Improved Cost Monitoring and Control through EVMS
A Project Perspective

Dewey Barlow¹, Howard Hunter¹, and Richard Fitzgerald¹

¹Johns Hopkins University Applied Physics Laboratory, Laurel, Maryland 20723
dewey.barlow@jhuapl.edu, 240-228-0607

Abstract. As economic pressure and competition for budget among federal agencies increases there is an increasing need for more granular data and robust management information systems. This is especially true for the execution of major civilian space programs. This need has resulted in new program management requirements being implemented in an attempt to limit cost and schedule growth. In particular, NASA NPR 7120.5D requires the implementation of an Earned Value Management System (EVMS) compliant with the requirements of ANSI/EIA Standard 748-B.

The program management team on the Radiation Belt Storm Probes (RBSP), at the JHU/APL, made a decision to implement EVMS on RBSP during Phase B. This was a year earlier than the contractual Phase C reporting requirement as defined in the NPR. This was done so the project would have the benefit of 12 months of training and hands on implementation during its Phase B.

Although there were a number of technical and process hurdles encountered during Phase B and into Phase C the system was working well at the time an Integrated Baseline Review held August, 2009. The IBR was a success because it met the review requirements but it was also clear to all participants that the EVMS was providing value to the project management team. Although the IBR pointed out some areas of concern regarding process and ANSI compliance the system had markedly improved the projects ability to monitor cost and schedule. This in turn allowed the project team to foresee problems in advance, formulate corrective actions, and implement course corrections without significant adverse impact to the project.

Opponents of EVMS systems often communicate the unfavorable opinion that EVMS systems create unnecessary cost and administration. While it is undeniable that EVMS implementation does not occur without cost, the cost is minimal in comparison to the benefits of successful implementation. This paper will focus on the implementation of EVMS on the RBSP project, explain the system architecture, processes and implementation cost, and analyze the benefits to provide insight into cost/benefit considerations for other projects considering EVMS implementation. It will do this by focusing on the following points:

1. RBSP is the first full-up implementation of EVM at JHU/APL
2. RBSP EVM implementation not yet a validated system
3. RBSP EVM started in Phase B
4. RBSP EVM waiver to 7120.5D requirement granted by NASA OCE to enter Phase C
5. RBSP EVM implementation working well in Phase C/D
6. Successful completion of IBR in August 2009
7. RBSP EVM implementation proven useful to Project Management
8. RBSP EVM implementation recognized by GSFC and NASA HQ as successful