

Revision 1, August 28, 2019: Corrected Images

WAAS Technical Memorandum
William J. Hughes Technical Center
Pomona, New Jersey
04/06/2017

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DR#136 : Propellant Line Bubbles caused several maneuver aborts from January 4th to January 9th causing Do Not Use conditions on CRE.

GPS Week/Day: Week 1930 Day 3 (01/04/2017)

Discussion:

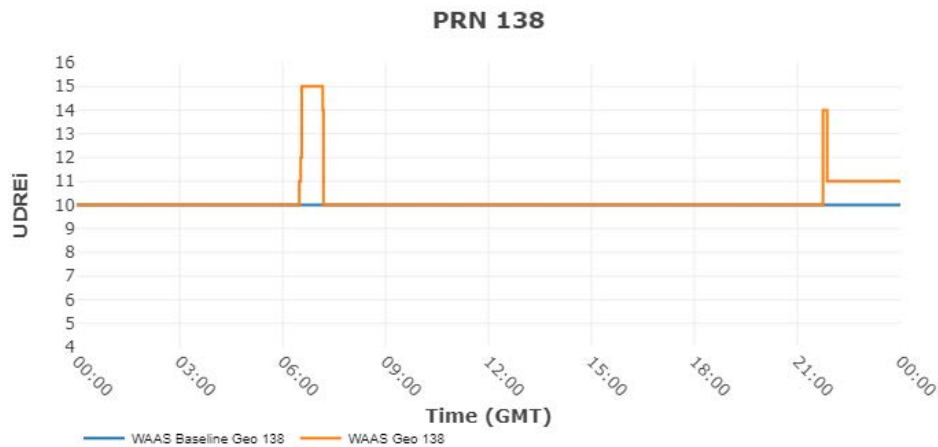
From January 4th through January 9th, Telesat performed a switching of the propellant tanks on-board GEO 138 in order to clear propellant lines. Bubbles in the lines were causing maneuvers to be aborted by on-board sensors. This caused multiple aborted maneuvers and Do Not Use conditions on CRE. On 1/9, maneuvers resumed without interruption.

PRN138 SV Alerts

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Times:

- 06:29 – 07:11
- 21:44 – 02:52 (1/5)

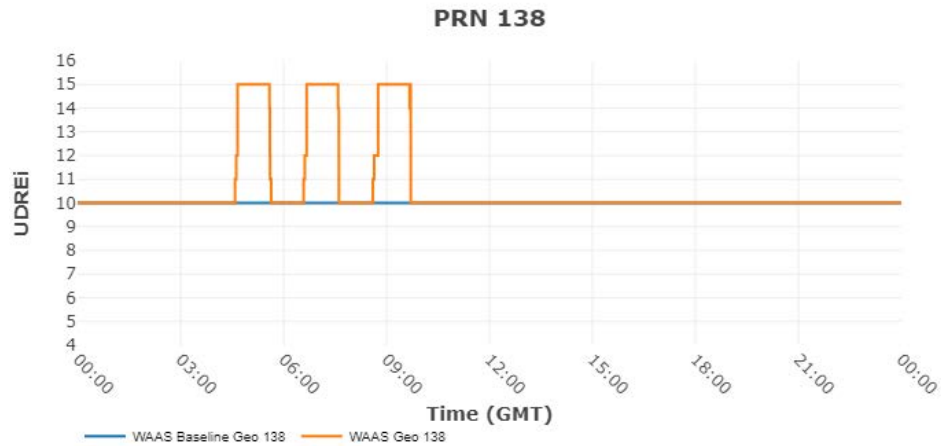


No impact on coverage during these times.

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Times:

- 04:35 – 05:38
- 06:34 – 07:36
- 08:35 – 09:42

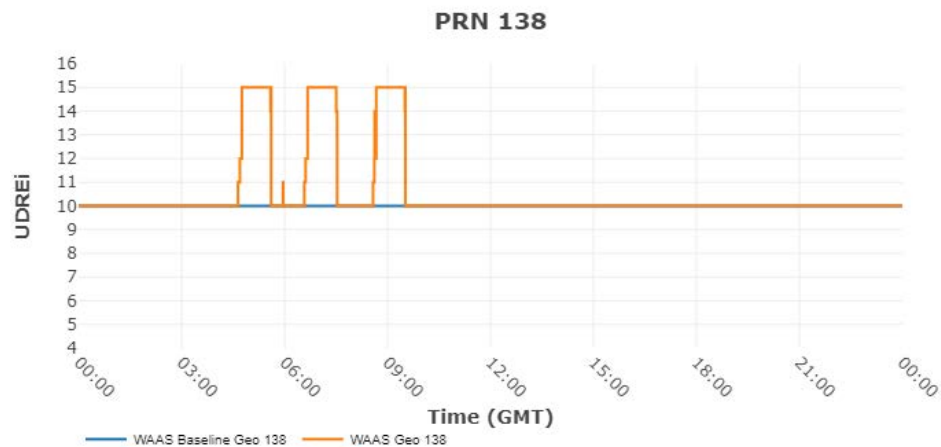


Minor degradation of LPV200 service coverage in CONUS from 08:36 GMT to 08:41 GMT.

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Times:

- 04:45 – 05:36
- 06:40 – 07:31
- 08:34 – 09:31

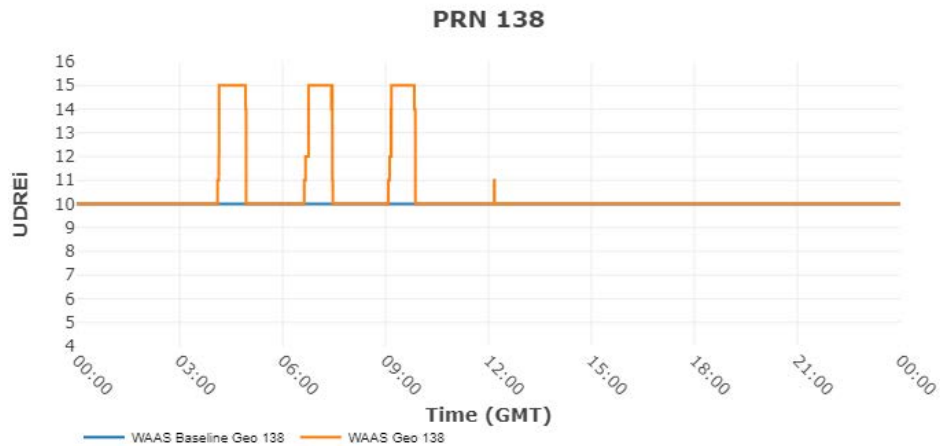


Minor degradation of LPV200 service coverage in CONUS from 08:35 GMT to 08:43 GMT.

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Times:

- 04:08 – 04:56
- 06:45 – 07:26
- 09:10 – 09:51

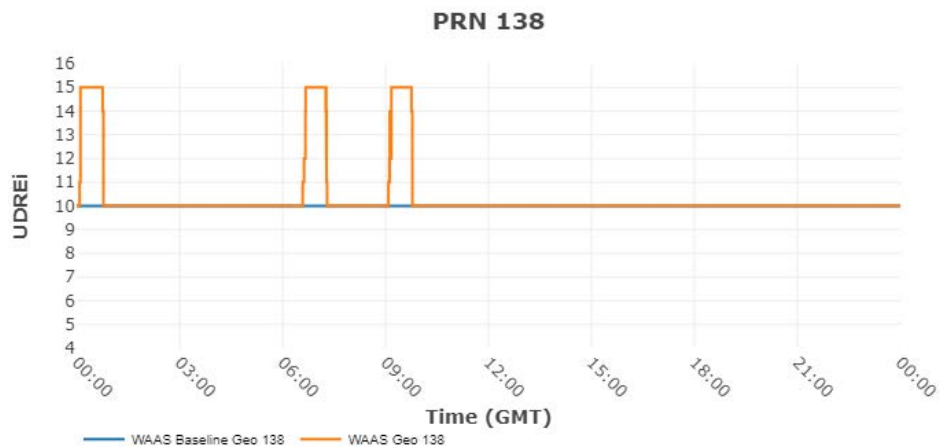


No impact on coverage during these times.

1/9

Times:

- 00:06 – 00:46
- 06:40 – 07:16
- 09:10 – 09:46



No Impact on coverage during these times.

Conclusion:

Due to bubbles formed in the propellant line, caused by switching the propellant tanks on-board PRN 138. These bubbles resulted in several missed maneuvers from January 4th to January 9th. This caused minor degradation of LPV200 service coverage in CONUS on January 6th and 7th.