# *WAAS Technical Report*
## *William J. Hughes Technical Center*
## *Pomona, New Jersey*
## *12/11/2006*

*Author(s): Choon Ooi*

***DR#44: Signal-in-Space (SIS) outage in CRW.***
***GPS Week/Day: Week 1404 Day 0 (12/3/2006)***

**Discussion:**

On Week 1404 Day 0 CRW had a signal-in-space (SIS) that lasted 831 seconds starting from GPS time 30452 (8:27:32 GMT) to 31284 (8:41:24 GMT). According to O&M post-process output, at GPS time 30447 (8:27:27 GMT) Littleton switched from Primary to Unknown. 9 seconds later it switched again from Unknown to Backup at GPS time 30456 (8:27:36 GMT). Instead of switching to become Primary GUS, Napa stayed as Backup during this period and finally switched to Maintenance mode at GPS time 30984 (8:36:24 GMT). Table 1 is a brief events timeline for both Littleton and Napa.

Table 1

| GPS Time | GUS | Event |
|---|---|---|
| 29004 | Napa | From Unknown to Backup |
| 30447 | Littleton | From Primary to Unknown |
| 30456 | Littleton | From Unknown to Backup |
| 30545 | Littleton | From Backup to Maintenance |
| 30572 | Littleton | From Maintenance to Unknown |
| 30640 | Littleton | From Unknown to Maintenance |
| 30984 | Napa | From Backup to Maintenance |
| 31006 | Littleton | From Maintenance to Verification |
| 31127 | Napa | From Maintenance to Verification |
| 31268 | Littleton | From Verification to Backup |
| 31278 | Littleton | From Backup to Primary |
| 31543 | Napa | From Verification to Backup |

The SIS outage didn't affect availability, except for Northeast CONUS, due to the switch to either AORW or POR in all WAAS receivers.

**Conclusion**

Napa didn't switches to Primary from Backup like it suppose to when Littleton switched from Primary to Backup, instead it went into Maintenance mode. With both Littleton and Napa out, no GUS signal was available for CRW, which caused SIS outage that lasted more than 800 seconds.