



Remarks on the PNT Resilient and Protection

16th. PNTAB Meeting
31st.Oct. 2015
Boulder Co.
Refaat Rashad

The views expressed herein are those of the authors and do not reflect the
position of any entity

Remark 1

- There are general understanding about the vulnerability of GNSS !
 - Qualitative vs Quantitative

Remark 2

- Back up system to GNSS is an option to assure the availability of PNT
- However, no single system could be named to replace GNSS or provide a full backup on Land, Sea or Air, 24/7

Remark 3

- Some thoughts believe that Jamming and Spoofing if they occur , will only affect small areas, the damage caused can be contained or even be compensated by the insurance polices.

Remark 4

- Smart and Robust Receivers are receiving well support as a fair answer to jamming and spoofing threats.

Remark 5

- Authorities in many different parts of the world at this very moment do not see the size and amount of the risk of PNT outage and the vulnerability of GNSS if terrorism have acted against one of the critical applications.
- The only half full of the Cup of the GNSS is seen, forgotten the second half of Cup when it is empty from the valuable PNT

Remark 6

- In Maritime case , the major pollution accidents of Amoco Cadis and Exxon Valdis has lead to the international pollution protection conventions
- The Titanic Disaster had led to SOLAS convention , and so on.
- We do not have to wait for a catastrophic accidents to trigger the decision makers to act for a back up system

Remark 7

- GNSS Compatibility,
 - GNSS Interoperability,
 - GNSS Interchangeability and
 - GNSS Transparency
-
- These are important issues of endless negotiation in the closed rooms, however, they are still far away from being implemented

Remark 8

Regarding the Interchangeability Option

The receiver manufactures may decide which systems can better be integrated. And the end users may decide which receivers configuration are convenient for their applications

Remark 9

- To achieve fair "Market Access", the GNSS Community needs, Forums of;
 - Systems Providers,
 - Services Providers,
 - Receiver Manufactures and
 - End users forum.

Finally 10

- More work to be done by NGOs and charity organizations to support the protection and resilience of PNT
- No matter how small in number we are ,we should speak up loudly until the voice is internationally heard



End Remark

GOD Bless You



Thank You!

