



ISO/TC258/WG12

## ISO EVM Implementation Guidance

Convenor and Project Leader – Mr. Kym Henderson  
- Australia

[kym.henderson@gmail.com](mailto:kym.henderson@gmail.com)

PGCS 2022  
Defence and Major Projects Stream  
17 August 2022

# Agenda



1. **An Exceptionally Brief EVM History – Standards Perspective**
2. **ISO EVM Standard 21508:2018**
3. **ISO EVM Standard: Another story of global collaboration**
4. **WG7 – EVM Table of Contents - Australian and British Contributions**
5. **ISO EVM Standard 21508:2018 became AS4817:2019**
6. **ISO EVM Implementation Guidance. Scope and Objectives**
7. **ISO EVM Implementation Guide: Another story of global collaboration**
8. **Roadmap for the WG12 - ISO 21512: 2 - 3 years**
9. **Current Status (as at 25 July 2022)**
10. **ISO EVM Standard and Implementation Guidance Conceptual Model**
11. **What Could ISO EVM Standard & Implementation Guidance Mean to Me?**
12. **Future Considerations**
13. **Questions**

# 1. An Exceptionally Brief EVM History – Standards Perspective



- Cost Schedule Control Systems Criteria

1967 – USA

- US Defense Department
- **Intent:** Assist management of very large-scale complex Defense acquisition projects
  - Where cost risk borne by US Government



- NDIA / EIA standard EIA-748 A Earned Value Management Systems (EVMS)

1998 – USA

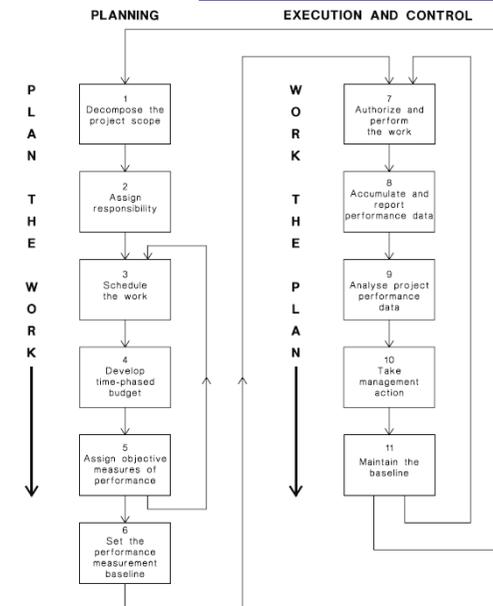
- For application to Major Defense Acquisition Programs
  - Current version NDIA / EIA 748 E
  - Intent later modified to US Government acquisition programs
- [Management] Criteria based EVM
  - Initially 35, reduced to 32 Management Guidelines



# 1. An Exceptionally Brief EVM History – Standards Perspective

- **AS4817-2003**
  - Developed by Australia
  - Based on USA EIA 748 standard
  - **Process based EVM**
    - 11 Step process model
      - Developed in response to perceived overheads with USA “management criteria” based EVM
- AS 4817 updated in 2006
- *Latest update: 2019*

## 2003 – AUS



NOTES:  
1. Steps 3, 4 and 5 are performed iteratively.  
2. Not all relationships are shown.

## 11 Step Process Model of EVM

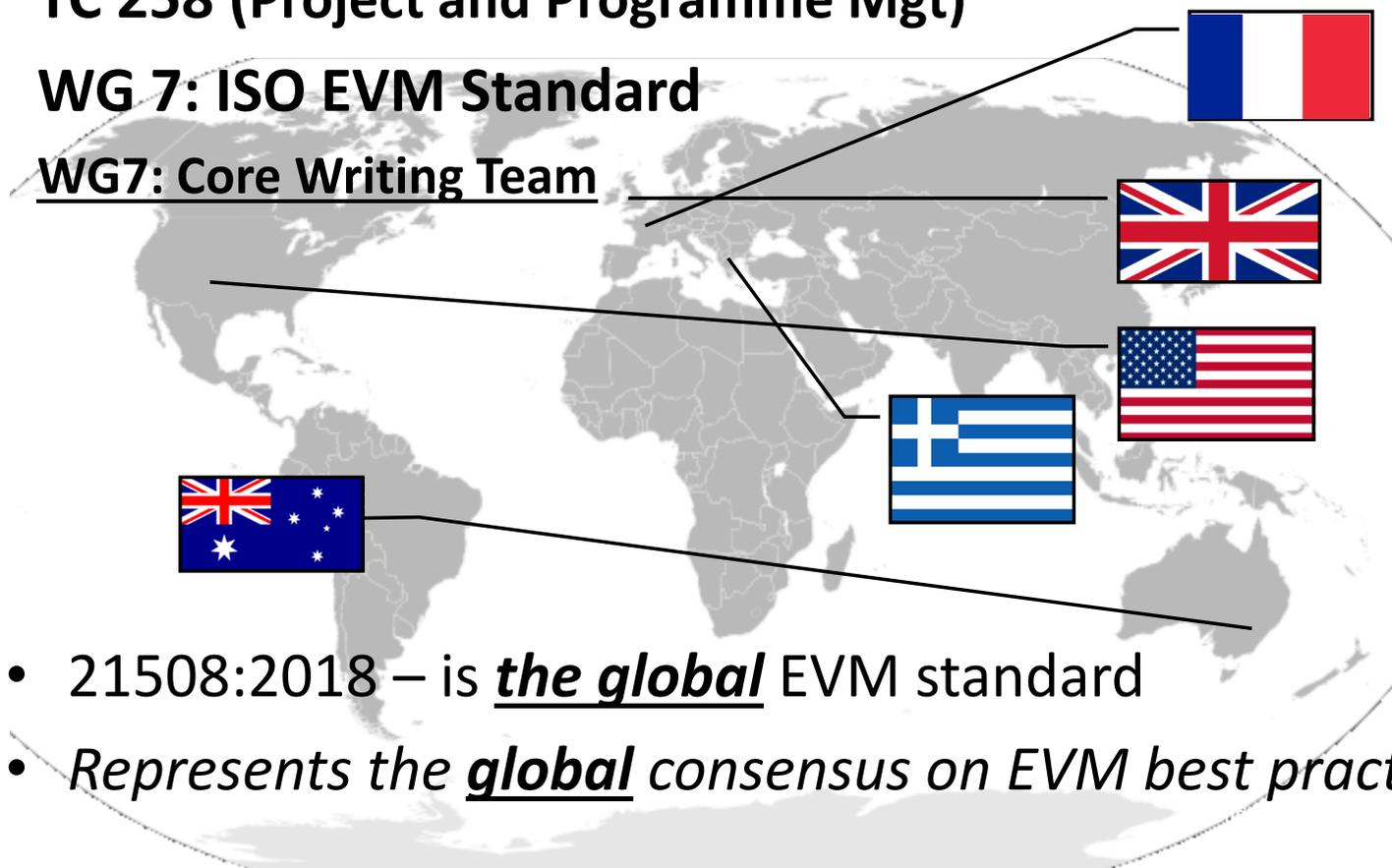


## 2. ISO EVM Standard 21508:2018

- NWIP submitted by France – July 2015  
  - Approved 30 October 2015
  - ISO/TC258/WG7 created
  - Developed ISO EVM standard aka 21508:2018
- NWIP objectives and scope
  - ...to provide guidance to those involved in Earned Value Management (EVM), and incorporate key practises *to provide strong benefits for project/programme in planning and controlling.* ...
  - ... aims at developing an international standard on EVM. It shall provide guidance for EVM and should be used by any type of organization, including public, private or community organizations, and for any type of project or programme, irrespective of complexity, size or duration

### 3. ISO EVM Standard: Another story of global collaboration

- TC 258 (Project and Programme Mgt)
- WG 7: ISO EVM Standard
- WG7: Core Writing Team



- 21508:2018 – is the global EVM standard
- Represents the global consensus on EVM best practice

# 4. WG7 – EVM Table of Contents

## - Australian and British Contributions



### Significant IP contributions “for use” to WG7 by Australia and the UK



#### 4 Overview of Earned Value Management

##### 4.1 Role and Benefits of Earned Value Management

##### 4.2 Earned Value management

##### 4.3 Performance management

##### 4.4 Guidelines for an earned value management system

##### 4.5 Earned value management planning

##### 4.6 Using Earned Value performance measurements

#### 6 Earned Value Management System Review

##### 6.1 Integrated Baseline Review

##### 6.2 Demonstration review

##### 6.3 Surveillance

Annex C (informative) Integrating other project management processes with earned value management

**APM Guidelines. Earned Value Management, 2008**

#### 5 Earned Value Management process description

##### 5.1 STEP 1: Decompose the project scope

##### 5.2 STEP 2: Assign Responsibility

##### 5.3 STEP 3: Schedule the work

##### 5.4 STEP 4: Develop time-phased budget

##### 5.5 STEP 5: Assign objective measures of performance

##### 5.6 STEP 6: Set the PMB

##### 5.7 STEP 7: Authorize and perform the work baseline

##### 5.8 STEP 8: Accumulate and report performance data

##### 5.9 STEP 9: Analyse project performance data

##### 5.10 STEP 10: Take management action

##### 5.11 STEP 11: Maintain the baseline

Annex A (informative) Cost and performance measurement analysis using EVM data

Annex B (informative) Schedule Analysis using EVM data (Earned Schedule)

**AS 4817-2006, Project performance measurement using Earned Value,**

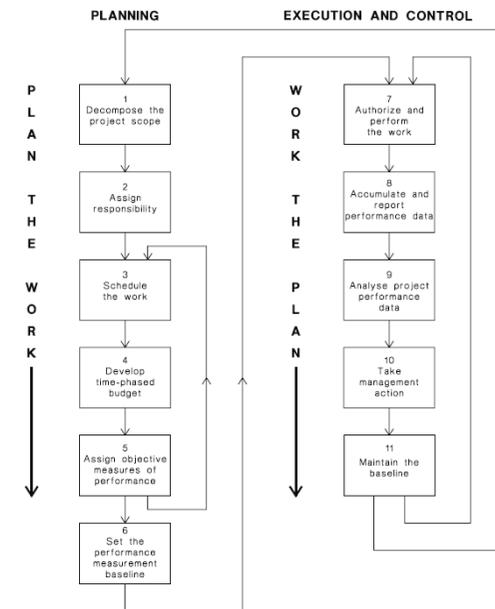
January 2006

Slide 7

## 5. ISO EVM Standard 21508:2018 became AS4817:2019 (Modified Adoption)



- ISO EVM Standard 21508:2018
  - Is an informative standard
    - Guidance
    - No mandatory requirements
- AS4817 series
  - Normative standard
    - Mandatory requirements
    - “Shall” statements
    - *Principally needed by Defence – key stakeholder*
- Clause 5 of 21508:2018
  - Modified to reinsert removed “shall” statements
  - (Clause 5 is 11 step EVM process model)
  - Modified Clause 5 published as a “zz” Chapter at back of document
- By purchasing AS4817-2019, see [here](#)
  - You get both ISO and Australian Standards



NOTES:  
1. Steps 3, 4 and 5 are performed iteratively.  
2. Not all relationships are shown.

**AUS 11 Step EVM Process Model  
adopted by ISO**

## 6. ISO EVM Implementation Guidance - Scope and Objectives (approved NWIP)



- **NWIP developed and submitted by Australia**
  - Ballot started April 2019 – Approval July 2019
  - Second ballot to approve formation of WG12
- Produce an implementation guide on the implementation of EVM, **including key EVM practises defined in ISO 21508:2018**
- ***The scope will include guidance on the:***
  - *Implementation of the EVM process steps defined in Chapter 5 of the ISO EVM standard,*
  - *Preparation and conduct of EVM Systems Reviews defined in Chapter 6,*
  - *Analysis of EVM data defined in Annexes A and B,*
  - *Integration of EVM with other processes, **in particular the integration of Risk and EVM**, as defined in Annex C.*
- **The Guide will:**
  - **promote the adoption of EVM** in accordance with the guidance provided in the ISO EVM standard 21508:2018
  - **promote adoption of the ISO EVM standard**
    - **Consistent with currently approved TC258 Strategic Plan**

## 7. ISO EVM Implementation Guidance: Another story of global collaboration

- TC 258 (Project and Programme Mgt)
- WG 12: ISO EVM Guidance
- WG12: Core Writing Team



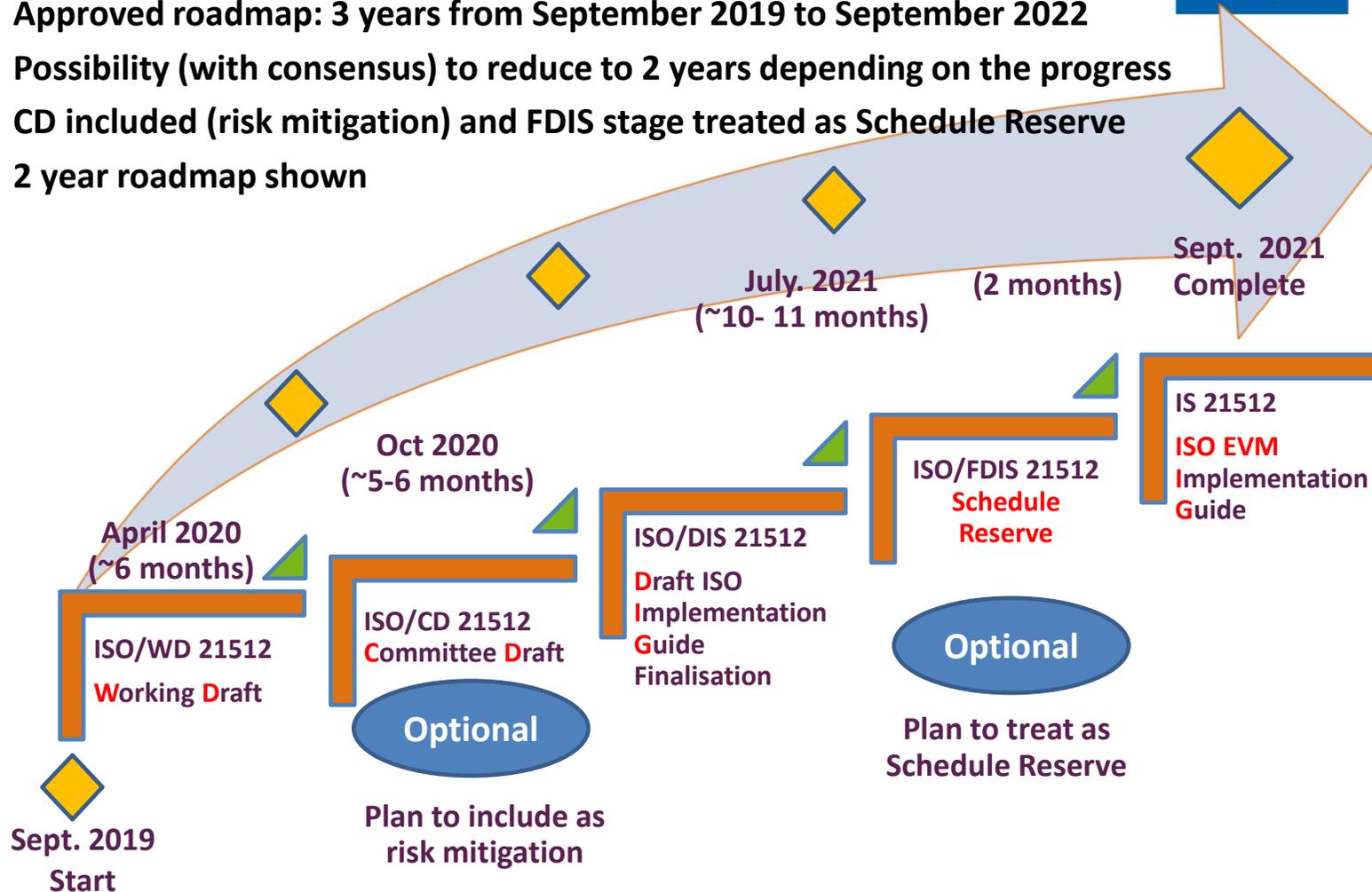
- 21508:2018 – is a **global** EVM standard
- Represents the **global** consensus on EVM best practice
- **Note:** Russian is one of the 3 ISO publication languages

# 8. Roadmap for the WG12 - ISO 21512: 2 - 3 years

Plan presented at WG12 kick-off meeting – Seoul Korea – Sep 2019



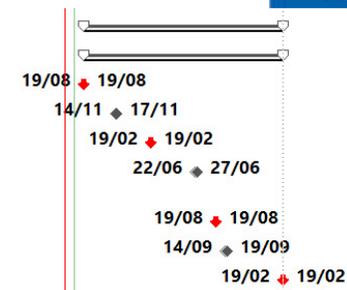
- Approved roadmap: 3 years from September 2019 to September 2022
- Possibility (with consensus) to reduce to 2 years depending on the progress
- CD included (risk mitigation) and FDIS stage treated as Schedule Reserve
- 2 year roadmap shown





## 9. Current Status (as at 25 July 2022)

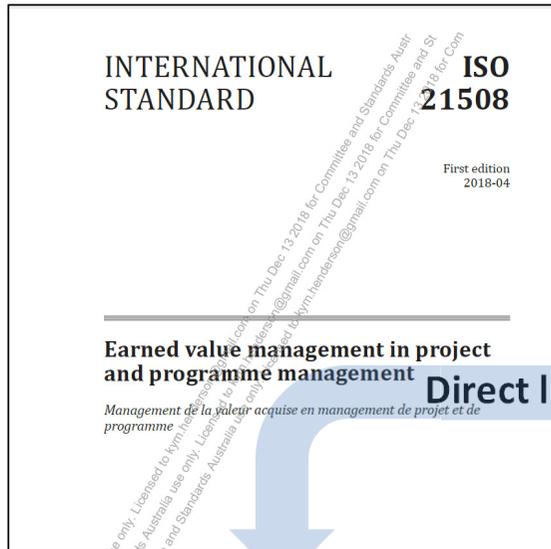
	ISO Project Milestones	0%	396d	Fri 19 Aug '22	Mon 19 Feb '24	Fri 19 Aug '22	Mon 19 Feb '24
	ISO Project Milestones	0%	396d	Fri 19 Aug '22	Mon 19 Feb '24	Fri 19 Aug '22	Mon 19 Feb '24
5	<b>DIS Due Date (Fixed Date)</b>	0%	0 days	Fri 19 Aug '22			
6	DIS Submission Date - Schedule Date	0%	0 days	Thu 17 Nov '22	Thu 17 Nov '22	Mon 14 Nov '22	Mon 14 Nov '22
7	<b>DIS Cancellation Date (Fixed Date)</b>	0%	0 days	Sun 19 Feb '23			
8	Final text received or FDIS registered for formal approval	0%	0 days	Tue 27 Jun '23	Tue 27 Jun '23	Thu 22 Jun '23	Thu 22 Jun '23
9	<b>International Standard published (Fixed Date)</b>	0%	0 days	Sat 19 Aug '23			
10	International Standard published - Schedule Date	0%	0 days	Tue 19 Sep '23	Tue 19 Sep '23	Thu 14 Sep '23	Thu 14 Sep '23
11	<b>Cancellation Date (Fixed Date)</b>	0%	0 days	Mon 19 Feb '24			



Milestone	2 year Roadmap Seoul – 2019	Current Dates
WD to CD Transition	Oct 2020	Jun 2022 (A)
CD to DIS Transition	Jul 2021	Nov 2022
Publication	Sep 2021	Sep 2023

- **Why?**
  - COVID-19 -> lack of face to face meetings
  - Underestimated effort to develop “how to” content
    - Working Draft x 3 cycles prior to CD transition
    - Priority has been quality of document rather than schedule
    - Sourcing of SME to write Integration Clauses
  - Consensus decision to include a “worked example” in Guidance
  - Formal start of WG12 did not occur until November 2019
- WG12 has been granted a single 9 month schedule extension by ISO

# 10. ISO EVM Standard and Implementation Guidance Conceptual Model

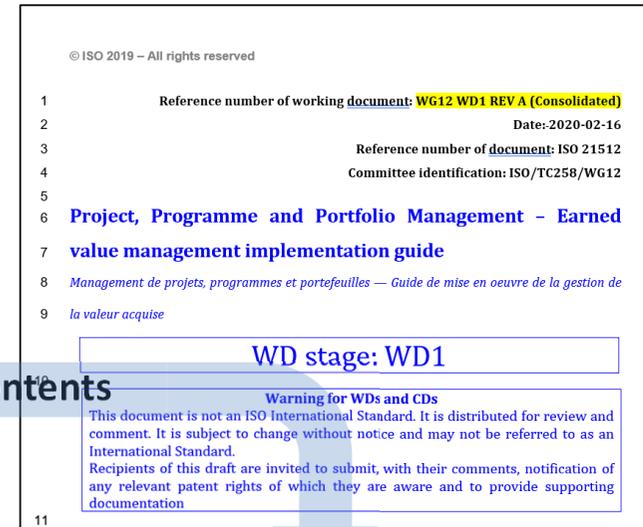


ISO EVM Standard

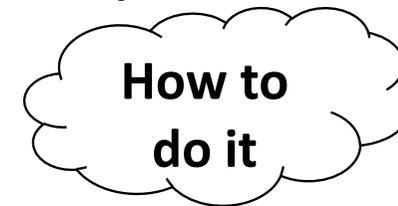


- Foreword
- Introduction
- 1 Scope
- 2 Normative references
- 3 Terms, definitions and abbreviated terms
- 4 Overview of earned value management
  - 4.1 Earned value management
  - 4.2 Purpose and benefits of earned value management
  - 4.3 Value management system
  - 4.4 Earned value management planning
  - 4.5 Using earned value measurements and performance metrics
- 5 Earned value management process steps
  - 5.1 General
  - 5.2 Step 1: Decompose the project or programme scope

Direct links through Table of Contents



ISO EVM Implementation Guide



# 11. What Could ISO EVM Standard & Implementation Guidance Mean to Me?

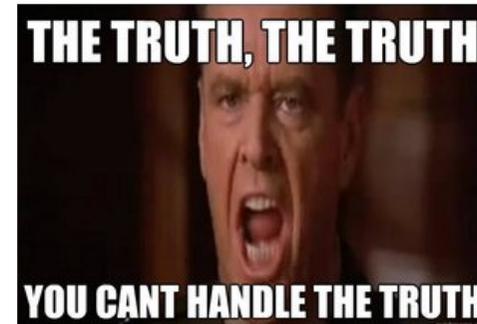


- **EVM remains a project controls “best practice”**
  - Especially for major projects
  - **Seeing increased “interest” in adoption of EVM – non Defence sectors**
    - Often by major projects, senior executive stakeholders
- **A method that won’t go away**
  - **Simple concept** -> Can be deceptively difficult to implement, especially organisationally
  - **Remains unique** in ability to predict outcomes -> from performance to date
  - **Used positively** -> provides “early warning” of need to proactively investigate variance(s) and take corrective action
- **EVM is influential on project management and controls theory and practice**
  - Even where EVM itself is not implemented
- **EVM is an integrating methodology -> *which keeps on integrating***
  - Historically cost, schedule and technical performance
  - + Risk, + Agile, + Earned Schedule, + Critical Chain, + PMO, + ...
  - ***All topics treated in 21508:2018 and ISO EVM Implementation Guide***
  - “Worked example” included at Appendix A
- ***ISO EVM Implementation Guidance has special relevance to Australia***
  - Due to adoption of 11 Step EVM process model by ISO
  - Highly likely to be adopted as an AUS Standard (identical adoption)

## 11. What Could ISO EVM Standard & Implementation Guidance Mean to Me?



- The fundamental question with EVM (& Project Controls) is:
  - Does management really want:
    - To know the real status of a project?
    - Relevant, reliable performance data to inform management decisions?
    - “Early warning” of emerging performance issues enabling proactive action to address?
- If the objective answer to the above is **NO**:
  - ***The project has a project management problem***
- If the answer to the above is **YES**:
  - The intent of the many contributors to both standards:
    - Will contribute to the adoption of EVM as per the NWIPs
      - for any type of project .. , irrespective of complexity, size or duration
    - **Will contribute to improved project delivery outcomes**



“A Few Good Men”  
Movie, 1992



## 12. Future Considerations

- ISO\TC258\WG12 met in Canberra (12-15 Sep 2022)
  - *Hosted by PGCS Ltd*
  - Hybrid meeting - First with F2F element since Sep 2019
- Future options beyond WG12 considered
  1. **No further development?**
    - Review in 5 years to see if revision is required
  2. **Update 21508:**
    - Improvements have been identified as part of WG12?
    - *Opportunity for uplift of Risk – EVM integration?*
  3. **Other options?**
- *Feedback will be welcomed*



# 13. Final Questions?