SVN XXX (PRN XX) WAS LAUNCHED ON JDAY JJJ A USABINIT NANU WILL BE SENT
    WHEN THE SATELITTE IS SET ACTIVE TO SERVICE.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-14 LAUNCH NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) LAUNCH JDAY JJJ
1.     NANU TYPE: LAUNCH
       NANU NUMBER: YYYYSSS
       NANU DTG: DDHHMMZ MMM YYYY
       SVN: XXX
       PRN: XX
       LAUNCH JDAY: JJJ
       LAUNCH TIME ZULU: HHMM

2.  GPS SATELLITE SVN XXX (PRN XX) WAS LAUNCHED ON JDAY JJJ A USABINIT NANU WILL BE SENT
    WHEN THE SATELITTE IS SET ACTIVE TO SERVICE.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
See Figure 10-1 for POC format
```

Figure 10-14 LAUNCH NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) LAUNCH JDAY JJJ
1.      NANU TYPE: LAUNCH
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        SVN: XXX
        PRN: XX
        LAUNCH JDAY: JJJ
        LAUNCH TIME ZULU: HHMM

2.  GPS SATELLITE SVN XXX (PRN XX) WAS LAUNCHED ON JDAY JJJ A USABINIT NANU WILL BE SENT
    WHEN THE SATELITTE IS SET ACTIVE TO SERVICE.

3.  See Figure 10-1 for POC format
```

Figure 10-14 LAUNCH NANU Message Template

ICD870-136 :

Section Number :

10.1.4.0-11

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) DECOMMISSIONING JDAY JJJ/HHMM
1.      NANU TYPE: DECOM
        NANU NUMBER: YYYYSSS
        NANU DTG: DDHHMMZ MMM YYYY
        REFERENCE NANU: YYYYSSS
        REF NANU DTG: DDHHMMZ MMM YYYY
        SVN: XXX
        PRN: XX
        UNUSABLE START JDAY: JJJ
        UNUSABLE START TIME ZULU: HHMM
        UNUSABLE START CALENDAR DATE: DD MMM YYYY
        DECOMMISSIONING START JDAY: JJJ
        DECOMMISSIONING START TIME ZULU: HHMM
        DECOMMISSIONING START CALENDAR DATE: DD MMM YYYY


2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE AS OF JDAY JJJ (DD MMM YYYY) AND
    REMOVED FROM THE GPS CONSTELLATION ON JDAY JJJ (DD MMM YYYY) AT HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-15 DECOM NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) DECOMMISSIONING JDAY JJJ/HHMM
1.     NANU TYPE: DECOM
       NANU NUMBER: YYYYSSS
       NANU DTG: DDHHMMZ MMM YYYY
       REFERENCE NANU: YYYYSSS
       REF NANU DTG: DDHHMMZ MMM YYYY
       SVN: XXX
       PRN: XX
       UNUSABLE START JDAY: JJJ
       UNUSABLE START TIME ZULU: HHMM
       UNUSABLE START CALENDAR DATE: DD MMM YYYY
       DECOMMISSIONING START JDAY: JJJ
       DECOMMISSIONING START TIME ZULU: HHMM
       DECOMMISSIONING START CALENDAR DATE: DD MMM YYYY


2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE AS OF JDAY JJJ (DD MMM YYYY) AND
    REMOVED FROM THE GPS CONSTELLATION ON JDAY JJJ (DD MMM YYYY) AT HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
See Figure 10-1 for POC format
```

Figure 10-15 DECOM NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYSSS
SUBJ: SVNXXX (PRNXX) DECOMMISSIONING JDAY JJJ/HHMM
1.     NANU TYPE: DECOM
       NANU NUMBER: YYYYSSS
       NANU DTG: DDHHMMZ MMM YYYY
       REFERENCE NANU: YYYYSSS
       REF NANU DTG: DDHHMMZ MMM YYYY
       SVN: XXX
       PRN: XX
       UNUSABLE START JDAY: JJJ
       UNUSABLE START TIME ZULU: HHMM
       UNUSABLE START CALENDAR DATE: DD MMM YYYY
       DECOMMISSIONING START JDAY: JJJ
       DECOMMISSIONING START TIME ZULU: HHMM
       DECOMMISSIONING START CALENDAR DATE: DD MMM YYYY


2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WAS UNUSABLE AS OF JDAY JJJ (DD MMM YYYY) AND
    REMOVED FROM THE GPS CONSTELLATION ON JDAY JJJ (DD MMM YYYY) AT HHMM ZULU.

3.  See Figure 10-1 for POC format
```

Figure 10-15 DECOM NANU Message Template

ICD870-145 :

Section Number :
10.3.0-2

WAS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYNNN
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.  NANU TYPE: FCSTDV
     NANU NUMBER: YYYYNNN
     NANU DTG: DDHHMMZ MMM YYYY
     REFERENCE NANU: YYYYNNN
     REF NANU DTG: DDHHMMZ MMM YYYY
     SVN: XXX
     PRN: XX
     START JDAY: JJJ
     START TIME ZULU: HHMM
     START CALENDAR DATE: DD MMM YYYY
     STOP JDAY: JJJ
     STOP TIME ZULU: HHMM
     STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
     (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY) ENDING HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-16 NANU Message Template

Redlines :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYNNN
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.  NANU TYPE: FCSTDV
     NANU NUMBER: YYYYNNN
     NANU DTG: DDHHMMZ MMM YYYY
     REFERENCE NANU: YYYYNNN
     REF NANU DTG: DDHHMMZ MMM YYYY
     SVN: XXX
     PRN: XX
     START JDAY: JJJ
     START TIME ZULU: HHMM
     START CALENDAR DATE: DD MMM YYYY
     STOP JDAY: JJJ
     STOP TIME ZULU: HHMM
     STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
     (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY) ENDING HHMM ZULU.

3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
See Figure 10-1 for POC format
```

Figure 10-16 NANU Message Template

IS :

```
NOTICE ADVISORY TO NAVSTAR USERS (NANU) YYYYNNN
SUBJ: SVNXXX (PRNXX) FORECAST OUTAGE JDAY JJJ/HHMM - JDAY JJJ/HHMM
1.  NANU TYPE: FCSTDV
     NANU NUMBER: YYYYNNN
     NANU DTG: DDHHMMZ MMM YYYY
     REFERENCE NANU: YYYYNNN
     REF NANU DTG: DDHHMMZ MMM YYYY
     SVN: XXX
     PRN: XX
     START JDAY: JJJ
     START TIME ZULU: HHMM
     START CALENDAR DATE: DD MMM YYYY
     STOP JDAY: JJJ
     STOP TIME ZULU: HHMM
     STOP CALENDAR DATE: DD MMM YYYY

2.  CONDITION: GPS SATELLITE SVNXXX (PRNXX) WILL BE UNUSABLE ON JDAY JJJ
     (DD MMM YYYY) BEGINNING HHMM ZULU UNTIL JDAY JJJ (DD MMM YYYY) ENDING HHMM ZULU.

3.  See Figure 10-1 for POC format
```

Figure 10-16 NANU Message Template

ICD870-175 :

Section Number :

10.3.4.0-2

WAS :

```
3.  POC: CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,
https://www.faa.gov/air_traffic/nas/gps_reports/,
MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,
GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,
MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 10-23 Contact Information

Redlines :

3. POC: ~~CIVIL NON-AVIATION - NAVCEN at 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,~~
~~CIVIL AVIATION - FAA Satellite Operations Group at 540-422-4178,~~
~~https://www.faa.gov/air_traffic/nas/gps_reports/,~~
~~MILITARY - GPS Operations Center at HTTPS://GPS.AFSPC.AF.MIL/GPSOC, DSN 560-2541, COMM 719-567-2493,~~
~~GPS_SUPPORT@SCHRIEVER.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS,~~
~~MILITARY ALTERNATE - JOINT SPACE OPERATIONS CENTER, DSN 276-9994, COMM 805-606-9994,~~
~~JSPOCCOMBATOPS@VANDENBERG.AF.MIL~~
CIVIL NON-AVIATION – NAVCEN AT 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION – FAA NASEO AT 540-422-4178, HTTPS://WWW.FAA.GOV/AIR_TRAFFIC/NAS/GPS_REPORTS/,
MILITARY – GPS OPERATIONS CENTER AT HTTPS://GPS.AFSPC.AF.MIL/GPSOC/, DSN 560-2541, COMM 719-567-2493,
GPSOPERATIONSCENTER@US.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS/,
MILITARY ALTERNATE – COMBINED SPACE OPERATIONS CENTER, DSN 275-3522, COMM 805-605-3522,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL

Figure 10-23 Contact Information

IS :

3. POC: CIVIL NON-AVIATION – NAVCEN AT 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
CIVIL AVIATION – FAA NASEO AT 540-422-4178, HTTPS://WWW.FAA.GOV/AIR_TRAFFIC/NAS/GPS_REPORTS/,
MILITARY – GPS OPERATIONS CENTER AT HTTPS://GPS.AFSPC.AF.MIL/GPSOC/, DSN 560-2541, COMM 719-567-2493,
GPSOPERATIONSCENTER@US.AF.MIL, HTTP://WWW.SCHRIEVER.AF.MIL/GPS/,
MILITARY ALTERNATE – COMBINED SPACE OPERATIONS CENTER, DSN 275-3522, COMM 805-605-3522,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL

Figure 10-23 Contact Information

ICD870-189 :

Section Number :
20.1.0-1

WAS :

The Operational Advisory (OA) message provides a summary of the satellite constellation status. An example is shown in Figure 20-1. The OA is arranged in three sections. The following paragraphs describe each section and subsection of the OA.

Redlines :

The Operational Advisory (OA) message provides a summary of the satellite constellation status. An example is shown in Figure 20-1. The OA is arranged in three sections. The following paragraphs describe each section and subsection of the OA. Users are advised that the Point of Contact (POC) information contained in Section 3 of the OA samples are subject to change, specifically the Organization Name and Organization Primary Contact Information (i.e. Contact Website URI, Contact Email ID, Contact Telephone Number, and Contact DSN Telephone Number). The OA examples include POC information that reflects the time of release of this ICD. However, users should refer to the POC information provided in the most recent OAs for up-to-date information.

IS :

The Operational Advisory (OA) message provides a summary of the satellite constellation status. An example is shown in Figure 20-1. The OA is arranged in three sections. The following paragraphs describe each section and subsection of the OA. Users are advised that the Point of Contact (POC) information contained in Section 3 of the OA samples are subject to change, specifically the Organization Name and Organization Primary Contact Information (i.e. Contact Website URI, Contact Email ID, Contact Telephone Number, and Contact DSN Telephone Number). The OA examples include POC information that reflects the time of release of this ICD. However, users should refer to the POC information provided in the most recent OAs for up-to-date information.

ICD870-190 :

Section Number :
20.1.0-2

WAS :

```
UNCLASSIFIED
GPS OPERATIONAL ADVISORY        086.OA1
SUBJ: GPS STATUS      27 MAR 2009

1. SATELLITES, PLANES, AND CLOCKS (CS=CESIUM RB=RUBIDIUM):
A. BLOCK I   : NONE
B. BLOCK II : PRNS 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14
   PLANE     : SLOT B2, D1, C2, D4, B6, C5, A6, A3, A1, E3, D2, B4, F3, F1
   CLOCK     :      RB, RB, CS, RB, RB, RB, RB, CS, CS, CS, RB, RB, RB, RB
   BLOCK II : PRNS 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28
   PLANE     : SLOT F2, B1, C4, E4, C3, E1, D3, E2, F4, D5, A5, F5, A4, B3
   CLOCK     :      RB, RB, RB, RB, RB, RB, RB, RB, RB, CS, RB, RB, CS, RB
   BLOCK II : PRNS 29, 30, 31, 32
   PLANE     : SLOT C1, B5, A2, E5
   CLOCK     :      RB, CS, RB, RB
C*.BLOCK III: PRNS 33, 34, 35
   PLANE     : SLOT A2, C3, F4
   CLOCK     :      RB, RB, RB
2. CURRENT ADVISORIES AND FORECASTS:
A. FORECASTS:           FOR SEVEN DAYS AFTER EVENT CONCLUDES.
NANU          MSG DATE/TIME       PRN  TYPE         SUMMARY (JDAY/ZULU TIME START - STOP)

2009022       261836Z MAR 2009    18   FCSTDV       092/1600-093/0630
B. ADVISORIES:
NANU          MSG DATE/TIME       PRN  TYPE         SUMMARY (JDAY/ZULU TIME START - STOP)

C. GENERAL:
NANU          MSG DATE/TIME       PRN  TYPE         SUMMARY (JDAY/ZULU TIME START - STOP)

2009020       202158Z MAR 2009         GENERAL      /-/
2009021       241836Z MAR 2009    01   LAUNCH       /-/
2009023       262212Z MAR 2009         GENERAL      /-/
3. REMARKS:
A. THE POINT OF CONTACT FOR GPS MILITARY OPERATIONAL SUPPORT IS THE GPS OPERATIONS CENTER
AT 719-567-2541 OR DSN 560-2541.
B. CIVIL NON-AVIATION: US COAST GUARD NAVCEN AT 703-313-5900 24 HOURS DAILY AND INTERNET
HTTPS://WWW.NAVCEN.USCG.GOV.
C. CIVIL AVIATION: FAA SATELLITE OPERATIONS GROUP AT 540-422-4178,
HTTPS://WWW.FAA.GOV/AIR_TRAFFIC/NAS/GPS_REPORTS/.
D. MILITARY SUPPORT WEBPAGES CAN BE FOUND AT THE FOLLOWING HTTPS://GPS.AFSPC.AF.MIL/GPS OR
HTTPS://GPS.AFSPC.AF.MIL/GPSOC.
```

*Note: Section 1.C of the example OA message shown above contains example data for the GPS III SVs to show the type of data that will go in this section in the OCX era. This example is not meant to represent the actual GPS constellation configuration.

Figure 20-1 Sample Operational Advisory

Redlines :

```
UNCLASSIFIED
GPS OPERATIONAL ADVISORY        086.OA1
SUBJ: GPS STATUS      27 MAR 2009

1. SATELLITES, PLANES, AND CLOCKS (CS=CESIUM RB=RUBIDIUM):
A. BLOCK I  : NONE
B. BLOCK II : PRNS 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14
   PLANE    : SLOT B2, D1, C2, D4, B6, C5, A6, A3, A1, E3, D2, B4, F3, F1
   CLOCK    :      RB, RB, CS, RB, RB, RB, RB, CS, CS, CS, RB, RB, RB, RB
   BLOCK II : PRNS 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28
   PLANE    : SLOT F2, B1, C4, E4, C3, E1, D3, E2, F4, D5, A5, F5, A4, B3
   CLOCK    :      RB, RB, RB, RB, RB, RB, RB, RB, RB, CS, RB, RB, CS, RB
   BLOCK II : PRNS 29, 30, 31, 32
   PLANE    : SLOT C1, B5, A2, E5
   CLOCK    :      RB, CS, RB, RB
C*.BLOCK III: PRNS 33, 34, 35
   PLANE    : SLOT A2, C3, F4
   CLOCK    :      RB, RB, RB
2. CURRENT ADVISORIES AND FORECASTS:
A. FORECASTS:            FOR SEVEN DAYS AFTER EVENT CONCLUDES.
NANU          MSG DATE/TIME       PRN  TYPE         SUMMARY (JDAY/ZULU TIME START - STOP)

2009022       261836Z MAR 2009    18   FCSTDV       092/1600-093/0630
B. ADVISORIES:
NANU          MSG DATE/TIME       PRN  TYPE         SUMMARY (JDAY/ZULU TIME START - STOP)

C. GENERAL:
NANU          MSG DATE/TIME       PRN  TYPE         SUMMARY (JDAY/ZULU TIME START - STOP)

2009020       202158Z MAR 2009         GENERAL      /-/
2009021       241836Z MAR 2009    01   LAUNCH       /-/
2009023       262212Z MAR 2009         GENERAL      /-/
3. REMARKS:
A. THE POINT OF CONTACT FOR GPS MILITARY OPERATIONAL SUPPORT IS THE GPS OPERATIONS CENTER
AT 719-567-2541 OR DSN 560-2541.
B. CIVIL NON-AVIATION: US COAST GUARD NAVCEN AT 703-313-5900 24 HOURS DAILY AND INTERNET
HTTPS://WWW.NAVCEN.USCG.GOV.
C. CIVIL AVIATION: FAA SATELLITE OPERATIONS GROUP AT 540-422-4178,
HTTPS://WWW.FAA.GOV/AIR_TRAFFIC/NAS/GPS_REPORTS/.
D. MILITARY SUPPORT WEBPAGES CAN BE FOUND AT THE FOLLOWING HTTPS://GPS.AFSPC.AF.MIL/GPS OR
HTTPS://GPS.AFSPC.AF.MIL/GPSOC.
A.  THE POINT OF CONTACT FOR GPS MILITARY OPERATIONAL SUPPORT IS THE GPS
OPERATIONS CENTER AT HTTPS://GPS.AFSPC.AF.MIL/GPSOC/, DSN 560-2541, COMM 719-567-2493,
GPSOPERATIONSCENTER@US.AF.MIL,
B. CIVIL NON-AVIATION – NAVCEN AT 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
C. CIVIL AVIATION – FAA NASEO AT 540-422-4178,
HTTPS://WWW.FAA.GOV/AIR_TRAFFIC/NAS/GPS_REPORTS/,
D. MILITARY ALTERNATE – COMBINED SPACE OPERATIONS CENTER, DSN 275-3522, COMM 805-605-3522,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

*Note: Section 1.C of the example OA message shown above contains example data for the GPS III SVs to show the type of data that will go in this section in the OCX era. This example is not meant to represent the actual GPS constellation configuration.

Figure 20-1 Sample Operational Advisory

IS :

```
UNCLASSIFIED
GPS OPERATIONAL ADVISORY        086.OA1
SUBJ: GPS STATUS      27 MAR 2009

1. SATELLITES, PLANES, AND CLOCKS (CS=CESIUM RB=RUBIDIUM):
A. BLOCK I  : NONE
B. BLOCK II : PRNS 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14
   PLANE    : SLOT B2, D1, C2, D4, B6, C5, A6, A3, A1, E3, D2, B4, F3, F1
   CLOCK    :      RB, RB, CS, RB, RB, RB, RB, CS, CS, CS, RB, RB, RB, RB
   BLOCK II : PRNS 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28
   PLANE    : SLOT F2, B1, C4, E4, C3, E1, D3, E2, F4, D5, A5, F5, A4, B3
   CLOCK    :      RB, RB, RB, RB, RB, RB, RB, RB, RB, CS, RB, RB, CS, RB
   BLOCK II : PRNS 29, 30, 31, 32
   PLANE    : SLOT C1, B5, A2, E5
   CLOCK    :      RB, CS, RB, RB
C*.BLOCK III: PRNS 33, 34, 35
   PLANE    : SLOT A2, C3, F4
   CLOCK    :      RB, RB, RB
2. CURRENT ADVISORIES AND FORECASTS:
A. FORECASTS:            FOR SEVEN DAYS AFTER EVENT CONCLUDES.
NANU          MSG DATE/TIME       PRN  TYPE         SUMMARY (JDAY/ZULU TIME START - STOP)

2009022       261836Z MAR 2009    18   FCSTDV       092/1600-093/0630
B. ADVISORIES:
NANU          MSG DATE/TIME       PRN  TYPE         SUMMARY (JDAY/ZULU TIME START - STOP)

C. GENERAL:
NANU          MSG DATE/TIME       PRN  TYPE         SUMMARY (JDAY/ZULU TIME START - STOP)

2009020       202158Z MAR 2009         GENERAL      /-/
2009021       241836Z MAR 2009    01   LAUNCH       /-/
2009023       262212Z MAR 2009         GENERAL      /-/
3. REMARKS:
A.  THE POINT OF CONTACT FOR GPS MILITARY OPERATIONAL SUPPORT IS THE GPS
OPERATIONS CENTER AT HTTPS://GPS.AFSPC.AF.MIL/GPSOC/, DSN 560-2541, COMM 719-567-2493,
GPSOPERATIONSCENTER@US.AF.MIL,
B. CIVIL NON-AVIATION – NAVCEN AT 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
C. CIVIL AVIATION – FAA NASEO AT 540-422-4178,
HTTPS://WWW.FAA.GOV/AIR_TRAFFIC/NAS/GPS_REPORTS/,
D. MILITARY ALTERNATE – COMBINED SPACE OPERATIONS CENTER, DSN 275-3522, COMM 805-605-3522,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

*Note: Section 1.C of the example OA message shown above contains example data for the GPS III SVs to show the type of data that will go in this section in the OCX era. This example is not meant to represent the actual GPS constellation configuration.

Figure 20-1 Sample Operational Advisory

ICD870-206 :

Section Number :
20.5.0-2

WAS :

```
3. REMARKS:
A. THE POINT OF CONTACT FOR GPS MILITARY OPERATIONAL SUPPORT IS THE GPS OPERATIONS CENTER
AT 719-567-2541 OR DSN 560-2541.
B. CIVIL NON-AVIATION: US COAST GUARD NAVCEN AT 703-313-5900 24 HOURS DAILY AND INTERNET
HTTPS://WWW.NAVCEN.USCG.GOV.
C. CIVIL AVIATION: FAA SATELLITE OPERATIONS GROUP AT 540-422-4178,
HTTPS://WWW.FAA.GOV/AIR_TRAFFIC/NAS/GPS_REPORTS/.
D. MILITARY SUPPORT WEBPAGES CAN BE FOUND AT THE FOLLOWING HTTPS://GPS.AFSPC.AF.MIL/GPS OR
HTTPS://GPS.AFSPC.AF.MIL/GPSOC.
```

Figure 20-5 OA Section 3

Redlines :

```
3. REMARKS:
~~A. THE POINT OF CONTACT FOR GPS MILITARY OPERATIONAL SUPPORT IS THE GPS OPERATIONS CENTER~~
~~AT 719-567-2541 OR DSN 560-2541.~~
~~B. CIVIL NON-AVIATION: US COAST GUARD NAVCEN AT 703-313-5900 24 HOURS DAILY AND INTERNET~~
~~HTTPS://WWW.NAVCEN.USCG.GOV.~~
~~C. CIVIL AVIATION: FAA SATELLITE OPERATIONS GROUP AT 540-422-4178,~~
~~HTTPS://WWW.FAA.GOV/AIR_TRAFFIC/NAS/GPS_REPORTS/.~~
~~D. MILITARY SUPPORT WEBPAGES CAN BE FOUND AT THE FOLLOWING HTTPS://GPS.AFSPC.AF.MIL/GPS OR~~
~~HTTPS://GPS.AFSPC.AF.MIL/GPSOC.~~
A. THE POINT OF CONTACT FOR GPS MILITARY OPERATIONAL SUPPORT IS THE GPS
OPERATIONS CENTER AT HTTPS://GPS.AFSPC.AF.MIL/GPSOC/, DSN 560-2541, COMM 719-567-2493,
GPSOPERATIONSCENTER@US.AF.MIL,
B. CIVIL NON-AVIATION – NAVCEN AT 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
C. CIVIL AVIATION – FAA NASEO AT 540-422-4178,
HTTPS://WWW.FAA.GOV/AIR_TRAFFIC/NAS/GPS_REPORTS/,
D. MILITARY ALTERNATE – COMBINED SPACE OPERATIONS CENTER, DSN 275-3522, COMM 805-605-3522,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 20-5 OA Section 3

IS :

```
3. REMARKS:
A. THE POINT OF CONTACT FOR GPS MILITARY OPERATIONAL SUPPORT IS THE GPS
OPERATIONS CENTER AT HTTPS://GPS.AFSPC.AF.MIL/GPSOC/, DSN 560-2541, COMM 719-567-2493,
GPSOPERATIONSCENTER@US.AF.MIL,
B. CIVIL NON-AVIATION – NAVCEN AT 703-313-5900, HTTPS://WWW.NAVCEN.USCG.GOV,
C. CIVIL AVIATION – FAA NASEO AT 540-422-4178,
HTTPS://WWW.FAA.GOV/AIR_TRAFFIC/NAS/GPS_REPORTS/,
D. MILITARY ALTERNATE – COMBINED SPACE OPERATIONS CENTER, DSN 275-3522, COMM 805-605-3522,
JSPOCCOMBATOPS@VANDENBERG.AF.MIL
```

Figure 20-5 OA Section 3

Clean-Up and Clarification Proposed Changes

ICD870-304 :

Section Number :
1.1.0-5

WAS :
The new or modified file formats: .nnu (updated NANU), .ale (new ESHS), .blm (new YUMA), .bl3 (new SEM), .oa1 (updated OA) , and as2.txt (new A-S Status) handle a larger number of SVNs and/or PRNs and more clearly specify zero padding and whitespace so automated parsing can be done with less assumptions.

Redlines :
The new or modified file formats: .nnu (updated NANU), .ale (new ESHS), .blm (new YUMA), .bl3 (new SEM), .oa1 (updated OA) , and as2.txt (new A-S Status) handle a larger number of SVNs and/or PRNs and more clearly specify zero padding and whitespace so automated parsing can be done with ~~less~~fewer assumptions.

IS :
The new or modified file formats: .nnu (updated NANU), .ale (new ESHS), .blm (new YUMA), .bl3 (new SEM), .oa1 (updated OA) , and as2.txt (new A-S Status) handle a larger number of SVNs and/or PRNs and more clearly specify zero padding and whitespace so automated parsing can be done with fewer assumptions.

ICD870-11 :

Section Number :
1.3.0-2

WAS :
The following signatories must approve this ICD to make it effective.
1. Air Force Space Command (AFSPC), GPS Directorate (GP) Space and Missile Systems Center (SMC)
2. Air Force Space Command (AFSPC), 50th Space Wing (50 SW)
3. OCX Contractor
4. Department of Homeland Security (DHS), United States Coast Guard (USCG), Navigation Center (NAVCEN)
5. Department of Transportation (DOT), Federal Aviation Administration (FAA)

Redlines :
The following signatories must approve this ICD to make it effective.

1. Air Force Space Command (AFSPC), GPS Directorate (GP) Space and Missile Systems Center (SMC)

2. Air Force Space Command (AFSPC), 50th Space Wing (50 SW)

3. ~~OCX Contractor~~

~~4.~~ Department of Homeland Security (DHS), United States Coast Guard (USCG), Navigation Center (NAVCEN)

~~5~~4. Department of Transportation (DOT), Federal Aviation Administration (FAA)

IS :
The following signatories must approve this ICD to make it effective.
1. Air Force Space Command (AFSPC), GPS Directorate (GP) Space and Missile Systems Center (SMC)
2. Air Force Space Command (AFSPC), 50th Space Wing (50 SW)
3. Department of Homeland Security (DHS), United States Coast Guard (USCG), Navigation Center (NAVCEN)
4. Department of Transportation (DOT), Federal Aviation Administration (FAA)

ICD870-19 :

Section Number :
2.1.0-2

WAS :
Specifications

Federal

None

Military

None

Other Government Activity

SS-CS-800 Current Version	GPS III Control Segment Specification Global Positioning Systems Wing (GPSW)

Redlines :
Specifications

Federal

None

Military

None

Other Government Activity

~~SS-CS-800 Current Version~~	~~GPS III Control Segment Specification Global Positioning Systems Wing (GPSW)~~

N/A

IS :
Specifications

Federal

None

Military

None

Other Government Activity

N/A

ICD870-23 :

Section Number :
2.1.0-6

WAS :

IS-GPS-200 Current Version	Navstar GPS Space Segment / Navigation User Interface
IS-GPS-705 Current Version	Navstar GPS Space Segment / User Segment L5 Interfaces
IS-GPS-800 Current Version	Navstar GPS Space Segment / User Segment L1C Interfaces
GP-03-001A 20 April 2006	GPS Interface Control Working Group (ICWG) Charter
MOA February 1992	Memorandum of Agreement Between the United States Coast Guard and the United States Space Command, "Distribution of Navstar Global Positioning System (GPS) Status Information" (Signatories: USCG/G-NRN and USSPACECOM/DO)
MOA February 1996	Support Agreement Between the United States Coast Guard and the United States Air Force Space Command, "Distribution of Navstar Global Positioning System (GPS) Status Information" (Signatories: Commanding Officer NAVCEN and AFSPC/DO)
MOA February 2010	Memorandum of Agreement between the Joint Functional Component Command for Space the U.S. Coast Guard Navigation Center and the FAA National Operations Control Center with respect to the Support of Users of the Navstar Global Positioning System
MOA June 2014	Interagency Memorandum of Agreement with Respect to Support of Users of the Navstar Global Positioning System (GPS)
Fiscal Year 2014	Federal Radionavigation Plan (Signatories: Department of Homeland Security, Department of Transportation, Department of Defense)

MFR 30 June 2011	Department of the Air Force, 50th Space Wing (AFSPC) Memorandum for Record - 2 SOPS GPS Public Release Policy
6 February 2003	DODI 8500.2, Information Assurance (IA) Implementation
4 May 2011	United States Department of Defense X.509 Certificate Policy

Redlines :

IS-GPS-200 Current Version	Navstar GPS Space Segment / Navigation User Interface
IS-GPS-705 Current Version	Navstar GPS Space Segment / User Segment L5 Interfaces
IS-GPS-800 Current Version	Navstar GPS Space Segment / User Segment L1C Interfaces
GP-03-001 ~~20 April 2006~~Current Version	GPS Interface Control Working Group (ICWG) Charter
~~MOA~~ ~~February 1992~~	~~Memorandum of Agreement Between the United States Coast Guard and the United States Space Command, "Distribution of Navstar Global Positioning System (GPS) Status Information"~~ ~~(Signatories: USCG/G-NRN and USSPACECOM/DO)~~
~~MOA~~ ~~February 1996~~	~~Support Agreement Between the United States Coast Guard and the United States Air Force Space Command, "Distribution of Navstar Global Positioning System (GPS) Status Information"~~ ~~(Signatories: Commanding Officer NAVCEN and AFSPC/DO)~~
~~MOA~~ ~~February 2010~~	~~Memorandum of Agreement between the Joint Functional Component Command for Space the U.S. Coast Guard Navigation Center and the FAA National Operations Control Center with respect to the Support of Users of the Navstar Global Positioning System~~
MOA ~~June 2014~~ Current Version	Interagency Memorandum of Agreement with Respect to Support of Users of the Navstar Global Positioning System (GPS)

~~Fiscal Year 2014~~2017	Federal Radionavigation Plan (Signatories: Department of Homeland Security, Department of Transportation, Department of Defense)
MFR 30 June 2011	Department of the Air Force, 50th Space Wing (AFSPC) Memorandum for Record - 2 SOPS GPS Public Release Policy
6 February 2003	DODI 8500.2, Information Assurance (IA) Implementation
4 May 2011	United States Department of Defense X.509 Certificate Policy

IS :

IS-GPS-200 Current Version	Navstar GPS Space Segment / Navigation User Interface
IS-GPS-705 Current Version	Navstar GPS Space Segment / User Segment L5 Interfaces
IS-GPS-800 Current Version	Navstar GPS Space Segment / User Segment L1C Interfaces
GP-03-001 Current Version	GPS Interface Control Working Group (ICWG) Charter
MOA Current Version	Interagency Memorandum of Agreement with Respect to Support of Users of the Navstar Global Positioning System (GPS)
2017	Federal Radionavigation Plan (Signatories: Department of Homeland Security, Department of Transportation, Department of Defense)
MFR 30 June 2011	Department of the Air Force, 50th Space Wing (AFSPC) Memorandum for Record - 2 SOPS GPS Public Release Policy
6 February 2003	DODI 8500.2, Information Assurance (IA) Implementation
4 May 2011	United States Department of Defense X.509 Certificate Policy

ICD870-651 :

Section Number :
3.1.0-1

WAS :
The USCG provides a Portal accessible from the public Internet to allow users, with a standard web browser, to discover and retrieve publicly releasable GPS products.

Redlines :
The USCG provides a ~~Portal~~webpage accessible from the public Internet to allow users, with a standard web browser, to discover and retrieve publicly releasable GPS products.

IS :
The USCG provides a webpage accessible from the public Internet to allow users, with a standard web browser, to discover and retrieve publicly releasable GPS products.

ICD870-652 :

Section Number :
3.1.0-3

WAS :
Figure 3-1 depicts a generalized GPS Product Distribution Process which begins with a ***End-User*** interacting with a GPS Product redistribution node (e.g., USCG NIS) to retrieve the desired GPS Products. The diagram reflects that a ***potential data Corruption Source*** actor may introduce data corruption at any time during this re-distribution process. The GPS Product End-User may then validate and/or transform the Information Product before use in a Processing System. The roles of ***Potential Data Corruption Source*** and ***GPS Product End-User*** may be performed by the same or by different individuals.

Redlines :
Figure 3-1 depicts a generalized GPS Product Distribution Process which begins with a ***End-User*** interacting with a GPS Product redistribution node ~~(e.g., USCG NIS)~~ to retrieve the desired GPS Products. The diagram reflects that a ***potential data Corruption Source*** actor may introduce data corruption at any time during this re-distribution process. The GPS Product End-User may then validate and/or transform the Information Product before use in a Processing System. The roles of ***Potential Data Corruption Source*** and ***GPS Product End-User*** may be performed by the same or by different individuals.

IS :
Figure 3-1 depicts a generalized GPS Product Distribution Process which begins with a ***End-User*** interacting with a GPS Product redistribution node to retrieve the desired GPS Products. The diagram reflects that a ***potential data Corruption Source*** actor may introduce data corruption at any time during this re-distribution process. The GPS Product End-User may then validate and/or transform the Information Product before use in a Processing System. The roles of ***Potential Data Corruption Source*** and ***GPS Product End-User*** may be performed by the same or by different individuals.

ICD870-665 :

Section Number :
3.1.0-12

WAS :
Appendices 1-5 of this ICD documents the minimum information content and formats which are required to achieve backward compatibility compliance. The GPS Ontology including Transition and Support Products will be published in the USCG NIS web site, currently http://www.navcen.uscg.gov.

Redlines :
Appendices 1-5 of this ICD document~~s~~ the minimum information content and formats which are required to achieve backward compatibility compliance. The GPS Ontology including Transition and Support Products will be published ~~i~~on the USCG ~~NIS~~Navigation ~~web~~Center ~~site~~website, currently https://www.navcen.uscg.gov.

IS :
Appendices 1-5 of this ICD document the minimum information content and formats which are required to achieve backward compatibility compliance. The GPS Ontology including Transition and Support Products will be published on the USCG Navigation Center website, currently https://www.navcen.uscg.gov.

ICD870-34 :

Section Number :
3.1.0-21

WAS :
The products defined in this ICD are listed in Table 3-I and Table 3-II, in the form of information exchange matrices.

Redlines :
The products defined in this ICD are listed in Table 3-I ~~and Table 3-II,~~ in the form of information exchange matrices.

IS :
The products defined in this ICD are listed in Table 3-I in the form of information exchange matrices.

ICD870-36 :

Section Number :
3.1.0-30

WAS :

Table 3-I Information Product Information Exchange Matrix

Producer	Modern & Legacy Data Exchange Identification	Description	Security Classification
CS	Modern Identification: GPS Advisory Legacy Identification: Notice Advisory to Navstar Users (NANU)	The GPS Advisory exchange information product includes a single advisory notification concerning a GPS space event and associated GPS space vehicle. See GPS Advisory IEPD for more details. Published on a periodic basis, based on operational events/needs.	Unclassified / Open / Public Releasable
CS	Modern Identification: GPS Advisory Collection Legacy Identification: Satellite Outage File (SOF)	The GPS Advisory Collection Exchange information product includes a collection of advisory notifications of all available historical, current and predicted satellite outage space events. See GPS Advisory IEPD for more details. Produced in response to the generation of a GPS Advisory (NANU) by the CS.	Unclassified / Open / Public Releasable
CS	Modern Identification: Ops Status Legacy Identification: Operational Advisory (OA)	The Ops Status Exchange information product includes an Ops Status notification concerning the GPS constellation and relevant GPS space events. See Ops Status IEPD for more details. Nominally published once daily.	Unclassified / Open / Public Releasable
CS	Modern Identification: Public Common Almanac Legacy Identification: (1) GPS Almanacs (SEM,YUMA) (2) Anti-Spoof Status (3) ESHS	The Public Common Almanac Exchange information product includes orbital state and health status of the GPS constellation. See Public Common Almanac IEPD for more details. Nominally published once daily.	Unclassified / Open / Public Releasable

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Redlines :

Table 3-I Information Product Information Exchange Matrix

Producer	Modern & Legacy Data Exchange Identification	Description	Security Classification
CS	Modern Identification: GPS Advisory Legacy Identification: Notice Advisory to Navstar Users (NANU)	The GPS Advisory exchange information product includes a single advisory notification concerning a GPS space event and associated GPS space vehicle. See GPS Advisory IEPD for more details. Published on a periodic basis, based on operational events/needs.	Unclassified / Open / Public Releasable
CS	Modern Identification: GPS Advisory Collection Legacy Identification: Satellite Outage File (SOF)	The GPS Advisory Collection Exchange information product includes a collection of advisory notifications of all available historical, current and predicted satellite outage space events. See GPS Advisory IEPD for more details. Produced in response to the generation of a GPS Advisory (NANU) by the CS.	Unclassified / Open / Public Releasable
CS	Modern Identification: Ops Status Legacy Identification: Operational Advisory (OA)	The Ops Status Exchange information product includes an Ops Status notification concerning the GPS constellation and relevant GPS space events. See Ops Status IEPD for more details. Nominally published once daily.	Unclassified / Open / Public Releasable
CS	Modern Identification: Public Common Almanac Legacy Identification: (1) GPS Almanacs (SEM,YUMA) (2) Anti-Spoof Status (3) ESHS	The Public Common Almanac Exchange information product includes orbital state and health status of the GPS constellation. See Public Common Almanac IEPD for more details. Nominally published once daily.	Unclassified / Open / Public Releasable

~~9~~

IS :

Table 3-I Information Product Information Exchange Matrix

Producer	Modern & Legacy Data Exchange Identification	Description	Security Classification
CS	Modern Identification: GPS Advisory Legacy Identification: Notice Advisory to Navstar Users (NANU)	The GPS Advisory exchange information product includes a single advisory notification concerning a GPS space event and associated GPS space vehicle. See GPS Advisory IEPD for more details. Published on a periodic basis, based on operational events/needs.	Unclassified / Open / Public Releasable
CS	Modern Identification: GPS Advisory Collection Legacy Identification: Satellite Outage File (SOF)	The GPS Advisory Collection Exchange information product includes a collection of advisory notifications of all available historical, current and predicted satellite outage space events. See GPS Advisory IEPD for more details. Produced in response to the generation of a GPS Advisory (NANU) by the CS.	Unclassified / Open / Public Releasable
CS	Modern Identification: Ops Status Legacy Identification: Operational Advisory (OA)	The Ops Status Exchange information product includes an Ops Status notification concerning the GPS constellation and relevant GPS space events. See Ops Status IEPD for more details. Nominally published once daily.	Unclassified / Open / Public Releasable
CS	Modern Identification: Public Common Almanac Legacy Identification: (1) GPS Almanacs (SEM,YUMA) (2) Anti-Spoof Status (3) ESHS	The Public Common Almanac Exchange information product includes orbital state and health status of the GPS constellation. See Public Common Almanac IEPD for more details. Nominally published once daily.	Unclassified / Open / Public Releasable

ICD870-55 :

Section Number :
3.2.5.0-1

WAS :
The USCG provides a Portal accessible from the public Internet to allow users, with a standard web browser, to discover and retrieve publicly releasable GPS products.

Redlines :
The USCG provides a ~~Portal~~webpage accessible from the public Internet to allow users, with a standard web browser, to discover and retrieve publicly releasable GPS products.

IS :
The USCG provides a webpage accessible from the public Internet to allow users, with a standard web browser, to discover and retrieve publicly releasable GPS products.

ICD870-719 :

Section Number :
3.2.5.0-3

WAS :
As shown in Figure 3-6, the NAVCEN Information System (NIS) is the distribution point for authoritative GPS Products disseminated to the public. The NAVCEN receives these products from the GPS Control Segment (OCX) and the GPS community (led by the Air Force GPS Program Office). The GPS products consist of regularly published operational GPS information products (see Table 3-I) as well as Transition and Support Products (see Table 3-III).

Redlines :
As shown in Figure 3-6, the NAVCEN ~~Information System (NIS)~~ is the distribution point for authoritative GPS Products disseminated to the public. The NAVCEN receives these products from the GPS Control Segment (OCX) and the GPS community (led by the Air Force GPS Program Office). The GPS products consist of regularly published operational GPS information products (see Table 3-I) as well as Transition and Support Products (see Table 3-III).

IS :
As shown in Figure 3-6, the NAVCEN is the distribution point for authoritative GPS Products disseminated to the public. The NAVCEN receives these products from the GPS Control Segment (OCX) and the GPS community (led by the Air Force GPS Program Office). The GPS products consist of regularly published operational GPS information products (see Table 3-I) as well as Transition and Support Products (see Table 3-III).

ICD870-701 :

Section Number :
3.3.0-6

WAS :
As shown in Figure 3-2, the steps for a user to verify the data integrity where the user has an application which directly processes ASCII text file formats:

1. Download the desired Information Product and associated IEPD (see Table 3-III) from USCG NIS web site or an alternate redistribution site. Note: Because the IEPD for an Information Product will change very infrequently, this step could be performed once for a new IEPD revision and then reused repeatedly without downloading again.

2. Just prior to use, validate the Digital Signature of the Information Product and the Signed IEPD containing the XSLT stylesheets using compliant standard COTS/Library and the currently published CS public certificate.

3. If the signatures do not validate in Step 2, then either the Information Product or the signed IEPD is not authentic (not produced by the CS) or has been corrupted. Do not use. The user should return to step 1.

4. If the signatures validate in both Step 2 and Step 3, then apply the XSLT stylesheet using standard COTS/Library to produce the desired ASCII file format.

Note: A user with a non-critical application who intends to bypass verifying data integrity only needs to perform Step 1 and then Step 4.

Note: The provided Validate and Transform Utility (see figure 3-4) can be used to perform steps 2, 3 and 4. The user is required to download/install the CS public key on their system prior to using the Validate and Download Utility.

Redlines :
As shown in Figure 3-2, the steps for a user to verify the data integrity where the user has an application which directly processes ASCII text file formats:

1. Download the desired Information Product and associated IEPD (see Table 3-III) from USCG ~~NIS web~~NAVCEN ~~site~~website or an alternate redistribution site. Note: Because the IEPD for an Information Product will change very infrequently, this step could be performed once for a new IEPD revision and then reused repeatedly without downloading again.

2. Just prior to use, validate the Digital Signature of the Information Product and the Signed IEPD containing the XSLT stylesheets using compliant standard COTS/Library and the currently published CS public certificate.

3. If the signatures do not validate in Step 2, then either the Information Product or the signed IEPD is not authentic (not produced by the CS) or has been corrupted. Do not use. The user should return to step 1.

4. If the signatures validate in both Step 2 and Step 3, then apply the XSLT stylesheet using standard COTS/Library to produce the desired ASCII file format.

Note: A user with a non-critical application who intends to bypass verifying data integrity only needs to perform Step 1 and then Step 4.

Note: The provided Validate and Transform Utility (see figure 3-4) can be used to perform steps 2, 3 and 4. The user is required to download/install the CS public key on their system prior to using the Validate and Download Utility.

IS :

As shown in Figure 3-2, the steps for a user to verify the data integrity where the user has an application which directly processes ASCII text file formats:

1. Download the desired Information Product and associated IEPD (see Table 3-III) from USCG NAVCEN website or an alternate redistribution site. Note: Because the IEPD for an Information Product will change very infrequently, this step could be performed once for a new IEPD revision and then reused repeatedly without downloading again.

2. Just prior to use, validate the Digital Signature of the Information Product and the Signed IEPD containing the XSLT stylesheets using compliant standard COTS/Library and the currently published CS public certificate.

3. If the signatures do not validate in Step 2, then either the Information Product or the signed IEPD is not authentic (not produced by the CS) or has been corrupted. Do not use. The user should return to step 1.

4. If the signatures validate in both Step 2 and Step 3, then apply the XSLT stylesheet using standard COTS/Library to produce the desired ASCII file format.

Note: A user with a non-critical application who intends to bypass verifying data integrity only needs to perform Step 1 and then Step 4.

Note: The provided Validate and Transform Utility (see figure 3-4) can be used to perform steps 2, 3 and 4. The user is required to download/install the CS public key on their system prior to using the Validate and Download Utility.

ICD870-702 :

Section Number :
3.3.0-7

WAS :
As shown in Figure 3-2, the steps for a user to verify the data integrity where the user has a modern application which directly processes CS native XML formats;

1. Download the desired Information Product (see Table 3-III) from the USCG NIS web site.

2. Just prior to use, Validate the Digital Signature of Information Product using a W3C XML Digital Signature Compliant standard COTS/Library and the currently published CS public certificate.

3. If the signature does not validate in Step 2, then the Information product is either not authentic (not produced by the CS) or the information content has been corrupted. Do not use. The user should return to step 1.

4. If the signature validates in Step 2, then the GPS Information Product is authentic and the content has not been corrupted.

Note: A user with a modern non-critical application who intends to bypass verifying data integrity only needs to perform Step 1.

Note: The provided Validate and Transform Utility (see figure 3-4) can be used to perform step 2. The user is required to download/install the CS public key on their system prior to using the Validate and Download Utility.

Redlines :
As shown in Figure 3-2, the steps for a user to verify the data integrity where the user has a modern application which directly processes CS native XML formats;

1. Download the desired Information Product (see Table 3-III) from the USCG ~~NIS web~~NAVCEN ~~site~~website.

2. Just prior to use, Validate the Digital Signature of Information Product using a W3C XML Digital Signature Compliant standard COTS/Library and the currently published CS public certificate.

3. If the signature does not validate in Step 2, then the Information product is either not authentic (not produced by the CS) or the information content has been corrupted. Do not use. The user should return to step 1.

4. If the signature validates in Step 2, then the GPS Information Product is authentic and the content has not been corrupted.

Note: A user with a modern non-critical application who intends to bypass verifying data integrity only needs to perform Step 1.

Note: The provided Validate and Transform Utility (see figure 3-4) can be used to perform step 2. The user is required to download/install the CS public key on their system prior to using the Validate and Download Utility.

IS :

As shown in Figure 3-2, the steps for a user to verify the data integrity where the user has a modern application which directly processes CS native XML formats;

1. Download the desired Information Product (see Table 3-III) from the USCG NAVCEN website.

2. Just prior to use, Validate the Digital Signature of Information Product using a W3C XML Digital Signature Compliant standard COTS/Library and the currently published CS public certificate.

3. If the signature does not validate in Step 2, then the Information product is either not authentic (not produced by the CS) or the information content has been corrupted. Do not use. The user should return to step 1.

4. If the signature validates in Step 2, then the GPS Information Product is authentic and the content has not been corrupted.

Note: A user with a modern non-critical application who intends to bypass verifying data integrity only needs to perform Step 1.

Note: The provided Validate and Transform Utility (see figure 3-4) can be used to perform step 2. The user is required to download/install the CS public key on their system prior to using the Validate and Download Utility.

ICD870-68 :

Section Number :
3.3.0-9

WAS :
The GPS CS unclassified certificate (and corresponding CS public key) will be made available to all consumers for data integrity verification via the USCG NIS web site.

Redlines :
The GPS CS unclassified certificate (and corresponding CS public key) will be made available to all consumers for data integrity verification via the USCG ~~NIS web~~NAVCEN ~~site~~website.

IS :
The GPS CS unclassified certificate (and corresponding CS public key) will be made available to all consumers for data integrity verification via the USCG NAVCEN website.

ICD870-704 :

Section Number :
3.3.0-12

WAS :
The USCG Portal will make the standalone offline Validate and Transform utility available on the public Internet.

Redlines :
The USCG ~~Portal~~Website will make the standalone offline Validate and Transform utility available on the public Internet.

IS :
The USCG Website will make the standalone offline Validate and Transform utility available on the public Internet.

ICD870-716 :

Section Number :
3.3.0-15

WAS :
User platform requirements for running the Validate and Transform Utility will be described on the USCG NIS website. The Utility will be digitally signed and users should validate the Authenticity of the certificate during installation.

Redlines :
User platform requirements for running the Validate and Transform Utility will be described on the USCG ~~NIS~~NAVCEN website. The Utility will be digitally signed and users should validate the Authenticity of the certificate during installation.

IS :
User platform requirements for running the Validate and Transform Utility will be described on the USCG NAVCEN website. The Utility will be digitally signed and users should validate the Authenticity of the certificate during installation.

ICD870-75 :

Section Number :
4.0-1

WAS :
This section contains the verification matrix for the objects that contain requirements enumerated in this interface document. The verification matrix indicates what methodology will be used to assure these requirements are met. The information contained within this verification matrix is not intended to change any contractual obligations imposed upon the segment contractors by the government. Regardless of Highest Verification Level designation (System or Segment), the segment contractors still need to demonstrate compliance to all contractual interface documents.

The column headings of the verification matrix are explained here:

Redlines :
~~This section contains the verification matrix for the objects that contain requirements enumerated in this interface document. The verification matrix indicates what methodology will be used to assure these requirements are met. The information contained within this verification matrix is not intended to change any contractual obligations imposed upon the segment contractors by the government. Regardless of Highest Verification Level designation (System or Segment), the segment contractors still need to demonstrate compliance to all contractual interface documents.~~

~~The column headings of the verification matrix are explained~~Not ~~here:~~Applicable

IS :
Not Applicable

ICD870-309, ICD870-310, ICD870-311, ICD870-312, ICD870-313, ICD870-314, ICD870-315, ICD870-524, ICD870-523, ICD870-522, ICD870-521 :

WAS :

DOORS ID = Unique DOORS object identification number.
Object Number = Paragraph number of the object.
CS Effectivity = Effectivity of requirement allocated to CS (see Segment column) as defined in SS-CS-800.
SS Effectivity = Effectivity of requirement allocated to SS (see Segment column) as defined in SS-SS-800.
Highest Verification Level = The highest level (System or Segment) at which the requirement is verified. The Highest Verification Level is used to identify those requirements that require joint verification activity as explained below:

A designation of System implies the requirement must be verified by a joint verification activity that includes both sides of the interface and may involve coordination of verification activities through the government.

A designation of Segment implies the segment contractor retains full responsibility for conducting the verification event. The joint use of SS or CS assets such as the GSYS or GSS does not alter the Highest Verification Level designation from Segment.
Segment = Designated segment (Space (SV), Control (CS), or User (US) Segment) involved in the verification of the requirement. A designation of (EXTERNAL ORG) is used to identify the external organization (e.g., (NDS), (AFSCN), (NGA), etc.) involved in the verification of the requirement.
System Verification Method = Method for verifying system requirements. Verification method assignments for segment requirements will not be tracked in this ICD as they are formally described in the segment contractor verification planning CDRLs. The following verification method definitions are derived from SS-SYS-800.
Verification by Inspection (I)

The inspection method verifies conformance of physical characteristics to related requirements without the aid of special laboratory equipment, procedures, and services. This method most commonly uses an examination by the senses (sight, sound, smell, taste, or touch) to determine requirements compliance and may also rely on gauges or simple measures.
Verification by Analysis (A)

The analysis method verifies conformance to requirements based on studies, calculations, and modeling, or is based on the certified usage of similar components under identical or similar operating conditions (similarity). This method may consist of the technical evaluation of data using logic or mathematics to determine compliance with requirements. It is typically used in verification when a given attribute is impossible or extremely difficult to test, thereby enabling expansion of the verification beyond the range of the test. Review of software listings is considered to be verification by analysis.
Verification by Demonstration (D)

The demonstration method verifies the required operability of hardware and software by means that do not necessarily require the use of laboratory equipment, procedures, items or services. That is, compliance with requirements is verified by operation and function. More detail may be seen in MIL-HDBK-470 and MIL-STD-810. This method may be an un-instrumented test, with compliance determined by observation (e.g., maintenance task performance time).
Verification by Test (T)

The test method verifies conformance to required performance/physical characteristics and design/construction features by instrumented functional operation and evaluation techniques through the use of laboratory equipment

procedures, items, and services. This method generally uses procedures and test/measuring equipment to verify compliance with requirements.

Redlines :
<DELETED OBJECT>

IS :
<DELETED OBJECT>

ICD870-727 :

Section Number :
30.0-1

WAS :
Following is a list of the rules or protocols for the SOF data.

Usage Rules

1. The SOF always contains fields identifying creation date/time and reference date/time.

2. A new SOF is built each time a NANU is issued.

3. The latency of the SOF initially may be 15-20 minutes, and is driven by operational procedures and workload.

File Naming Convention

The most recently built SOF is given a standard name that contains the creation date/time and the file format version number, 'yyyy_ddd_hhmmss_vnn.sof', where yyyy is the year, ddd is the Jday (day of year starting with 1), hhmmss is the hour/minute/second UTC, and nn is the file format version number. The file format version number will increment sequentially whenever the file format changes.

Dissemination Methods

Unclassified Web Site. The GPSOC maintains a Web site accessible to unclassified users worldwide. The current SOF is posted at a conspicuous spot on this Web site for download.

Classification

The SOF is Unclassified and approved for public release. [Reference GPS Security Classification Guide, 30 Sep 2008, Topic Number 700.7.10]

Format

The SOF is formatted in XML according to the format below. The data type definition (DTD), the data format, and the data field definitions are provided.

A sample SOF with an internal DTD is as follows:

SOF DTD

```
<?xml version="1.0"?>

<!DOCTYPE GPSISFILE [

    <!ELEMENT GPSISFILE (CREATION,REFERENCE,(PREDICTED|CURRENT|HISTORICAL)+)>

    <!ELEMENT CREATION EMPTY>

    <!ELEMENT REFERENCE EMPTY>

    <!ELEMENT PREDICTED EMPTY>

    <!ELEMENT CURRENT EMPTY>
```

<!ELEMENT HISTORICAL EMPTY>

<!ATTLIST GPSISFILE FILEID CDATA #FIXED "SOF">

<!ATTLIST GPSISFILE SYSID CDATA #FIXED "GPS">

<!ATTLIST GPSISFILE VERSION CDATA #REQUIRED>

<!ATTLIST CREATION YEAR CDATA #REQUIRED>

<!ATTLIST CREATION DOY CDATA #REQUIRED>

<!ATTLIST CREATION HR CDATA #REQUIRED>

<!ATTLIST CREATION MIN CDATA #REQUIRED>

<!ATTLIST CREATION SEC CDATA #REQUIRED>

<!ATTLIST REFERENCE YEAR CDATA #REQUIRED>

<!ATTLIST REFERENCE DOY CDATA #REQUIRED>

<!ATTLIST REFERENCE HR CDATA #REQUIRED>

<!ATTLIST REFERENCE MIN CDATA #REQUIRED>

<!ATTLIST REFERENCE SEC CDATA #REQUIRED>

<!ATTLIST PREDICTED SVID CDATA #REQUIRED>

<!ATTLIST PREDICTED SVN CDATA #REQUIRED>

<!ATTLIST PREDICTED NAME (NANU|GOCGIS|USER_DEFINED) #REQUIRED>

<!ATTLIST PREDICTED TYPE (FCSTDV|FCSTMX) #REQUIRED>

<!ATTLIST PREDICTED REFERENCE CDATA #REQUIRED>

<!ATTLIST PREDICTED START_YEAR CDATA #REQUIRED>

<!ATTLIST PREDICTED START_DOY CDATA #REQUIRED>

<!ATTLIST PREDICTED START_HR CDATA #REQUIRED>

<!ATTLIST PREDICTED START_MIN CDATA #REQUIRED>

<!ATTLIST PREDICTED START_SEC CDATA #REQUIRED>

<!ATTLIST PREDICTED END_YEAR CDATA #REQUIRED>

<!ATTLIST PREDICTED END_DOY CDATA #REQUIRED>

<!ATTLIST PREDICTED END_HR CDATA #REQUIRED>

<!ATTLIST PREDICTED END_MIN CDATA #REQUIRED>

<!ATTLIST PREDICTED END_SEC CDATA #REQUIRED>

<!ATTLIST CURRENT SVID CDATA #REQUIRED>

<!ATTLIST CURRENT SVN CDATA #REQUIRED>

<!ATTLIST CURRENT NAME (NANU|GOCGIS|USER_DEFINED) #REQUIRED>

<!ATTLIST CURRENT TYPE CDATA #FIXED "UNUSUFN">

<!ATTLIST CURRENT REFERENCE CDATA #REQUIRED>

<!ATTLIST CURRENT START_YEAR CDATA #REQUIRED>

<!ATTLIST CURRENT START_DOY CDATA #REQUIRED>

<!ATTLIST CURRENT START_HR CDATA #REQUIRED>

<!ATTLIST CURRENT START_MIN CDATA #REQUIRED>

<!ATTLIST CURRENT START_SEC CDATA #REQUIRED>

<!ATTLIST HISTORICAL SVID CDATA #REQUIRED>

<!ATTLIST HISTORICAL SVN CDATA #REQUIRED>

<!ATTLIST HISTORICAL NAME (NANU|GOCGIS|USER_DEFINED) #REQUIRED>

<!ATTLIST HISTORICAL TYPE (FCSTSUMM|UNUSABLE|UNUNOREF) #REQUIRED>

<!ATTLIST HISTORICAL REFERENCE CDATA #REQUIRED>

<!ATTLIST HISTORICAL START_YEAR CDATA #REQUIRED>

<!ATTLIST HISTORICAL START_DOY CDATA #REQUIRED>

<!ATTLIST HISTORICAL START_HR CDATA #REQUIRED>

<!ATTLIST HISTORICAL START_MIN CDATA #REQUIRED>

<!ATTLIST HISTORICAL START_SEC CDATA #REQUIRED>

<!ATTLIST HISTORICAL END_YEAR CDATA #REQUIRED>

<!ATTLIST HISTORICAL END_DOY CDATA #REQUIRED>

<!ATTLIST HISTORICAL END_HR CDATA #REQUIRED>

<!ATTLIST HISTORICAL END_MIN CDATA #REQUIRED>

<!ATTLIST HISTORICAL END_SEC CDATA #REQUIRED>

]>

SOF Structure

<?xml version="1.0"?>

<GPSISFILE FILEID="SOF" SYSID="GPS" VERSION=”2”>

<CREATION YEAR="2004" DOY="257" HR="11" MIN="2" SEC="11" />

<REFERENCE YEAR="2004" DOY="257" HR="11" MIN="2" SEC="11" />

<PREDICTED

SVID="9" SVN="39"

NAME="NANU" TYPE="FCSTMX" REFERENCE="2004094"

START_YEAR="2004" START_DOY="229" START_HR="12" START_MIN="0" START_SEC="0"

END_YEAR="2004" END_DOY="230" END_HR="0" END_MIN="0" END_SEC="0"

/>

<CURRENT

SVID="31" SVN="31"

NAME="NANU" TYPE="UNUSUFN" REFERENCE="2004101"

START_YEAR="2004" START_DOY="257" START_HR="5" START_MIN="50" START_SEC="0"

/>

<HISTORICAL

SVID="27" SVN="27"

NAME="NANU" TYPE="UNUSABLE" REFERENCE="2004100"

START_YEAR="2004" START_DOY="242" START_HR="1" START_MIN="32" START_SEC="0"

END_YEAR="2004" END_DOY="243" END_HR="19" END_MIN="12" END_SEC="0"

/>

</GPSISFILE>

All times are UTC TIME (ZULU) unless otherwise specified. DOY is day of year (same as JDAY); 1=1 January, 366 is valid for leap year

'GPSISFILE' FILE INFORMATION

Occurs once per file

FILEID is always 'SOF'

SYSID is always 'GPS'

VERSION is the version number of the file. The version text should be an integer version number. Example: 2

CREATION indicates date/time of file creation. Time is computer time (UTC time zone).

REFERENCE indicates date/time to which SOF data applies. For example, if January 10, 2003 1550Z is the REFERENCE time then Satellite Outage information will be collected up to and including that time, including past, current, and predicted information. The REFERENCE time is set to be the date/time of the most recent NANU incorporated into the SOF.

'SOF_RECORD' INFORMATION

Occurs multiple times per file, once for each predicted, current or historical satellite outage issued by the REFERENCE data/time.

There are three types of SOF records.

PREDICTED identifies predicted outages as of the REFERENCE time.

CURRENT identifies any active outages as of the REFERENCE time, along with the time the outage began.

HISTORICAL identifies actual outages that have taken place prior to the REFERENCE time.

SVID - reusable identifier for each satellite in identified system. For GPS the SVID shall be the PRN.

SVN (Satellite Vehicle Number) – unique sequential number associated with satellite-specific program is an integer. For GPS this is assigned by the US Air Force.

PREDICTED record fields

NAME – Alphanumeric indicator of outage source (currently 'NANU'). GOCGIS used when no NANU has been issued, yet outage is predicted or a GENERAL NANU has been issued that affects this outage.

TYPE – If NAME=NANU, then the choices are FCSTDV, FCSTMX. If a FCSTEXTD, then implemented as original type (FCSTDV or FCSTMX) with start date/time the same as in the FCSTEXTD and end date/time fixed twenty years out. If FCSTRESCD, then implemented as original type with dates/times as in the FCSTRESCD NANU. If a FCSTCANC type NANU is issued, the original type will be deleted from the SOF.

REFERENCE – reference info. If NAME=NANU this will be the NANU number of the last valid NANU associated with this outage. For example, if there is a FCSTDV issued with number 2003010, then REFERENCE=2003010. As another example, if there is a FCSTMX issued with number 2003047, followed be a FCSTEXTD with number 2003050, then REFERENCE=2003050.

CURRENT record fields

NAME – Alphanumeric indicator of outage source (currently 'NANU').

TYPE – If NAME=NANU, then the choices are UNUSUFN and GENERAL. If NANU is initially issued as a GENERAL launch message, then it will be implemented in the SOF as a UNUSUFN with the start date/time as 0000Z on the first day the satellite appears in the almanac.

REFERENCE – reference info. If NAME=NANU this will be the NANU number of the last valid NANU associated with this outage. For example, if there is a UNUSUFN issued with number 2003049, then REFERENCE=2003049.

HISTORICAL record fields

NAME –Alphanumeric indicator of outage source (currently NANU).

TYPE – If NAME=NANU, then the choices are FCSTSUMM, UNUSABLE, UNUNOREF, USABINIT, and GENERAL. If NANU is initially issued as a GENERAL launch message, then it will be implemented in the SOF as an UNUSABLE with stop dates/times as in the USABINIT and the start date/time as 0000Z on the first day the satellite appears in the almanac. This closes out the UNUSUFN that was implemented earlier for the GENERAL launch message. If the NANU is initially issued as a GENERAL decommission it will be implemented in the SOF as an UNUSABLE with the decommission date/time as the end date/time. If a GENERAL NANU is issued which cancels a previous NANU, the previous NANU will not appear in the SOF.

REFERENCE – reference info. If NAME=NANU this will be the NANU number of the last valid NANU associated with this outage. For example, if there is a FCSTSUMM issued with number 2003051, then REFERENCE=2003051.

Format Changes

Changes to file formats are implemented as follows:

1. Files implementing a new format have the VERSION attribute of the GPSISFILE element incremented. Version 1 files encoded the file version in the filename. For example, a file with a previous format may have a name like 2004_202_145503_v01.sof. Later file versions encode the version both in the filename, and the XML VERSION attribute. The filenames of the new file versions look like 2004_202_145503_v02.sof.

2. If a new file format is implemented, both the old and the new file formats will be posted to the web site location for a transition period.

3. The old file format will be posted for six months, and then be removed. This provides time for users to adapt to the new file format.

4. Notifications of file format changes, with samples of the new format, will be published to www.GPS.gov when they are final.

Redlines :
Following is a list of the rules or protocols for the SOF data.

Usage Rules

1. The SOF always contains fields identifying creation date/time and reference date/time.

2. A new SOF is built each time a NANU is issued.

3. The latency of the SOF initially may be 15-20 minutes, and is driven by operational procedures and workload.

File Naming Convention

The most recently built SOF is given a standard name that contains the creation date/time and the file format version number, 'yyyy_ddd_hhmmss_vnn.sof', where yyyy is the year, ddd is the Jday (day of year starting with 1), hhmmss is the hour/minute/second UTC, and nn is the file format version number. The file format version number will increment sequentially whenever the file format changes.

Dissemination Methods

Unclassified Web Site. -The GPSOC maintains a Web site accessible to unclassified military users worldwide.- The current SOF is posted at a conspicuous spot on this Web site for download. All other worldwide, civil users may download the SOF from the U.S Coast Guard Navigation Center Web site.

Classification

The SOF is Unclassified and approved for public release. [Reference GPS Security Classification Guide, 30 Sep 2008, Topic Number 700.7.10]

Format

The SOF is formatted in XML according to the format below. The data type definition (DTD), the data format, and the data field definitions are provided.

A sample SOF with an internal DTD is as follows:

SOF DTD

```
<?xml version="1.0"?>
<!DOCTYPE GPSISFILE [
        <!ELEMENT GPSISFILE (CREATION,REFERENCE,(PREDICTED|CURRENT|HISTORICAL)+)>
        <!ELEMENT CREATION EMPTY>
        <!ELEMENT REFERENCE EMPTY>
        <!ELEMENT PREDICTED EMPTY>
        <!ELEMENT CURRENT EMPTY>
        <!ELEMENT HISTORICAL EMPTY>
        <!ATTLIST GPSISFILE FILEID CDATA #FIXED "SOF">
        <!ATTLIST GPSISFILE SYSID CDATA #FIXED "GPS">
        <!ATTLIST GPSISFILE VERSION CDATA #REQUIRED>
        <!ATTLIST CREATION YEAR CDATA #REQUIRED>
        <!ATTLIST CREATION DOY CDATA #REQUIRED>
        <!ATTLIST CREATION HR CDATA #REQUIRED>
        <!ATTLIST CREATION MIN CDATA #REQUIRED>
        <!ATTLIST CREATION SEC CDATA #REQUIRED>
        <!ATTLIST REFERENCE YEAR CDATA #REQUIRED>
        <!ATTLIST REFERENCE DOY CDATA #REQUIRED>
        <!ATTLIST REFERENCE HR CDATA #REQUIRED>
        <!ATTLIST REFERENCE MIN CDATA #REQUIRED>
        <!ATTLIST REFERENCE SEC CDATA #REQUIRED>
        <!ATTLIST PREDICTED SVID CDATA #REQUIRED>
        <!ATTLIST PREDICTED SVN CDATA #REQUIRED>
        <!ATTLIST PREDICTED NAME (NANU|GOCGIS|USER_DEFINED) #REQUIRED>
        <!ATTLIST PREDICTED TYPE (FCSTDV|FCSTMX) #REQUIRED>
        <!ATTLIST PREDICTED REFERENCE CDATA #REQUIRED>
        <!ATTLIST PREDICTED START_YEAR CDATA #REQUIRED>
        <!ATTLIST PREDICTED START_DOY CDATA #REQUIRED>
        <!ATTLIST PREDICTED START_HR CDATA #REQUIRED>
```

<!ATTLIST PREDICTED START_MIN CDATA #REQUIRED>

<!ATTLIST PREDICTED START_SEC CDATA #REQUIRED>

<!ATTLIST PREDICTED END_YEAR CDATA #REQUIRED>

<!ATTLIST PREDICTED END_DOY CDATA #REQUIRED>

<!ATTLIST PREDICTED END_HR CDATA #REQUIRED>

<!ATTLIST PREDICTED END_MIN CDATA #REQUIRED>

<!ATTLIST PREDICTED END_SEC CDATA #REQUIRED>

<!ATTLIST CURRENT SVID CDATA #REQUIRED>

<!ATTLIST CURRENT SVN CDATA #REQUIRED>

<!ATTLIST CURRENT NAME (NANU|GOCGIS|USER_DEFINED) #REQUIRED>

<!ATTLIST CURRENT TYPE CDATA #FIXED "UNUSUFN">

<!ATTLIST CURRENT REFERENCE CDATA #REQUIRED>

<!ATTLIST CURRENT START_YEAR CDATA #REQUIRED>

<!ATTLIST CURRENT START_DOY CDATA #REQUIRED>

<!ATTLIST CURRENT START_HR CDATA #REQUIRED>

<!ATTLIST CURRENT START_MIN CDATA #REQUIRED>

<!ATTLIST CURRENT START_SEC CDATA #REQUIRED>

<!ATTLIST HISTORICAL SVID CDATA #REQUIRED>

<!ATTLIST HISTORICAL SVN CDATA #REQUIRED>

<!ATTLIST HISTORICAL NAME (NANU|GOCGIS|USER_DEFINED) #REQUIRED>

<!ATTLIST HISTORICAL TYPE (FCSTSUMM|UNUSABLE|UNUNOREF) #REQUIRED>

<!ATTLIST HISTORICAL REFERENCE CDATA #REQUIRED>

<!ATTLIST HISTORICAL START_YEAR CDATA #REQUIRED>

<!ATTLIST HISTORICAL START_DOY CDATA #REQUIRED>

<!ATTLIST HISTORICAL START_HR CDATA #REQUIRED>

<!ATTLIST HISTORICAL START_MIN CDATA #REQUIRED>

<!ATTLIST HISTORICAL START_SEC CDATA #REQUIRED>

<!ATTLIST HISTORICAL END_YEAR CDATA #REQUIRED>

<!ATTLIST HISTORICAL END_DOY CDATA #REQUIRED>

<!ATTLIST HISTORICAL END_HR CDATA #REQUIRED>

<!ATTLIST HISTORICAL END_MIN CDATA #REQUIRED>

<!ATTLIST HISTORICAL END_SEC CDATA #REQUIRED>

]>

SOF Structure

<?xml version="1.0"?>

<GPSISFILE FILEID="SOF" SYSID="GPS" VERSION=”2”>

<CREATION YEAR="2004" DOY="257" HR="11" MIN="2" SEC="11" />

<REFERENCE YEAR="2004" DOY="257" HR="11" MIN="2" SEC="11" />

<PREDICTED

SVID="9" SVN="39"

NAME="NANU" TYPE="FCSTMX" REFERENCE="2004094"

START_YEAR="2004" START_DOY="229" START_HR="12" START_MIN="0" START_SEC="0"

END_YEAR="2004" END_DOY="230" END_HR="0" END_MIN="0" END_SEC="0"

/>

<CURRENT

SVID="31" SVN="31"

NAME="NANU" TYPE="UNUSUFN" REFERENCE="2004101"

START_YEAR="2004" START_DOY="257" START_HR="5" START_MIN="50" START_SEC="0"

/>

<HISTORICAL

SVID="27" SVN="27"

NAME="NANU" TYPE="UNUSABLE" REFERENCE="2004100"

START_YEAR="2004" START_DOY="242" START_HR="1" START_MIN="32" START_SEC="0"

END_YEAR="2004" END_DOY="243" END_HR="19" END_MIN="12" END_SEC="0"

/>

</GPSISFILE>

All times are UTC TIME (ZULU) unless otherwise specified. DOY is day of year (same as JDAY); 1=1 January, 366 is valid for leap year

‘GPSISFILE’ FILE INFORMATION

Occurs once per file

FILEID is always ‘SOF’

SYSID is always ‘GPS’

VERSION is the version number of the file. The version text should be an integer version number. Example: 2

CREATION indicates date/time of file creation. Time is computer time (UTC time zone).

REFERENCE indicates date/time to which SOF data applies. For example, if January 10, 2003 1550Z is the REFERENCE time then Satellite Outage information will be collected up to and including that time, including past, current, and predicted information. The REFERENCE time is set to be the date/time of the most recent NANU incorporated into the SOF.

‘SOF_RECORD’ INFORMATION

Occurs multiple times per file, once for each predicted, current or historical satellite outage issued by the REFERENCE data/time.

There are three types of SOF records.

PREDICTED identifies predicted outages as of the REFERENCE time.

CURRENT identifies any active outages as of the REFERENCE time, along with the time the outage began.

HISTORICAL identifies actual outages that have taken place prior to the REFERENCE time.

SVID - reusable identifier for each satellite in identified system. For GPS the SVID shall be the PRN.

SVN (Satellite Vehicle Number) – unique sequential number associated with satellite-specific program is an integer. For GPS this is assigned by the US Air Force.

PREDICTED record fields

NAME – Alphanumeric indicator of outage source (currently ‘NANU’). GOCGIS used when no NANU has been issued, yet outage is predicted or a GENERAL NANU has been issued that affects this outage.

TYPE – If NAME=NANU, then the choices are FCSTDV, FCSTMX. If a FCSTEXTD, then implemented as original type (FCSTDV or FCSTMX) with start date/time the same as in the FCSTEXTD and end date/time fixed twenty years out. If FCSTRESCD, then implemented as original type with dates/times as in the FCSTRESCD NANU. If a FCSTCANC type NANU is issued, the original type will be deleted from the SOF.

REFERENCE – reference info. If NAME=NANU this will be the NANU number of the last valid NANU associated with this outage. For example, if there is a FCSTDV issued with number 2003010, then REFERENCE=2003010. As another example, if there is a FCSTMX issued with number 2003047, followed be a FCSTEXTD with number 2003050, then REFERENCE=2003050.

CURRENT record fields

NAME – Alphanumeric indicator of outage source (currently ‘NANU’).

TYPE – If NAME=NANU, then the choices are UNUSUFN and GENERAL. If NANU is initially issued as a GENERAL launch message, then it will be implemented in the SOF as a UNUSUFN with the start date/time as 0000Z on the first day the satellite appears in the almanac.

REFERENCE – reference info. If NAME=NANU this will be the NANU number of the last valid NANU associated with this outage. For example, if there is a UNUSUFN issued with number 2003049, then REFERENCE=2003049.

HISTORICAL record fields

NAME –Alphanumeric indicator of outage source (currently NANU).

TYPE – If NAME=NANU, then the choices are FCSTSUMM, UNUSABLE, UNUNOREF, USABINIT, and GENERAL. If NANU is initially issued as a GENERAL launch message, then it will be implemented in the SOF as an UNUSABLE with stop dates/times as in the USABINIT and the start date/time as 0000Z on the first day the satellite appears in the almanac. This closes out the UNUSUFN that was implemented earlier for the GENERAL launch message. If the NANU is initially issued as a GENERAL decommission it will be implemented in the SOF as an UNUSABLE with the decommission date/time as the end date/time. If a GENERAL NANU is issued which cancels a previous NANU, the previous NANU will not appear in the SOF.

REFERENCE – reference info. If NAME=NANU this will be the NANU number of the last valid NANU associated with this outage. For example, if there is a FCSTSUMM issued with number 2003051, then REFERENCE=2003051.

Format Changes

Changes to file formats are implemented as follows:

1. Files implementing a new format have the VERSION attribute of the GPSISFILE element incremented. Version 1 files encoded the file version in the filename. For example, a file with a previous format may have a name like 2004_202_145503_v01.sof. Later file versions encode the version both in the filename, and the XML VERSION attribute. The filenames of the new file versions look like 2004_202_145503_v02.sof.

2. If a new file format is implemented, both the old and the new file formats will be posted to the web site location for a transition period.

3. The old file format will be posted for six months, and then be removed. This provides time for users to adapt to the new file format.

4. Notifications of file format changes, with samples of the new format, will be published to www.GPS.gov when they are final.

IS :
Following is a list of the rules or protocols for the SOF data.

Usage Rules

1. The SOF always contains fields identifying creation date/time and reference date/time.

2. A new SOF is built each time a NANU is issued.

3. The latency of the SOF initially may be 15-20 minutes, and is driven by operational procedures and workload.

File Naming Convention

The most recently built SOF is given a standard name that contains the creation date/time and the file format version number, 'yyyy_ddd_hhmmss_vnn.sof', where yyyy is the year, ddd is the Jday (day of year starting with 1), hhmmss is the hour/minute/second UTC, and nn is the file format version number. The file format version number will increment sequentially whenever the file format changes.

Dissemination Methods

Unclassified Web Site. The GPSOC maintains a Web site accessible to unclassified military users worldwide. The current SOF is posted at a conspicuous spot on this Web site for download. All other worldwide, civil users may download the SOF from the U.S Coast Guard Navigation Center Web site.

Classification

The SOF is Unclassified and approved for public release. [Reference GPS Security Classification Guide, 30 Sep 2008, Topic Number 700.7.10]

Format

The SOF is formatted in XML according to the format below. The data type definition (DTD), the data format, and the data field definitions are provided.

A sample SOF with an internal DTD is as follows:

SOF DTD

```
<?xml version="1.0"?>

<!DOCTYPE GPSISFILE [

    <!ELEMENT GPSISFILE (CREATION,REFERENCE,(PREDICTED|CURRENT|HISTORICAL)+)>

    <!ELEMENT CREATION EMPTY>

    <!ELEMENT REFERENCE EMPTY>

    <!ELEMENT PREDICTED EMPTY>

    <!ELEMENT CURRENT EMPTY>

    <!ELEMENT HISTORICAL EMPTY>

    <!ATTLIST GPSISFILE FILEID CDATA #FIXED "SOF">

    <!ATTLIST GPSISFILE SYSID CDATA #FIXED "GPS">

    <!ATTLIST GPSISFILE VERSION CDATA #REQUIRED>

    <!ATTLIST CREATION YEAR CDATA #REQUIRED>

    <!ATTLIST CREATION DOY CDATA #REQUIRED>

    <!ATTLIST CREATION HR CDATA #REQUIRED>

    <!ATTLIST CREATION MIN CDATA #REQUIRED>

    <!ATTLIST CREATION SEC CDATA #REQUIRED>

    <!ATTLIST REFERENCE YEAR CDATA #REQUIRED>

    <!ATTLIST REFERENCE DOY CDATA #REQUIRED>

    <!ATTLIST REFERENCE HR CDATA #REQUIRED>

    <!ATTLIST REFERENCE MIN CDATA #REQUIRED>

    <!ATTLIST REFERENCE SEC CDATA #REQUIRED>
```

<!ATTLIST PREDICTED SVID CDATA #REQUIRED>

<!ATTLIST PREDICTED SVN CDATA #REQUIRED>

<!ATTLIST PREDICTED NAME (NANU|GOCGIS|USER_DEFINED) #REQUIRED>

<!ATTLIST PREDICTED TYPE (FCSTDV|FCSTMX) #REQUIRED>

<!ATTLIST PREDICTED REFERENCE CDATA #REQUIRED>

<!ATTLIST PREDICTED START_YEAR CDATA #REQUIRED>

<!ATTLIST PREDICTED START_DOY CDATA #REQUIRED>

<!ATTLIST PREDICTED START_HR CDATA #REQUIRED>

<!ATTLIST PREDICTED START_MIN CDATA #REQUIRED>

<!ATTLIST PREDICTED START_SEC CDATA #REQUIRED>

<!ATTLIST PREDICTED END_YEAR CDATA #REQUIRED>

<!ATTLIST PREDICTED END_DOY CDATA #REQUIRED>

<!ATTLIST PREDICTED END_HR CDATA #REQUIRED>

<!ATTLIST PREDICTED END_MIN CDATA #REQUIRED>

<!ATTLIST PREDICTED END_SEC CDATA #REQUIRED>

<!ATTLIST CURRENT SVID CDATA #REQUIRED>

<!ATTLIST CURRENT SVN CDATA #REQUIRED>

<!ATTLIST CURRENT NAME (NANU|GOCGIS|USER_DEFINED) #REQUIRED>

<!ATTLIST CURRENT TYPE CDATA #FIXED "UNUSUFN">

<!ATTLIST CURRENT REFERENCE CDATA #REQUIRED>

<!ATTLIST CURRENT START_YEAR CDATA #REQUIRED>

<!ATTLIST CURRENT START_DOY CDATA #REQUIRED>

<!ATTLIST CURRENT START_HR CDATA #REQUIRED>

<!ATTLIST CURRENT START_MIN CDATA #REQUIRED>

<!ATTLIST CURRENT START_SEC CDATA #REQUIRED>

<!ATTLIST HISTORICAL SVID CDATA #REQUIRED>

<!ATTLIST HISTORICAL SVN CDATA #REQUIRED>

<!ATTLIST HISTORICAL NAME (NANU|GOCGIS|USER_DEFINED) #REQUIRED>

<!ATTLIST HISTORICAL TYPE (FCSTSUMM|UNUSABLE|UNUNOREF) #REQUIRED>

<!ATTLIST HISTORICAL REFERENCE CDATA #REQUIRED>

```
        <!ATTLIST HISTORICAL START_YEAR CDATA #REQUIRED>
        <!ATTLIST HISTORICAL START_DOY CDATA #REQUIRED>
        <!ATTLIST HISTORICAL START_HR CDATA #REQUIRED>
        <!ATTLIST HISTORICAL START_MIN CDATA #REQUIRED>
        <!ATTLIST HISTORICAL START_SEC CDATA #REQUIRED>
        <!ATTLIST HISTORICAL END_YEAR CDATA #REQUIRED>
        <!ATTLIST HISTORICAL END_DOY CDATA #REQUIRED>
        <!ATTLIST HISTORICAL END_HR CDATA #REQUIRED>
        <!ATTLIST HISTORICAL END_MIN CDATA #REQUIRED>
        <!ATTLIST HISTORICAL END_SEC CDATA #REQUIRED>
]>
```

SOF Structure

```
<?xml version="1.0"?>
<GPSISFILE FILEID="SOF" SYSID="GPS" VERSION=”2”>
<CREATION YEAR="2004" DOY="257" HR="11" MIN="2" SEC="11" />
<REFERENCE YEAR="2004" DOY="257" HR="11" MIN="2" SEC="11" />
<PREDICTED
        SVID="9" SVN="39"
        NAME="NANU" TYPE="FCSTMX" REFERENCE="2004094"
        START_YEAR="2004" START_DOY="229" START_HR="12" START_MIN="0" START_SEC="0"
        END_YEAR="2004" END_DOY="230" END_HR="0" END_MIN="0" END_SEC="0"
        />
<CURRENT
        SVID="31" SVN="31"
        NAME="NANU" TYPE="UNUSUFN" REFERENCE="2004101"
                START_YEAR="2004" START_DOY="257" START_HR="5" START_MIN="50" START_SEC="0"
        />
<HISTORICAL
        SVID="27" SVN="27"
        NAME="NANU" TYPE="UNUSABLE" REFERENCE="2004100"
```

START_YEAR="2004" START_DOY="242" START_HR="1" START_MIN="32" START_SEC="0"

END_YEAR="2004" END_DOY="243" END_HR="19" END_MIN="12" END_SEC="0"

/>

</GPSISFILE>

All times are UTC TIME (ZULU) unless otherwise specified. DOY is day of year (same as JDAY); 1=1 January, 366 is valid for leap year

'GPSISFILE' FILE INFORMATION

Occurs once per file

FILEID is always 'SOF'

SYSID is always 'GPS'

VERSION is the version number of the file. The version text should be an integer version number. Example: 2

CREATION indicates date/time of file creation. Time is computer time (UTC time zone).

REFERENCE indicates date/time to which SOF data applies. For example, if January 10, 2003 1550Z is the REFERENCE time then Satellite Outage information will be collected up to and including that time, including past, current, and predicted information. The REFERENCE time is set to be the date/time of the most recent NANU incorporated into the SOF.

'SOF_RECORD' INFORMATION

Occurs multiple times per file, once for each predicted, current or historical satellite outage issued by the REFERENCE data/time.

There are three types of SOF records.

PREDICTED identifies predicted outages as of the REFERENCE time.

CURRENT identifies any active outages as of the REFERENCE time, along with the time the outage began.

HISTORICAL identifies actual outages that have taken place prior to the REFERENCE time.

SVID - reusable identifier for each satellite in identified system. For GPS the SVID shall be the PRN.

SVN (Satellite Vehicle Number) – unique sequential number associated with satellite-specific program is an integer. For GPS this is assigned by the US Air Force.

PREDICTED record fields

NAME – Alphanumeric indicator of outage source (currently 'NANU'). GOCGIS used when no NANU has been issued, yet outage is predicted or a GENERAL NANU has been issued that affects this outage.

TYPE – If NAME=NANU, then the choices are FCSTDV, FCSTMX. If a FCSTEXTD, then implemented as original type (FCSTDV or FCSTMX) with start date/time the same as in the FCSTEXTD and end date/time fixed twenty years out. If FCSTRESCD, then implemented as original type with dates/times as in the FCSTRESCD NANU. If a FCSTCANC type NANU is issued, the original type will be deleted from the SOF.

REFERENCE – reference info. If NAME=NANU this will be the NANU number of the last valid NANU associated with this outage. For example, if there is a FCSTDV issued with number 2003010, then REFERENCE=2003010. As another example, if there is a FCSTMX issued with number 2003047, followed be a FCSTEXTD with number 2003050, then REFERENCE=2003050.

CURRENT record fields

NAME – Alphanumeric indicator of outage source (currently 'NANU').

TYPE – If NAME=NANU, then the choices are UNUSUFN and GENERAL. If NANU is initially issued as a GENERAL launch message, then it will be implemented in the SOF as a UNUSUFN with the start date/time as 0000Z on the first day the satellite appears in the almanac.

REFERENCE – reference info. If NAME=NANU this will be the NANU number of the last valid NANU associated with this outage. For example, if there is a UNUSUFN issued with number 2003049, then REFERENCE=2003049.

HISTORICAL record fields

NAME –Alphanumeric indicator of outage source (currently NANU).

TYPE – If NAME=NANU, then the choices are FCSTSUMM, UNUSABLE, UNUNOREF, USABINIT, and GENERAL. If NANU is initially issued as a GENERAL launch message, then it will be implemented in the SOF as an UNUSABLE with stop dates/times as in the USABINIT and the start date/time as 0000Z on the first day the satellite appears in the almanac. This closes out the UNUSUFN that was implemented earlier for the GENERAL launch message. If the NANU is initially issued as a GENERAL decommission it will be implemented in the SOF as an UNUSABLE with the decommission date/time as the end date/time. If a GENERAL NANU is issued which cancels a previous NANU, the previous NANU will not appear in the SOF.

REFERENCE – reference info. If NAME=NANU this will be the NANU number of the last valid NANU associated with this outage. For example, if there is a FCSTSUMM issued with number 2003051, then REFERENCE=2003051.

Format Changes

Changes to file formats are implemented as follows:

1. Files implementing a new format have the VERSION attribute of the GPSISFILE element incremented. Version 1 files encoded the file version in the filename. For example, a file with a previous format may have a name like 2004_202_145503_v01.sof. Later file versions encode the version both in the filename, and the XML VERSION attribute. The filenames of the new file versions look like 2004_202_145503_v02.sof.

2. If a new file format is implemented, both the old and the new file formats will be posted to the web site location for a transition period.

3. The old file format will be posted for six months, and then be removed. This provides time for users to adapt to the new file format.

4. Notifications of file format changes, with samples of the new format, will be published to www.GPS.gov when they are final.