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Point Paper on DSP-II TOR

This Point Paper addresses the Aerospace Corporation Technical Operating Report TOR93(3409-6). DSP-II-- Preserving the Air Force's Options

Purpose

Provide insight into the subject report for AF/PEO/SP, SAF/AQ, and AFMC/CC.

Background

Who

Col John Kidd sponsored the subject report. He was at the time of the writing of this report the System Program Director for the Defense Support Program. The primary author of the report was Guidio Aru of the Aerospace Corporation, a Project Engineer in the DSP Program Office. It was approved by Col Kidd and his Aerospace counterpart, Mr Ev Bersinger.

What

A study of DSP upgrade options to provide a cost effective extension of the useful life of the DSP system assuming FEWS programmatic troubles. The requirements basis for the report discounted JROC approved requirements for FEWS.

When

The Aerospace TOR was written during the period 24 Feb 93 through mid-April and published on 23 Apr 93. It was intended to capture the concept of a DSP satellite that could be launched on an MLV. It was recognized that the concept could not meet FEWS ORD Requirements.

Where

The TOR was primarily written at Los Angeles AFB, Area A, building 115, Aerospace offices.

Why

The DSP-II concept was documented by the DSP SPO to preserve the engineering lessons. The report has two stated objectives:

- "Provide a backup plan for the Program Director in the event of adverse impact to the approved follow-on program".
- "Document options for near-term performance improvement to the current system prior to FEWS FOC".

This study of DSP upgrade options was pursued as a spinoff of the BE/FEWS/DSP Sensor Study, after it was determined by the PEO/Space that the concept of a DSP and BE was not cost effective and was unable to meet the FEWS JROC validated requirements. AFSPACECOM, as a member of the sensor study, rejected the DSP-II approach to satisfy their requirements twice during the study, once in Nov 92 and again in early 93.

How

The report was an integration of a variety of inputs in the form of viewgraphs with facing page text.

The DSP/BE synergy section of the report was reviewed by Aerospace engineering support led by Jim Slattery.

The sections pertaining to DSP upgrades were reviewed and approved by DSP program approving authorities, but not by the corporate Aerospace engineering team.

Despite the fact that the report questioned requirements as its basis, there was no attempt to coordinate it with AFSPACECOM, USSPACECOM, or the FEWS program.

How Much

Approximately $200,000 in Aerospace resources were spent; other AF and contractor effort not known.

Description of Report

The report is an annotated briefing composed of seven sections plus a title section (abstract, preface, acknowledgments, contents, etc.). All pages bear the Aerospace logo, although they contain contractor supplied information.

Section	Pages
Title	12
Executive Overview	27
Main Body	1/13
Appendix A - DSP-II Space Segment	113
Appendix B - DSP-II Ground Segment	61
Appendix C - Cost and Schedule	29
Appendix D - Performance	43
Appendix E - DSP-II / BE Synergy	83

Analysis of Report (Preliminary)

Requirements

Overview Assessment

- Proposed DSP-II system does not meet FEWS ORD requirements.
- Requirements not met are *system drivers* for FEWS.
- TOR questions the utility of requirements not met.
- FEWS/DSP-II system cost disparity is based on meeting different requirements.

Significant Unmet ORD Requirements

- Upper Stage Tracking to Burnout.
- Revisit Rate.
- Increased TMD and TWAA Performance.
- Mission E and AOI Capabilities.
- Full On-Board Processing.
- Full Constellation Crosslinks.

Engineering

Concepts proposed do not allow a growth path to FEWS ORD requirements satisfaction.

Concepts are peculiar to the current DSP operational system. If the requirement for TWAA are reduced, DSP-II might provide another competitor in the AF competitive acquisition strategy for post DSP 25 tactical warning and attack assessment.

Performance estimates for DSP-II are overly optimistic and risk of achievement is understated. Current preliminary analysis suggest DSP-II is riskier than FEWS.

Cost

Cost estimates and savings are optimistic, flawed, and have not undergone the same level of scrutiny as other previous comparisons and analyses e.g. the Sensor Study, FEWS COEA. The cost comparisons are of the "apple and orange" type. Two completely different requirements were costed.

Tone

If the document was to be an archive of DSP upgrade concepts, it could have been written in a style which does not challenge JROC approved requirements. It manipulated requirements so that a lower cost system could be derived.

It downplayed the need for system stressing requirements in the name of a self interpreted definition of the "New World Order" which is diametrically opposed to Air Force, OSD, and Congressional interpretations.

Conclusions

The general conclusions of the study are counter to AF stated position. You would only consider this approach if you do not want to meet the JROC validated requirements for TWAA.

The report is improper in its tone and flawed in its content and should be withdrawn and archived. As an archived document it would be available to the SPO for its stated intended use.

Recommendation

SBEWS SPD brief AFSPACECOM, and Navy offices that received unauthorized elements of the report on findings.

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