Implementing AS4817-2019
ISO 21508 (MOD)
Earned Value in Project and Programme Management

Kym Henderson
Chair PGCS Ltd
20 August 2019

Agenda

- What is EVM?
- The abridged history of EVM (AUS centric)
- The competing views of EVM
- Why does EVM persist?
- The biggest barrier to EVM
- Ten Benefits of EVMS
- How will AS4817–2019 / ISO 21508:2018 (MOD) affect the application of EVM (in AUS)?

- Close including Q&A
Poorly understood!

- Project management methodology
  - Pre-dates PMI (1969)
  - C/SCSC (1967)
- AS4817–2003, 2006 and 2019 process model of EVM depicted
  - Adopted by ISO EVM Standard 21508:2018
- AUS process model of EVM developed due to perceived overheads of USA “criteria based” EVM
What is EVM?, Part 1 of 3

- The language of “Control Accounts and Work Packages”
  - *Is the language of Earned Value Project Management (EVPM)*

- EVPM is so embedded into the DMO, now CASG way of doing business
  - *Most people in CASG probably don’t even realise they are using EVPM WHEN THEY ARE!*

What is EVM?, Part 2 of 3

- EVM is a System – EVMS
  - Software toolset which collates the required inputs (mostly data) and produces:
    - S Curve and other graphical charts
    - EVMS Reports
      - Formats 1 through 5
      - *Format 5 (Variance Analysis) reports require human thought, input, effort and action*
      - *Describe cause(s) of and Corrective Action Plan to address over threshold variances*
EVM is the measure(s) and metrics
- S Curve charts
- Variance Charts, CV, SV and SV(t)
- Efficiency Indexes, CPI, SPI and SPI(t)
- Completion Predictors, IEAC, IEAC(t) and IECD
- Future efficiency indicators, TCPI (BAC and EAC)
- TSPI (PD and ED)

The competing views of EVM
- A valuable methodology
- Modest cost and effort
- Provides useful project performance metrics
- Improves PM decision making
  - If intelligently applied
- The greatest project management method and toolset since sliced bread
- Does everything for you on a project except make the morning coffee
- “The EV Religion”

“Doing EVM” (by itself) has no intrinsic value
The AUS centric abridged history of EVM


1989: Adoption by Australian DoD C/SCSC and CSSR (“EVM lite”)

1998: ANSI EIA Standard 748-A (USA) (32) “criteria based” EVM

2003: AS4817-2003 (AUS)

2005: PMI Practice Standard for EVM 1st edition

2006: AS4817-2006 (AUS)

11 step “process model” of EVM
Developed in response to perceived overheads of USA “criteria” based EVM

2012: PMI Practice Standard for EVM 2nd edition
Complete rewrite from 1st edition
Included Earned Schedule (Lipke: 2003)

Global EVM standard (informative)
Adopted AUS 11 step process model of EVM
Included Earned Schedule (Lipke: 2003)

2019: AS4817-2019 Modified adoption of 21508:2018
Approved, publication expected mid Sep 2019
Reinstated AS4817-2006 normative req’ts

2019: ISO EVM Implementation Guide project
Global EVM Implementation Guide
Kick-off teleconference scheduled 29 Aug 19

Update: AS4817-2019 is available for sale from the SAI Global website at:
Why does EVM persist?

- Nobody has invented anything better
  - Uniquely integrates cost, schedule and technical performance metrics into a single consolidated Project Management Information System (PMIS)

- EVM predictive capabilities are the only ones currently in existence with a capacity to address “Fitzgerald’s Law” of major programs
  - Too early to tell
  - Too late to stop

The biggest barrier to EVM?

YOU WANT THE TRUTH?

YOU CAN’T HANDLE THE TRUTH!!!

A Few Good Men, Movie (1992)
Ten Benefits of EVMS

1. It is a single management control system that provides reliable data
2. It integrates work, schedule, and cost using a work breakdown structure
3. The associated database of completed projects is useful for comparative analysis
4. The cumulative cost performance index (CPI) provides an early warning signal
5. The schedule performance index provides an early warning signal
6. The CPI is a predictor for the final cost of the project
7. It uses an index-based method to forecast the final cost of the project
8. The “to-complete” performance index allows evaluation of the forecasted final cost
9. The periodic (e.g., weekly or monthly) CPI is a benchmark
10. The management by exception principle can reduce information overload
11. Earned Value has developed a large body of public domain knowledge and Government case studies. These studies include information that would be extremely sensitive and classified “commercial in confidence” in the private sector

Policy and Procedures

- There has been no consistent application of **fundamental tools** such as Earned Value Management. **Such tools will be required to support the new leadership team.**

The preceding statement was most remarkable

- In an organisation which routinely manages complex projects and programs we found it remarkable that there is no common project management architecture or artefacts to support it. **There are no standardised reporting mechanisms (reporting is informal, anecdotal, local or crisis based)** or management processes, with all divisions having different methodologies and management systems.

First Principles Review Creating One Defence p40

How will AS4817–2019 affect the practice of EVM [in AUS]?

- The standard EVM answer: “it all depends”

One possibility: **NO CHANGE**

- ISO adopted the AUS 11 step process model of EVM
- The normative requirements in AS4817–2006 have been reinstated **unchanged** into AS 4817–2019
  - Substitute Chapter 5
  - Important for obtaining all important Defence agreement for Australia’s modified adoption of ISO EVM Standard

- It might (possibly, maybe, hopefully ...) make EVM a more attractive option for adoption
  - *When you don’t have to!*
How will AS4817–2019 affect the practice of EVM [in AUS]?

- Another possibility: **Opportunity(s) in the guidance for advances to practice**
- ISO EVM Standard guidance reflects the global consensus on EVM best practice
- The language of the standard has been updated to the 21st century
  - Brevity
  - Assumed knowledge of EVM
    - “Tutorial aspects” explaining EVM removed
  - **More discussion on benefits of EVM**

The importance of schedule

Two quotes

- **Dr. Steve Gumley, [then] CEO of [then] DMO**
  
  “We need to maintain our attention on schedule delivery. Data tells us that since July 2003, real cost increase in projects accounted for less than 3 percent of the total cost growth. ... *Therefore, our problem is not cost, it is SCHEDULE.*”

- **LTGEN Hans "Whitey" Driessnack USAF**
  
  “Engineering problems will first manifest themselves in a schedule slip someplace. Generally, as I have learned since then, if you have a technical problem someplace, or some kind of a problem, it will manifest itself first as a schedule slip. Then, it will eventually become a cost problem. If you wait to see the cost problem, something has already happened over which you have long since lost control. I always believed in the old adage, ‘Time is money’; *but if you could control the schedule, you could in fact control the cost ultimately in what was going on.*”

Source: GAO Expert Meeting Minutes, September 29, 2015, page 9
The Global ISO EVM Standard 21508:2018 includes Earned Schedule (Annex B)

AS4817–2019 – 21508:2018 (MOD) includes Earned Schedule

The approved scope for the ISO EVM Implementation Guide includes Earned Schedule

While the paradigm shift would be massive due to the “cost-centric” legacy of EVM

\[ \text{The value proposition for Earned Schedule is such that it could/should become the primary focus of EVM over time} \]

EVM is here to stay

– Recent developments should make that clear


– Offer opportunities for [much needed] advances to practice

Questions