

Deltek.

# DCMA 14-Point Assessment: Using Deltek Acumen for Compliance Analysis

September 2019





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# Before You Begin

## Advanced Metrics and Reporting in Acumen 8.5

It has taken many enhancements in Acumen over the years to satisfy the DCMA's newest and ever changing metrics for measuring performance and compliance of integrated cost and schedule. These metrics were formerly called EVAS/DDM. They are now called DECM for DCMA EVM Compliance Metrics. This presentation will describe some of the more advanced features in Acumen metrics that anyone can use in their metrics and reports.

# Agenda

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1. DCMA 14 Point Assessment
2. DCMA's new DECM Assessment
3. Advanced Capabilities in Metrics
4. Q&A



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# DCMA 14 Point

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# DCMA 14 Point

- » Now getting old (20 years?)
- » For activities in the baseline, this looks at :
  1. **Logic**
  2. **Leads**
  3. **Lags**
  4. **Relationship Types**
  5. **Hard Constraints**
  6. **High Float**
  7. **Negative Float**
  8. **High Duration**
  9. **Invalid Dates**
  10. **Resources**
  11. **Missed Tasks**
  12. **Critical Path Test**
  13. **Critical Path Length Index (CPLI)**
  14. **Baseline Execution Index (BEI)**

# DCMA Update

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- » DCMA moved from 14 points to EVAS to DECM which has currently 141 metrics that look at everything from basic schedule quality to cost/schedule integration to how well your accounting system matches your EVMS.
- » Guideline 6 looks at Planning and covers most of the of the original metric areas although they got rid of some.
- » DCMA experience with 14 point assessment:
  - » Drove bad behavior rather than proper planning – people added logic to beat the metric rather than spending the time to get the logic right.
  - » They are having the terminology removed from current PASEG (Planning and Scheduling Excellence Guide)

# DECM Guideline 06 - Planning

06A101a	<b>Does each discrete WP, PP and SLP have task(s) represented in the IMS?</b>	06A401a	Does the schedule tool produce a critical path that represents the longest total duration with the least amount of total float?
06A102a	Are authorized risk mitigation activities incorporated into the IMS as required by the process instructions?	06A401b	Are key contractual milestones and events identified in the IMS?
06A204b	<b>Are there open starts or finishes (“dangling logic”) in the schedule?</b>	06A501a	<b>In the IMS, do all of the tasks/activities &amp; milestones have baseline start and baseline finish dates?</b>
06A205a	Are lags used in the schedule?	06A504a	<b>Are actual start dates changed after first reported?</b>
06A208a	Do summary tasks in the schedule have logic applied?	06A504b	<b>Are actual finish dates changed after first reported?</b>
06A209a	Are schedule network constraints limited?	06A505a	<b>Do all in progress activities have actual start dates?</b>
06A210a	<b>Do LOE tasks/activities have discrete successors?</b>	06A505b	<b>Do all complete tasks/activities have actual finish dates?</b>
06A211a	Is high float rationale/justification acceptable?	06A506a	<b>Are actual start and actual finish dates valid for all tasks/activities &amp; milestones in the IMS?</b>
06A212a	<b>Are there out of sequence tasks/activities &amp; milestones?</b>	06A506b	<b>Are forecast start and finish dates valid for all tasks/activities &amp; milestones in the IMS?</b>
06A301a	Are lower level baseline and forecast dates traceable to, and not outside, the corresponding higher level dates in the IMS?	06A506c	<b>Are forecast start/finish dates riding the status date of the IMS for two consecutive months?</b>
06A301b	Does the IMS baseline finish date align with contractual/CLIN finish (POP) date?	06I101b	Do schedule margin tasks represent risk impact to subsequent significant events/milestones?
		06I201a	Are Schedule Visibility Tasks (SVTs) identified and controlled in the IMS?





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# DCMA DECM Assessment

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Formerly known as EVAS





# DECM vs 14 Points

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- » More than half of DECM metrics require manual input to compare either contract, SOW or System Description to how the work is organized and managed
- » More data (61 artifacts) used in the DECM metrics:
  - » 02 Accounting/Fiscal Calendar
  - » 03 EVM System Description
  - » 04 Contract Statement of Work
  - » 05 Contract Work Breakdown Structure Dictionary
  - » 06 Contractual Documents
  - » 07 Organization Breakdown Structure
  - » 08 Control Account Plans
  - » 09 Work Authorization Documentation (WAD)
  - » 10 Integrated Master Plan
  - » 11 Integrated Master Schedule (IMS)
  - » 12 Program Critical Path
  - » 13 EV Cost Tool Data

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# Advanced Capabilities in Metrics

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# FUSE Enhancements to support DECM

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- » Project Variables
- » Calculated Fields
- » Control Account and Work Package Data
- » WAD Data
- » Reports and the Publish flag

# Project Variables

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- » DECM has many metrics that are all or part manual.
- » Project Variables allow you to enter user value for each project/snapshot and use those in metrics.
- » E.g. DECM Metric 01A201a Complete SOW in WBS (M)
  - » X = Count of sampled SOW paragraphs identifying scope that are not in the WBS
  - » Y = Total count of sampled SOW paragraphs identifying scope.
  - » Threshold  $X/Y = 0\%$

## » Define project variables

Project Variables	
<div><div><div>_01A101b_X</div><div><b>_01A201a_X</b></div><div>_01A201a_Y</div><div>_02A101a_X</div><div>_02A101a_Y</div></div><div></div></div>	<div><div><div><div><b>_01A201a_X</b></div></div><div><div>Name</div><div><input type="text" value="_01A201a_X"/></div></div><div><div>Description</div><div><input type="text" value="01A201a: X = Count of sampled SOW paragraphs identifying scope that are not in the WBS"/></div></div><div><div>Type</div><div><input type="text" value="Number"/></div></div></div></div>

## » Define the metric to use them

»  $\text{IF}(\_01A201a\_X < 0, -0.01, \text{IF}((\_01A201a\_X < \_01A201a\_Y), (\_01A201a\_X / \_01A201a\_Y), -0.01))$

# Calculated Fields

- » Calculated fields were added as a way to rollup or down, values between Activities, Work Packages and Control Accounts
- » Calculated fields are defined at a level, Activities, Work Packages and Control Accounts
- » Calculated fields use Excel formulas just like metrics and have access to any Excel function plus fields at the level they are defined.

The screenshot shows a software interface for defining calculated fields. On the left, a list titled 'Calculated Fields' contains several items: ActMaxEFinish, ActMinEStart, ActMinEStart (highlighted), ActOBS, ActOBS\_Diff, ActPPC, ActProjTNow, and ActWBS. The main area on the right is titled 'ActMinEStart' and contains the following fields:

Name	Description	Operates On
ActMinEStart	Earliest Early Start from Activities	Activities

Below the table, there is a 'Formula' field containing the text: `MIN(ACT(EarlyStart))`.

On the right side of the main area, there are two buttons: 'Validate' and 'Insert Field'.

# Calculated Fields

- » Calculate Fields allow you to put logic in once place and use it in multiple places in either filters or formulas.
- » This a DECM assumption about Control Accounts

The screenshot shows a software interface for defining calculated fields. On the left is a list of fields: CA\_CPIcum, CA\_ID, CA\_Not\_Complete (highlighted), CA\_Not\_Complete\_Dates, CA\_Progress\_15\_95, CA\_TCPleac, CA\_TP\_Bcws\_Finish, CA\_TP\_Bcws\_Start, and CA\_TP\_Etc\_Finish. The main area is titled 'CA\_Not\_Complete' and contains the following fields:

Name	Description	Operates On
CA_Not_Complete	DCMA Assumption for Incomplete Control Accounts	Control Accounts

Below this is a 'Formula' field containing the following logic:

```
IF (
  ( ABS(CA(Bac) - CA(BcwpCumulative)) >= 100)
  + (ABS(CA(BacHours) - CA(BcwpCumulativeHours)) >= 1) >= 1)
, 1, 0
)
+N("1 = Not complete")
+N("0 = Complete")
```

On the right side, under 'Actions', there are two buttons: 'Validate' and 'Insert Field'.

- » It is used in many metrics providing reuse of code



# Calculated Fields

**Name:** 06A101a CA SLPP Have Tasks V3.3 **ID:** 06A101a CA

**Description:** 06A101a CA: Does each discrete WP, PP and SLPP have task(s) represented in the IMS?

**Remarks:**  
X = Count of incomplete discrete WPs, PPs and SLPPs in the EV cost tool that are not in the IMS.  
Y = Count of all incomplete discrete WPs, PPs, and SLPPs in the cost system.

**Metric Type:** ActivityCount ☒ Applies to Ribbons ☐ Applies to Phases ☐ Applies to Intersections ☒ Include in new Workbook ☒ Publish Metric

**Primary Formula:** ☒ **Secondary Formula:** ☒ **Tripwire Formula:** ☒ **Secondary Tripwire Formula:** ☐ **Tripwire Thresholds:** ☐ **Define Columns:** ☐ **Detailed Report:** ☐

**Inclusions**

**Control Account Status**  
☒ Planned  
☒ In Progress  
☐ Complete

**Time Phase**  
☒ All  
☐ Start  
☐ Finish

**Prorating**  
☐ Off  
☒ On

**Filters** Add Remove

Field	Op	Field or Value
CA_Not_Complete	=	1
Act_WP_AFinish	>	0

**Formula** Basic Advanced

**Formula**  
Sum(  
If(ActivityCount=0, 1, 0)  
)

**Actions**  
Check Formula  
Insert Fields

Formula Format: None

V3.6.0 x64

# Control Account, Work Package and WAD Data

- » You can load Cost Data, CA/WP, from Cobra DCDE files or a Deltek CSV formats

» WAD

» These cost

The screenshot shows the 'Import Cost Data' dialog box in the top right corner, titled 'Cost Data Import Wizard'. Below it is the 'Activities - SHIP2' window. The window has a 'Filters' section and a table with columns: Timeline, Id, Description, Start, Finish, Remaining..., and Gantt Chart. The table lists activities for the SHIP2 Project, including Key Plans, Develop Hull System, Develop Propulsion, and Develop Mission System. To the right of the table is a Gantt Chart showing the timeline for each activity. Below the table is a section for '1.1.1 / 1.ENG.CLARK - Key Plans' with tabs for Resource Assignments, Risk Events, Control Accounts / Work Packages, Elements Of Cost, and WAD. The 'Control Accounts / Work Packages' tab is active, showing a table with columns: General, Status, Cobra Status, Relationships, Duration Uncertainty, Cost Uncertainty, Cost, and Cobra Cost. The table contains one row for the activity '1.1.1 / 1.ENG.CLARK - Key Plans'.

Timeline	Id	Description	Start	Finish	Remaining...	Gantt Chart
	SHIP2	SHIP2 Project	1/1/2020	12/15/2020	206d	
	1.1.1 / 1.ENG.CLARK	Key Plans	1/1/2020	7/8/2020	93d	
	1.1.1.1	Develop Hull System	1/1/2020	3/24/2020	17d	
	1.1.1.2	Develop Propulsion	3/25/2020	5/19/2020	40d	
	1.1.1.3	Develop Mission System	5/20/2020	7/8/2020	36d	
	1.1.3 / 1.ENG.CLARK	3D Modeling	1/1/2020	8/11/2020	117d	

General	Status	Cobra Status	Relationships	Duration Uncertainty	Cost Uncertainty	Cost	Cobra Cost
Id	1.1.1 / 1.ENG.CLARK						
Project	SHIP2						
Type	Control Account						
Manager	JACK						

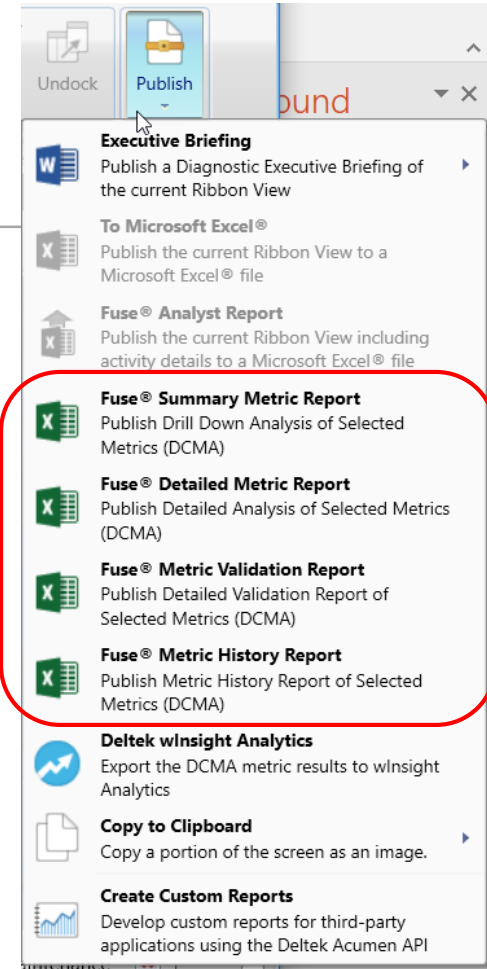
# Reports and the Publish flag

» We added a Publish flag to metrics in 8.0 and control over what fields are published.

The screenshot displays the configuration window for a metric. The 'Name' field is '06A101a CA SLPP Have Tasks V3.3' and the 'Id' is '06A101a CA'. The 'Description' is '06A101a CA: Does each discrete WP, PP and SLPP have task(s) represented in the IMS?'. The 'Remarks' section contains two lines: 'X = Count of incomplete discrete WPs, PPs and SLPPs in the EV cost tool that are not in the IMS' and 'Y = Count of all incomplete discrete WPs, PPs, and SLPPs in the cost system.' The 'Metric Type' is set to 'ActivityCount'. Below this, there are several checkboxes: 'Applies to Ribbons' (checked), 'Applies to Phases' (unchecked), 'Applies to Intersections' (unchecked), 'Include in new Workbook' (checked), and 'Publish Metric' (checked). The 'Publish Metric' checkbox is circled in red. Below the checkboxes are tabs for 'Primary Formula', 'Secondary Formula', 'Tripwire Formula', 'Secondary Tripwire Formula', 'Tripwire Thresholds', 'Define Columns', and 'Detailed Report'. The 'Define Columns' tab is active, showing a list of fields: 'Field', 'Id', 'Description', 'Project', 'Baseline Start', 'Baseline Finish', 'Status', 'Bac', and 'Bac Hours'. There are 'Add', 'Remove', 'Clear', and 'Default' buttons above the list. On the right side of the list, there are up and down arrow buttons for reordering.

# Reports and the Publish flag

- » New reports use the publish flag to determine what to include
  - » Fuse Summary Metric Report
  - » Fuse Detailed Metric Report
  - » Fuse Metric Validation Report
  - » Fuse Metric History Report





# Reports and the Publish flag – Detailed Report



Detailed Me

Include In Repo

Fuse® Detailed Metric Report														
Version 3.4 Metrics 8.6 - 154 Activities														
Detailed Metric Report - SHIP														
Created on: 9/14/2019														
Created by: RobertEdwards														

# Reports and the Publish flag - Validation Report

Select a project									
SHIP									
SHIP1									
SHIP2									
1 Fuse® Metric Validation Report					1 Fuse® Metric Validation Report				
2 Version 3.4 Metrics 8.6 - 154 Activities					2 Version 3.4 Metrics 8.6 - 154 Activities				
3 Validation Summary - SHIP2					3 Validation Summary -> 03A101e				
4 Created on: 9/14/2019					4 Created on: 9/14/2019				
5 Created by: RobertEdwards					5 Created by: RobertEdwards				
6					6				
7 Metric ID Metric Name Primary Secondary					7 03A101e WP EV %C (IMS vs EV Tool) V3.				
8 01A101b 01A101b Single Product-Oriented WBS (M) V3.3 -1 -1					8 03A101e: • Does discrete WP EV percent complete S 17%				
9 01A201a 01A201a Complete SOW in WBS (M) V3.3 -1 -1					9 Metric Trip Control Account Id Id Description Project				
10 02A101a 02A101a Single OBS (M) V3.3 -1 -1					10 FALSE 1.1.1 / 1.ENG.CLARK 1.1.1.1 Develop Hull Systems SHIP2				
11 02A102a 02A102a Major Subs Identified (M) V3.3 -1 -1					13 FALSE 1.1.1 / 1.ENG.CLARK 1.1.1.2 Develop Propulsion Systems SHIP2				
12 03A101a 03A101a CA PoP (IMS vs WAD) V3.4 0 0					16 FALSE 1.1.1 / 1.ENG.CLARK 1.1.1.3 Develop Mission Systems SHIP2				
13 03A101c 03A101c CA BAC (WAD vs EV Tool) V3.4 -6 100					19 FALSE 1.1.3 / 1.ENG.CLARK 1.1.3.1 3D Modeling Zone 1 SHIP2				
14 03A101e 03A101e WP EV %C (IMS vs EV Tool) V3.4 5 17					22 FALSE 1.1.3 / 1.ENG.CLARK 1.1.3.2 3D Modeling Zone 2 SHIP2				
15 03A101f 03A101f WP PoP (IMS vs EV Tool) V3.4 9 35					25 FALSE 1.1.4 / 1.ENG.SCHULTZ 1.1.4.101 2D Extraction Unit 101 SHIP2				
16 03A101g 03A101g CA PoP (WAD vs EV Tool) V3.4 0 0					28 FALSE 1.1.4 / 1.ENG.SCHULTZ 1.1.4.102 2D Extraction Unit 102 SHIP2				
17 03A101h 03A101h CA OBS (IMS vs EV Tool) V3.4 0 0					31 FALSE 1.1.4 / 1.ENG.SCHULTZ 1.1.4.103 2D Extraction Unit 103 SHIP2				
18 03A101i 03A101i CA WBS (IMS vs EV Tool) V3.3 0 0					34 TRUE 1.2.A.101 / 1.MFG.FRM1 1.2.A.101.02 Assemble Steel SHIP2				
19 03A102a 03A102a CA EVM (Sub vs Prime) (M) V3.3 -1 -1					37 FALSE 1.2.A.101 / 1.MFG.FRM1 1.2.A.101.06 Install Pipe SHIP2				
20 03A103a 03A103a Forecast Dates (Sub vs Prime) (M) V3.3 -1 -1					40 FALSE 1.2.A.101 / 1.MFG.FRM1 1.2.A.101.07 Install Equipment SHIP2				
21 03A103b 03A103b Baseline Dates (Sub vs Prime) (M) V3.3 -1 -1					43 FALSE 1.2.A.101 / 1.MFG.FRM1 1.2.A.101.09 Install Vents SHIP2				
22 04A101a 04A101a Indirect Cost Management (M) V3.3 -1 -1					46 FALSE 1.2.A.101 / 1.MFG.FRM1 1.2.A.101.20 Install Fdns SHIP2				
23 05A101a 05A101a CA Single OBS V3.3 0 0					49 TRUE 1.2.A.102 / 1.MFG.FRM1 1.2.A.102.02 Assemble Steel SHIP2				
24 05A102a 05A102a CA Single CAM V3.3 0 0					52 FALSE 1.2.A.102 / 1.MFG.FRM1 1.2.A.102.06 Install Pipe SHIP2				
25 05A103a 05A103a CA Single WBS V3.3 0 0					55 FALSE 1.2.A.102 / 1.MFG.FRM1 1.2.A.102.07 Install Equipment SHIP2				
26 06A101a 06A101a WP/PP Have Tasks V3.3 -7 21					58 FALSE 1.2.A.102 / 1.MFG.FRM1 1.2.A.102.09 Install Vents SHIP2				
27 06A101a-CA 06A101a CA SLPP Have Tasks V3.3 0 0					61 FALSE 1.2.A.102 / 1.MFG.FRM1 1.2.A.102.20 Install Fdns SHIP2				
28 06A101a-WP 06A101a WP/PP Have Tasks V3.3 0 0					64 TRUE 1.2.A.103 / 1.MFG.FRM2 1.2.A.103.02 Assemble Steel SHIP2				
29 06A102a 06A102a Risk Mitigation in IMS (M) V3.3 -1 -1					67 FALSE 1.2.A.103 / 1.MFG.FRM2 1.2.A.103.06 Install Pipe SHIP2				
30 06A204b 06A204b Act Open Starts or Finishes V3.4 5 16					70 FALSE 1.2.A.103 / 1.MFG.FRM2 1.2.A.103.07 Install Equipment SHIP2				
31 06A205a 06A205a Act Lags V3.3 0 0					73 FALSE 1.2.A.103 / 1.MFG.FRM2 1.2.A.103.09 Install Vents SHIP2				
32 06A208a 06A208a Act Summary Logic V3.3 5 31					76 FALSE 1.2.A.103 / 1.MFG.FRM2 1.2.A.103.20 Install Fdns SHIP2				
33 06A209a 06A209a Act Hard Constraints (OPP and P6) V3.3 0 0					79 FALSE 1.2.F.06 / 1.MFG.FRM3 1.2.F.06.101 Fab Pipe for unit 101 SHIP2				
Validation-Summary 01A101b 01A201a 02A101a 02A102a 03A101a 03A101c 03A101e					Validation-Summary 01A101b 01A201a 02A101a 02A102a 03A101a 03A101c 03A101e				



# Reports and the Publish flag - History Report

	A	B	C	D	E	F	G	H	I	J	K
1	<b>Fuse® Metric History Report</b>										
2	Version 3.4 Metrics 8.6 - 154 Activities										
3	Metric History										
4	Created on: 9/14/2019										
5	Created by: RobertEdwards										
6			SHIP (1/1/2020 8:00:00 AM)			SHIP1 (2/3/2020 8:00:00 AM)			SHIP2 (3/2/2020 8:00:00 AM)		
7	<b>Metric ID</b>	<b>Metric Name</b>	<b>Failed</b>	<b>X</b>	<b>%</b>	<b>Failed</b>	<b>X</b>	<b>%</b>	<b>Failed</b>	<b>X</b>	<b>%</b>
8	01A101b	01A101b Single Product-Oriented WBS (M) V3.3	-	-1	-1%	-	-1	-1%	-	-1	-1%
9	01A201a	01A201a Complete SOW in WBS (M) V3.3	-	-1	-1%	-	-1	-1%	-	-1	-1%
10	02A101a	02A101a Single OBS (M) V3.3	-	-1	-1%	-	-1	-1%	-	-1	-1%
11	02A102a	02A102a Major Subs Identified (M) V3.3	-	-1	-1%	-	-1	-1%	-	-1	-1%
12	03A101a	03A101a CA PoP (IMS vs WAD) V3.4	T	3	38%	F	0	0%	F	0	0%
13	03A101c	03A101c CA BAC (WAD vs EV Tool) V3.4	T	6	100%	T	6	100%	T	6	100%
14	03A101e	03A101e WP EV %C (IMS vs EV Tool) V3.4	F	0	0%	T	5	17%	T	5	17%
15	03A101f	03A101f WP POP (IMS vs EV Tool) V3.4	T	10	37%	T	9	32%	T	9	35%
16	03A101g	03A101g CA PoP (WAD vs EV Tool) V3.4	T	2	33%	F	0	0%	F	0	0%
17	03A101h	03A101h CA OBS (IMS vs EV Tool) V3.4	F	0	0%	F	0	0%	F	0	0%
18	03A101i	03A101i CA WBS (IMS vs EV Tool) V3.3	F	0	0%	F	0	0%	F	0	0%
19	03A102a	03A102a CA EVM (Sub vs Prime) (M) V3.3	-	-1	-1%	-	-1	-1%	-	-1	-1%
20	03A103a	03A103a Forecast Dates (Sub vs Prime) (M) V3.3	-	-1	-1%	-	-1	-1%	-	-1	-1%
21	03A103b	03A103b Baseline Dates (Sub vs Prime) (M) V3.3	-	-1	-1%	-	-1	-1%	-	-1	-1%
22	04A101a	04A101a Indirect Cost Management (M) V3.3	-	-1	-1%	-	-1	-1%	-	-1	-1%
23	05A101a	05A101a CA Single OBS V3.3	F	0	0%	F	0	0%	F	0	0%
24	05A102a	05A102a CA Single CAM V3.3	F	0	0%	F	0	0%	F	0	0%
25	05A103a	05A103a CA Single WBS V3.3	F	0	0%	F	0	0%	F	0	0%
26	06A101a	06A101a WP/PP Have Tasks V3.3	T	9	25%	T	7	20%	T	7	21%
27	06A101a CA	06A101a CA SLPP Have Tasks V3.3	F	0	0%	F	0	0%	F	0	0%
28	06A101a WP	06A101a WP/PP Have Tasks V3.3	F	0	0%	F	0	0%	F	0	0%