New to ACEIT - 7.3 Lessons Learned

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Agenda

- Background
- Lessons learned from recent study on ACEIT methodology
  - Learning to use ACEIT
  - Identifying best practices
  - Strategies for validating an ACEIT file
- First uses of ACEIT 7.3 (Lessons learned as a new user)
- Turning lessons learned into best practices
- Summary and Questions

Background

Background and Environment (1 of 2)

Assessing the needs of the organization (ODASA-CE):

- Many first-users of new ACEIT tools
- Wide variety of estimate types and purposes
- Estimates have less detail than Program Office Estimate
- Methodology must be open (easily understood) and transferrable

Background and Environment (2 of 2)

Assessing the needs of the organization (ODASA-CE):

- We review ACEIT cost estimates from a wide variety of organizations
- Continuous improvement plans (best practices)
- Informal best practices among teams
  - Tended to follow ACEIT “101”
  - Differences between commodity groups
  - Differences in documentation standards

Methodology Study (Background)

- Methodology refers to modeling methodology, not cost estimating methodology

Conducted a study of 60+ ACEIT Component Cost Analyses (CCAs) done since 2000:

- Used new users with few preconceptions on “what right looks like”

- Began as a study of methodology

- Follow-up study into documentation

- Identified “world-class examples” (best practices) that should be developed as examples

Lessons Learned from Recent Methodology Study

Lessons Learned from Methodology Study

Bottom line up front - New users learned ACEIT by:

- Taking ACEIT 101 and other formal courses for the basic functionality of ACEIT, i.e. time-phasing and WBS
- Observing and referring to the ACEIT files of others
  - Suggests a internal peer-development program
  - Identify or develop “world-class” estimates
- Using ACE help (examples)
- Asking someone

Lessons Learned from Methodology Study

Use the most recent (7.3) functions and features as much as possible:

- Users reuse the same toolset they used in the past
- More internal demonstrations on new tools/techniques
- Consider the target population
  - UDFs, DECs
  - Complexity
  - External spreadsheets, plug-ins, default values

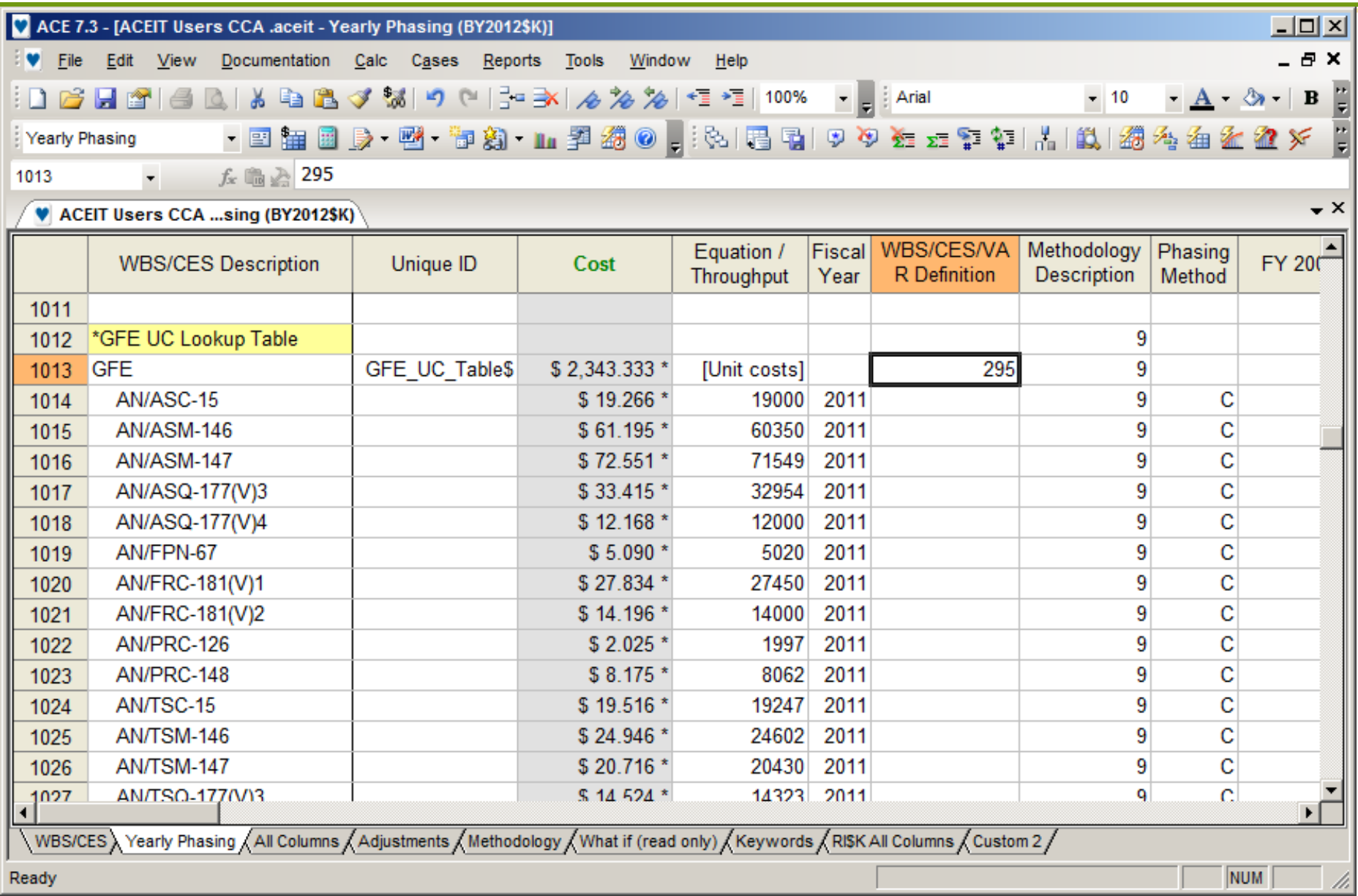
Lessons Learned from Methodology Study

Use effective documentation:

- Raw data vs. complex equations vs. parent sums
- Results lines and frequently reused variables require different documentation than “one-time use” variables
- Identify blocks of methodology that have inputs and outputs and write one statement for the whole thing
- Mention line numbers explicitly in the documentation
- Documentation is a best practices issue

Effective Documentation (1 of 4)

Block documentation



Effective Documentation (2 of 4)

Block documentation

ACE 7.3 - [ACEIT Users CCA 2.aceit - Methodology Definition (ID: 9)]

File Edit View Insert Format Tools Table Window Help

Times New Roman 10

ACEIT Users CCA ...lumns (BY2012$K) | ACEIT Users CCA 2....efinition (ID: 9)

Lines 1012 through 1090 are the lookup table for the GFE.

Equipment list is from CARD Annex A 12 AUG 2010.
Column 2012 indicates the cost in $K.
The corresponding NSNs are shown below with the cost from DLA Parts Catalog dated Aug 2011.
Costs in $K.

AN/ASC-15	123-534-1243285	$ 19.266
AN/ASM-146	123-534-1242856	$ 61.195
AN/ASM-147	123-534-1537567	$ 72.551
AN/ASQ-177(V)3	123-534-1063345	$ 33.415
AN/ASQ-177(V)4	123-534-2653478	$ 12.168
AN/FPN-67	123-534-3532458	$ 5.090
AN/FRC-181(V)1	123-534-5475886	$ 27.834
AN/FRC-181(V)2	123-534-6789900	$ 14.196
AN/PRC-126	123-534-4878676	$ 2.025
AN/PRC-148	123-534-1276481	$ 8.175
AN/TSC-15	123-534-3247635	$ 19.516
AN/TSM-146	123-534-3478867	$ 24.946
AN/TSM-147	123-534-8478648	$ 20.716
AN/TSQ-177(V)3	123-534-4675688	$ 14.524
AN/TSQ-177(V)4	123-534-1243285	$ 2.083
AN/TPN-67	123-534-1063345	$ 0.640
AN/VSC-15	123-534-5475886	$ 15.732
AN/VSM-146	123-534-1254654	$ 1.977

Effective Documentation (3 of 4)

Just verify the results ("Black Box" Areas)

ACEIT Users CCA...mns (BY2012$K)

ACEIT Users CCA 2.aceit - All Columns (BY2012$K)

	WBS/CES Description	Unique ID	Methodology Description	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
136										
137										
138	* Quantity AREA Next 60 lines are the quantity calculations		1							
139	* User can just validate the next 10 lines									
140	* The other 50 lines were used for a sequence of "What-ifs"									
141										
142	Proc QTY	Proc_QTY	1	100	150	150	150	150	150	150
143	M121	Proc_QTY_M121	1							
144	M122	Proc_QTY_M122	1		50	50	50	50	50	50
145	M123	Proc_QTY_M123	1	50	50	50				
146	M124	Proc_QTY_M124	1				50	50	50	50
147	M125	Proc_QTY_M125	1				50	50	50	
148	M126	Proc_QTY_M126	1							
149	M127	Proc_QTY_M127	1	50	50	50				50
150										
151	Proc Quantity Mod 1 (does not add to the QTYs above)									
152										
153	M121 QTY Requirements									
154	M121									
155	! M121 RDTE									
156	M121 Unfunded									
157	! M121 Non-Army									
158	M121A1									
159	Type 1 Mod 1 RDTE									

Ready

ACE 7.3 - [ACEIT Users CCA 2.aceit - Methodology Definition (ID: 1)]

File Edit View Insert Format Tools Table Window Help

Times New Roman 10

ACEIT Users CCA ...lumns (BY2012$K) | ACEIT Users CCA 2....efinition (ID: 1)

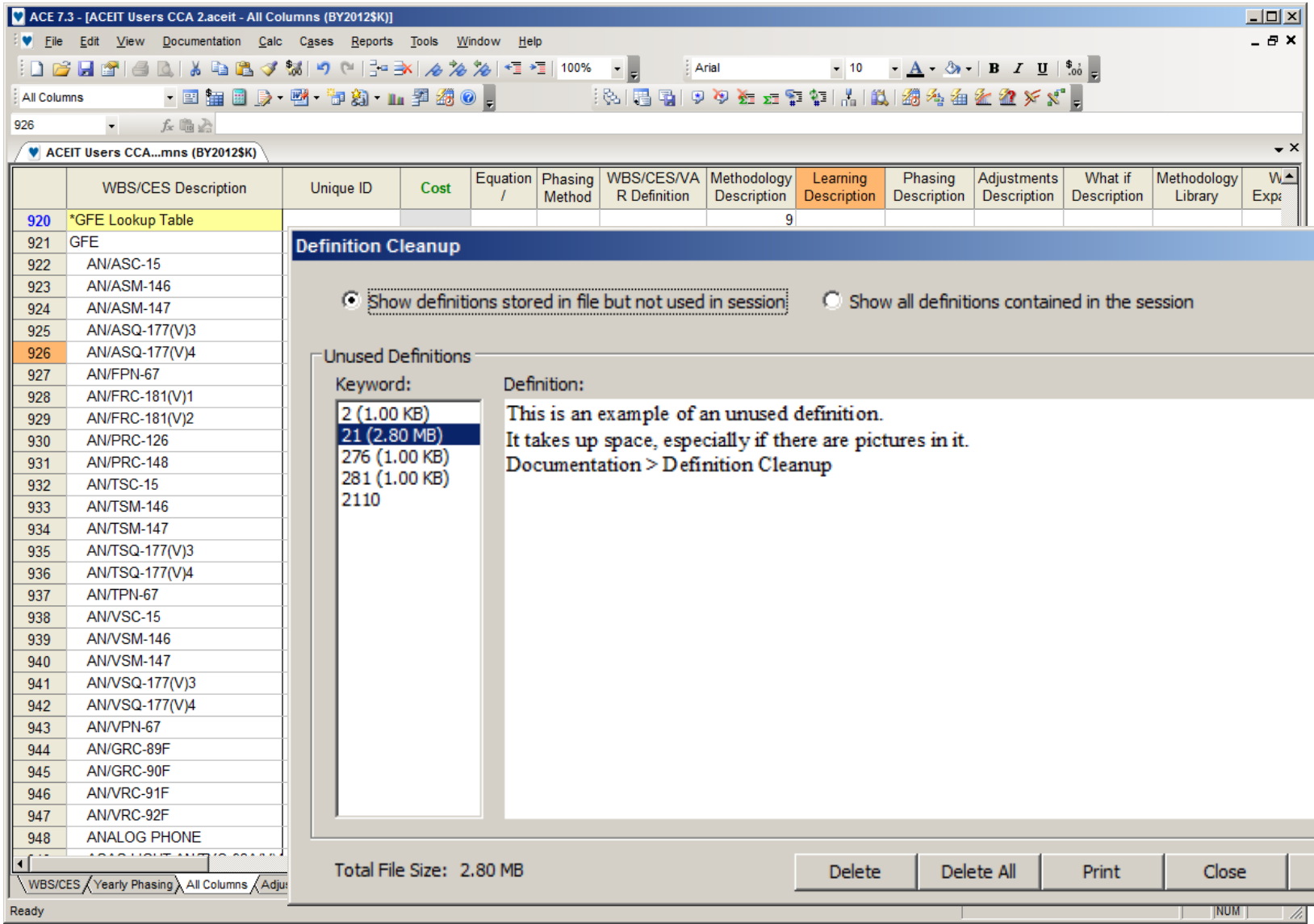
Procurement quantites Proc_QTY_xxx are from July 10, 2005 CARD.
Top 8 lines are the results and these lines should be verified.
The remaining 60 lines are for "what if" drills, that only feed the totals and are not used outside the top lines 142-14

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
TOTAL	100	150	150	150	150	150	150
M121		50	50	50	50	50	50
M122	50	50	50				

Effective Documentation (4 of 4)

Definition Cleanup reduces file size

In several files, file size was reduced more than 1MB



Lessons Learned from Methodology Study

First impressions on documentation and organization are difficult to overcome:

- Warning messages are important
- Explain complicated formulas
- Guide to the ACEIT file is important (READ MEs)
  - Purpose of the file
  - Context of the file
  - Flow

Lessons Learned from Methodology Study

Naming conventions are not as important as thought:

- Most users did follow conventions from ACEIT 101
- Overcame variations from standard naming conventions
- Internal consistency within a file is very important
- That being said, its pretty easy and fast to use "Edit > Replace Unique ID"

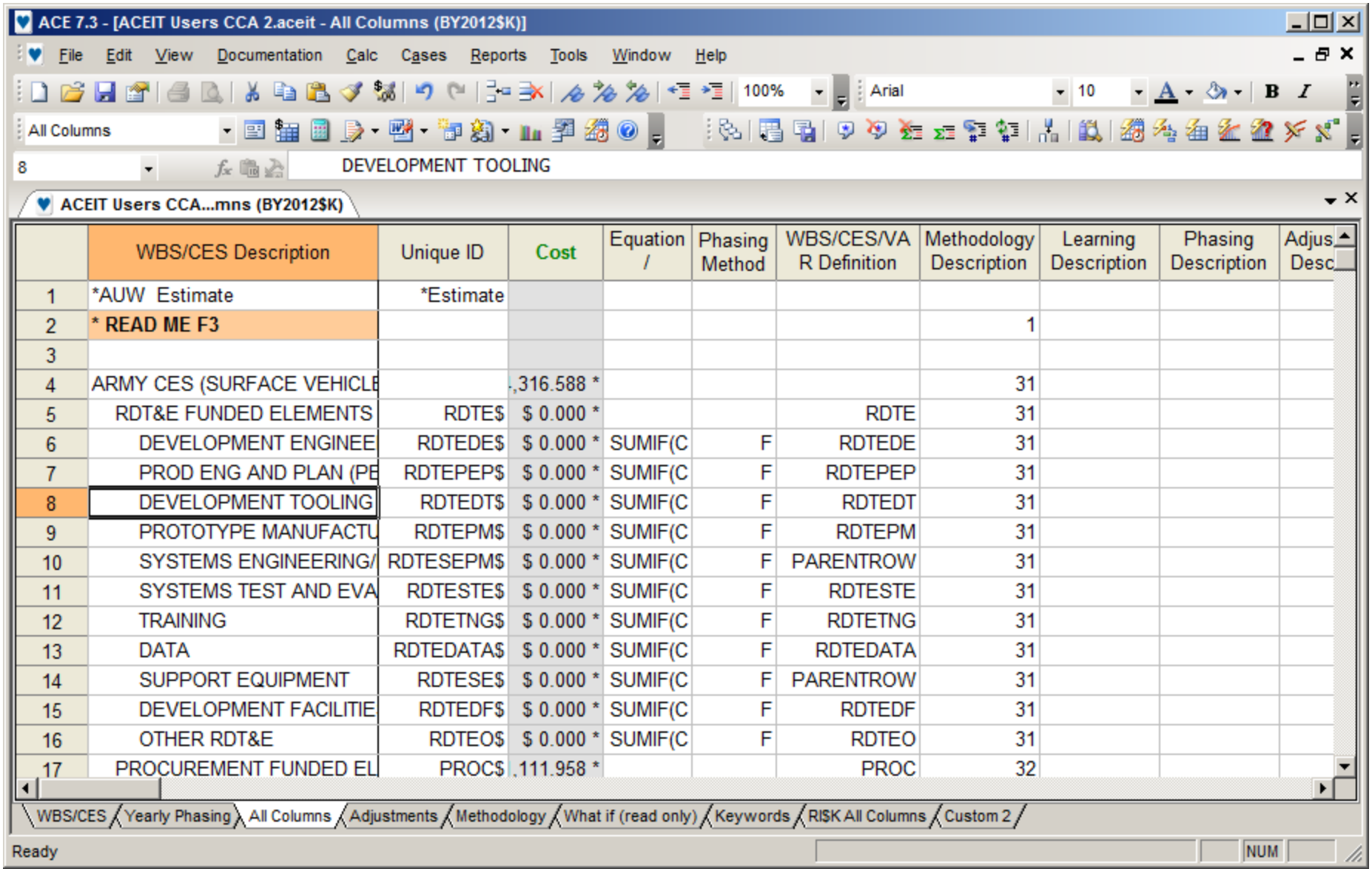
Lessons Learned from Methodology Study

Most of the new users reviewed a file the same way:

- Worked backwards from the top
  - Results oriented
  - Bypassed areas of the file that are not critical to understanding the end product
- Look for things the writer wanted you to know
- Traceback navigator (see the new capabilities)
- Reports > ACE Narrative (data is not always filled in)
- Validating the results of a block of “code”
- Unload documentation (Documentation > Unload)

Examples (1 of 4)

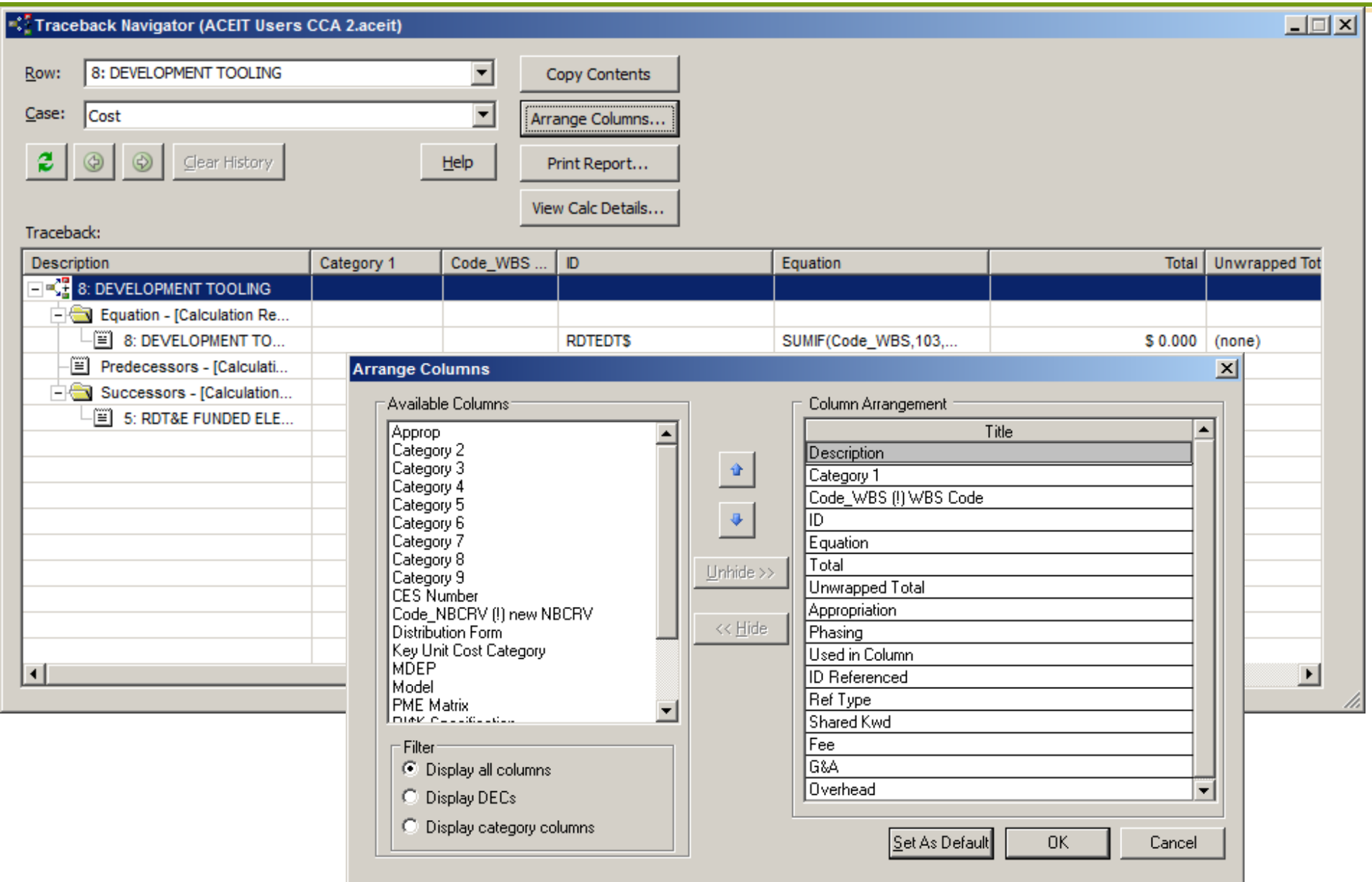
Look for things the writer wants you to know



	WBS/CES Description	Unique ID	Cost	Equation /	Phasing Method	WBS/CES/VAR Definition	Methodology Description	Learning Description	Phasing Description	Adjus Desc
1	*AUW Estimate	*Estimate								
2	* READ ME F3						1			
3										
4	ARMY CES (SURFACE VEHICLE		,316.588 *				31			
5	RDT&E FUNDED ELEMENTS	RDTE$	$ 0.000 *			RDTE	31			
6	DEVELOPMENT ENGINEE	RDTEDE$	$ 0.000 *	SUMIF(C	F	RDTEDE	31			
7	PROD ENG AND PLAN (PE	RDTEPEP$	$ 0.000 *	SUMIF(C	F	RDTEPEP	31			
8	DEVELOPMENT TOOLING	RDTEDT$	$ 0.000 *	SUMIF(C	F	RDTEDT	31			
9	PROTOTYPE MANUFACTU	RDTEPM$	$ 0.000 *	SUMIF(C	F	RDTEPM	31			
10	SYSTEMS ENGINEERING/	RDTESEPM$	$ 0.000 *	SUMIF(C	F	PARENTROW	31			
11	SYSTEMS TEST AND EVA	RDTESTE$	$ 0.000 *	SUMIF(C	F	RDTESTE	31			
12	TRAINING	RDTETNG$	$ 0.000 *	SUMIF(C	F	RDTETNG	31			
13	DATA	RDTEDATA$	$ 0.000 *	SUMIF(C	F	RDTEDATA	31			
14	SUPPORT EQUIPMENT	RDTESE$	$ 0.000 *	SUMIF(C	F	PARENTROW	31			
15	DEVELOPMENT FACILITIE	RDTEDF$	$ 0.000 *	SUMIF(C	F	RDTEDF	31			
16	OTHER RDT&E	RDTEO$	$ 0.000 *	SUMIF(C	F	RDTEO	31			
17	PROCUREMENT FUNDED EL	PROC$	,111.958 *			PROC	32			

Examples (2 of 4)

Traceback navigator has new features



Examples (3 of 4)

Validating “Black-box” areas

ACEIT Users CCA...mns (BY2012$K)

ACEIT Users CCA 2.aceit - All Columns (BY2012$K)

	WBS/CES Description	Unique ID	Methodology Description	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
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143	M121	Proc_QTY_M121	1							
144	M122	Proc_QTY_M122	1		50	50	50	50	50	50
145	M123	Proc_QTY_M123	1	50	50	50				
146	M124	Proc_QTY_M124	1				50	50	50	50
147	M125	Proc_QTY_M125	1				50	50	50	
148	M126	Proc_QTY_M126	1							
149	M127	Proc_QTY_M127	1	50	50	50				50
150										
151	Proc Quantity Mod 1 (does not add to the QTYs above)									
152										
153	M121 QTY Requirements									
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158	M121A1									
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Ready

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File Edit View Insert Format Tools Table Window Help

Times New Roman 10 B I U

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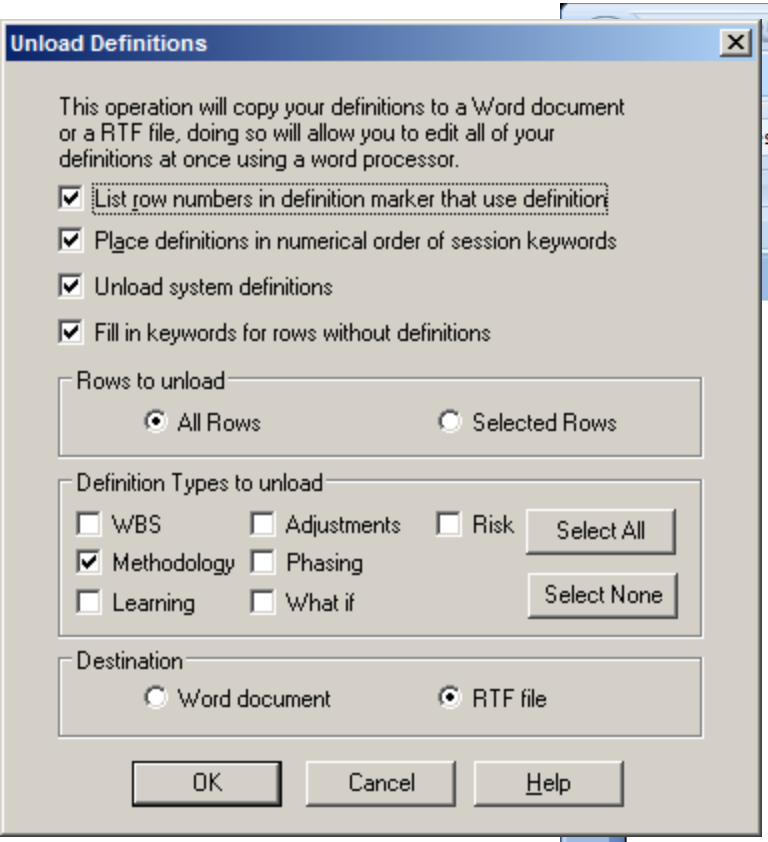
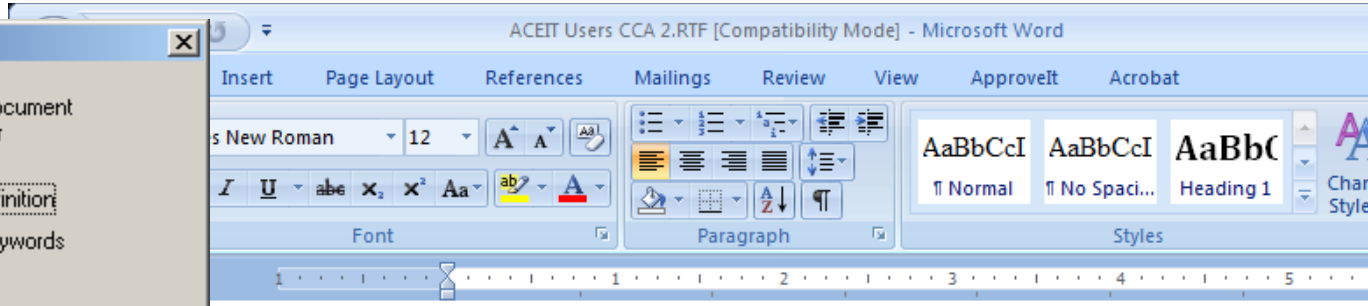
TOTAL	100	150	150	150	150	150	150
M121		50	50	50	50	50	50
M122	50	50	50				

Examples (4 of 4)

"Unloaded" documentation





<ACEIT-DEFINITION 9 ON ROW 23, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101>

Lines 1012 through 1090 are the lookup table for the GFE.

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AN/FRC-181(V)1	123-534-5475886	$27.834
AN/FRC-181(V)2	123-534-6789900	$14.196

First Uses of ACEIT 7.3

(Lessons Learned as a New User)

First Uses of 7.3 Features (Introduction)

This next section goes beyond the study. We saw that users look for examples and preferred the examples they are most familiar with. Tangible examples were also preferred. When they cannot find a suitable example within the organization, we call this a first use. Typically, examples from the ACEIT Help > Example files are used. This section deals with a few examples for the purposes of developing best practices.

First Uses of 7.3 Features (Background)

Highlights of 7.3 typically focus on improvements and new features:

- Session Building: WBS Builder, Monthly inputs, RI$K Wizard
- Session Analysis: Improved Traceback Navigator
- Reporting in ACE: New Chart Options
- CO$TAT: Distribution Finder, Stepwise Analysis

Should build these into your training plan

First Uses of 7.3 Features (Examples)

Examples of first uses within an organization:

- Examples are from an estimate I did shortly after ACEIT 7.3 was released
- The estimate required matrix calculations with no good examples
- Used the Help files and tested the results out to see whether they really work
- These became files other people referred to use the “new” feature.
  - Should document equations as a “new” feature
  - Should be referenced

First Uses of 7.3 Features (Matrices)

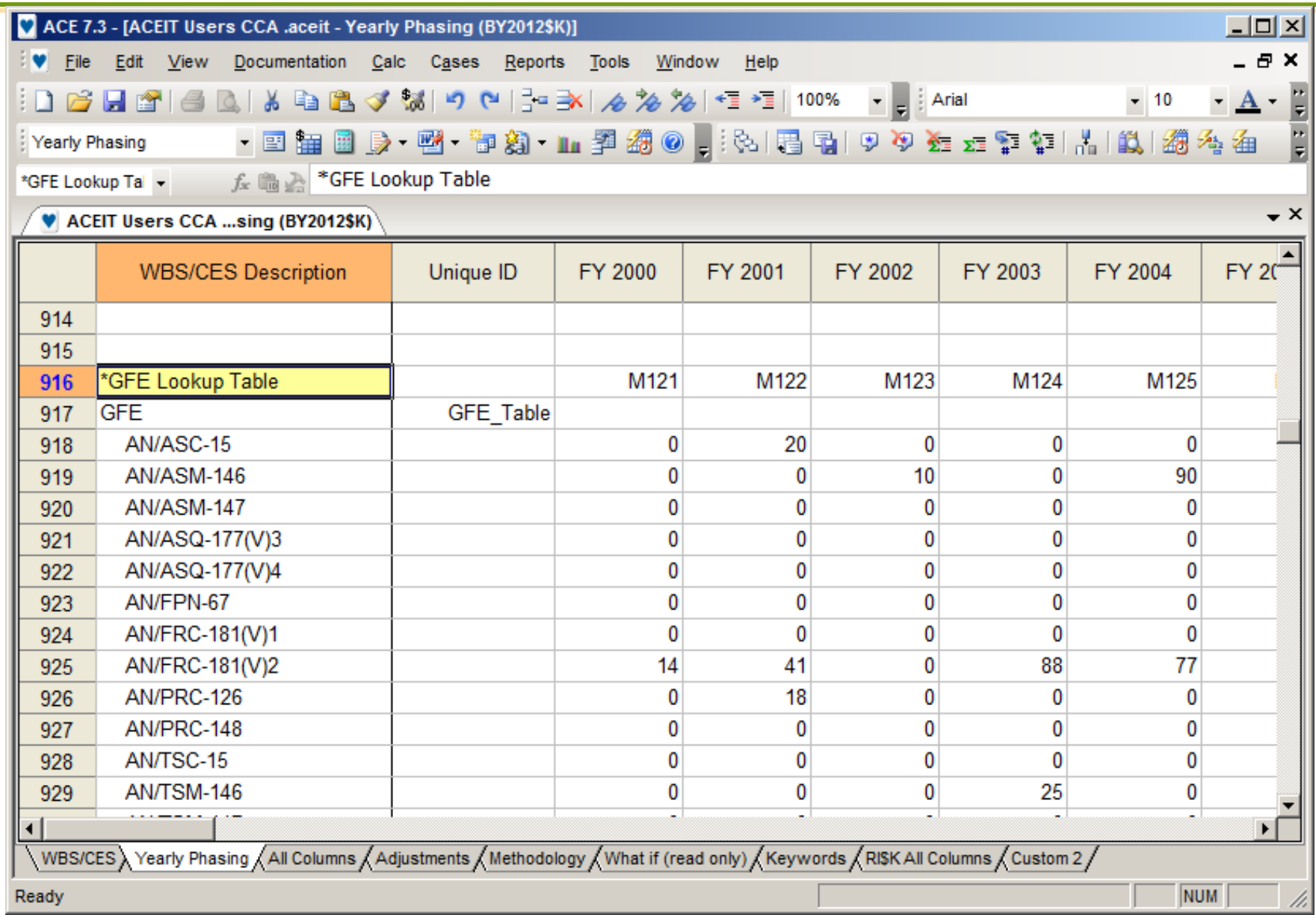
Problem:

- Several variants each with different mission package
- Price lists for mission package components
- Expect potential updates of quantities and prices
- Traditionally done by assigning a variable to each component and manually compiling them in ACEIT or using external spreadsheet

Solution: One matrix with price list and one matrix with configuration by variant, then multiply

First Uses of 7.3 Features (Matrices 1 of 3)

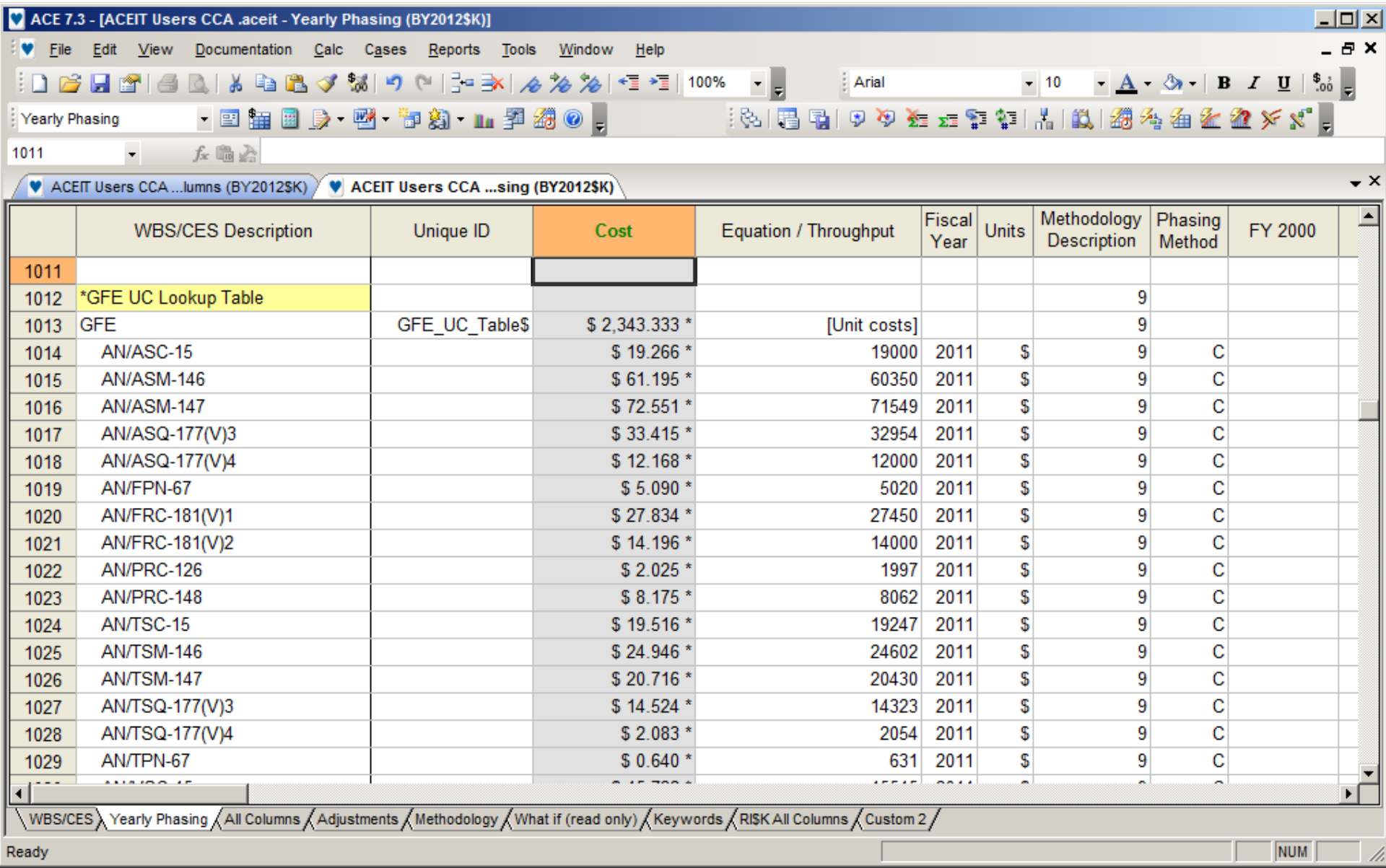
Percent of variant that has the GFE package



	WBS/CES Description	Unique ID	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 20
914								
915								
916	*GFE Lookup Table		M121	M122	M123	M124	M125	
917	GFE	GFE_Table						
918	AN/ASC-15		0	20	0	0	0	
919	AN/ASM-146		0	0	10	0	90	
920	AN/ASM-147		0	0	0	0	0	
921	AN/ASQ-177(V)3		0	0	0	0	0	
922	AN/ASQ-177(V)4		0	0	0	0	0	
923	AN/FPN-67		0	0	0	0	0	
924	AN/FRC-181(V)1		0	0	0	0	0	
925	AN/FRC-181(V)2		14	41	0	88	77	
926	AN/PRC-126		0	18	0	0	0	
927	AN/PRC-148		0	0	0	0	0	
928	AN/TSC-15		0	0	0	0	0	
929	AN/TSM-146		0	0	0	25	0	

First Uses of 7.3 Features (Matrices 2 of 3)

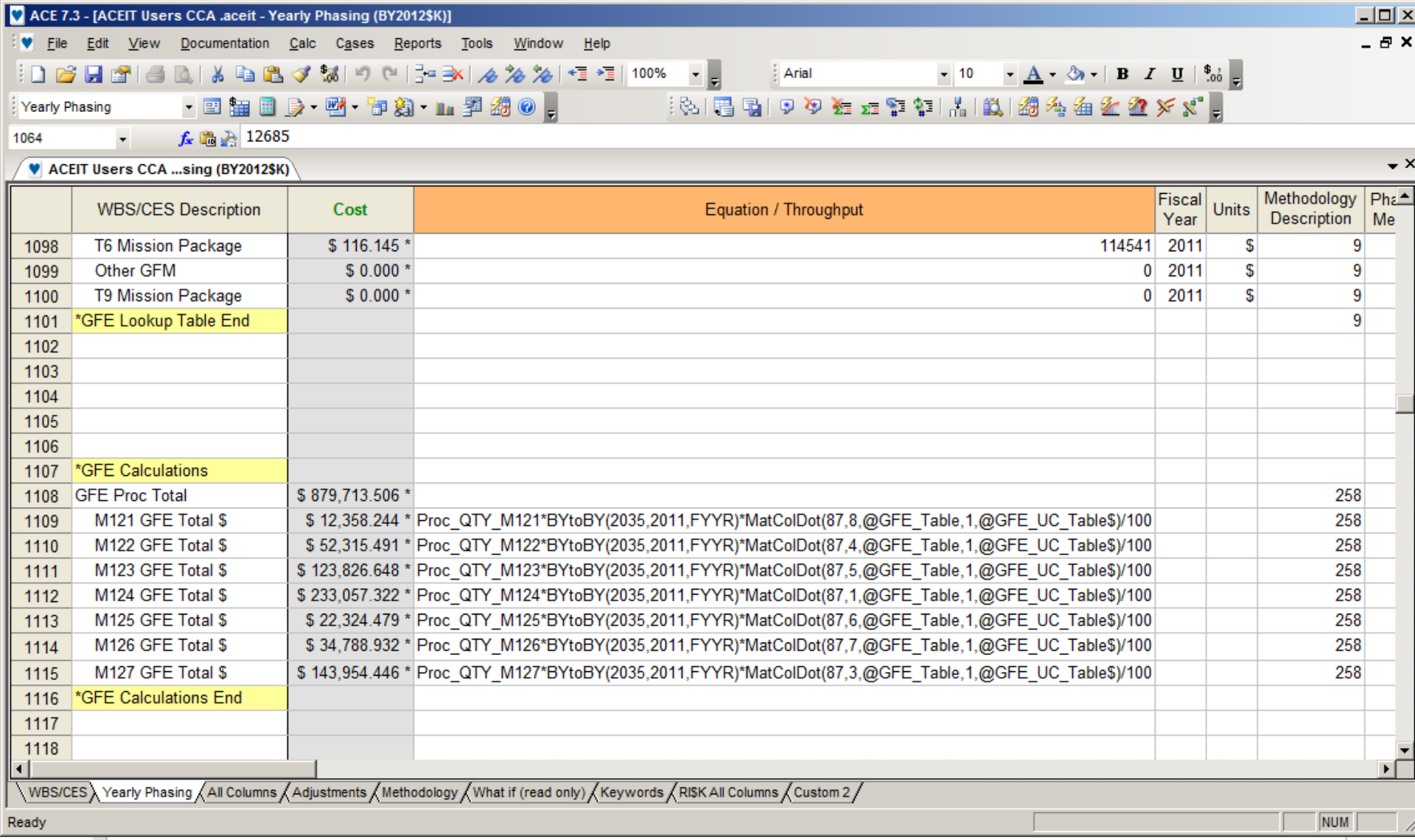
Unit costs of the GFE package



	WBS/CES Description	Unique ID	Cost	Equation / Throughput	Fiscal Year	Units	Methodology Description	Phasing Method	FY 2000
1011									
1012	*GFE UC Lookup Table						9		
1013	GFE	GFE_UC_Table$	$ 2,343.333 *	[Unit costs]			9		
1014	AN/ASC-15		$ 19.266 *	19000	2011	$	9	C	
1015	AN/ASM-146		$ 61.195 *	60350	2011	$	9	C	
1016	AN/ASM-147		$ 72.551 *	71549	2011	$	9	C	
1017	AN/ASQ-177(V)3		$ 33.415 *	32954	2011	$	9	C	
1018	AN/ASQ-177(V)4		$ 12.168 *	12000	2011	$	9	C	
1019	AN/FPN-67		$ 5.090 *	5020	2011	$	9	C	
1020	AN/FRC-181(V)1		$ 27.834 *	27450	2011	$	9	C	
1021	AN/FRC-181(V)2		$ 14.196 *	14000	2011	$	9	C	
1022	AN/PRC-126		$ 2.025 *	1997	2011	$	9	C	
1023	AN/PRC-148		$ 8.175 *	8062	2011	$	9	C	
1024	AN/TSC-15		$ 19.516 *	19247	2011	$	9	C	
1025	AN/TSM-146		$ 24.946 *	24602	2011	$	9	C	
1026	AN/TSM-147		$ 20.716 *	20430	2011	$	9	C	
1027	AN/TSQ-177(V)3		$ 14.524 *	14323	2011	$	9	C	
1028	AN/TSQ-177(V)4		$ 2.083 *	2054	2011	$	9	C	
1029	AN/TPN-67		$ 0.640 *	631	2011	$	9	C	

First Uses of 7.3 Features (Matrices 3 of 3)

Product



	WBS/CES Description	Cost	Equation / Throughput	Fiscal Year	Units	Methodology Description	Pha Me
1098	T6 Mission Package	$ 116.145 *	114541	2011	$	9	
1099	Other GFM	$ 0.000 *	0	2011	$	9	
1100	T9 Mission Package	$ 0.000 *	0	2011	$	9	
1101	*GFE Lookup Table End					9	
1102							
1103							
1104							
1105							
1106							
1107	*GFE Calculations						
1108	GFE Proc Total	$ 879,713.506 *				258	
1109	M121 GFE Total $	$ 12,358.244 *	Proc_QTY_M121*BYtoBY(2035,2011,FYYR)*MatColDot(87,8,@GFE_Table,1,@GFE_UC_Table$)/100			258	
1110	M122 GFE Total $	$ 52,315.491 *	Proc_QTY_M122*BYtoBY(2035,2011,FYYR)*MatColDot(87,4,@GFE_Table,1,@GFE_UC_Table$)/100			258	
1111	M123 GFE Total $	$ 123,826.648 *	Proc_QTY_M123*BYtoBY(2035,2011,FYYR)*MatColDot(87,5,@GFE_Table,1,@GFE_UC_Table$)/100			258	
1112	M124 GFE Total $	$ 233,057.322 *	Proc_QTY_M124*BYtoBY(2035,2011,FYYR)*MatColDot(87,1,@GFE_Table,1,@GFE_UC_Table$)/100			258	
1113	M125 GFE Total $	$ 22,324.479 *	Proc_QTY_M125*BYtoBY(2035,2011,FYYR)*MatColDot(87,6,@GFE_Table,1,@GFE_UC_Table$)/100			258	
1114	M126 GFE Total $	$ 34,788.932 *	Proc_QTY_M126*BYtoBY(2035,2011,FYYR)*MatColDot(87,7,@GFE_Table,1,@GFE_UC_Table$)/100			258	
1115	M127 GFE Total $	$ 143,954.446 *	Proc_QTY_M127*BYtoBY(2035,2011,FYYR)*MatColDot(87,3,@GFE_Table,1,@GFE_UC_Table$)/100			258	
1116	*GFE Calculations End						
1117							
1118							

* Proc_QTY_M121*BYtoBY(2035,2011,FYYR)*MatColDot(87,8,@GFE_Table,1,@GFE_UC_Table$)/100

First Uses of 7.3 Features (Matrices 4 of 4)

- Another AUW 2012 session deals with Matrix functions
- Without example files, this required trial and error techniques to ensure the functions were working
- Also MATCOLCOL function
- Compare with MATCOLTOT (ACEIT 7.0)

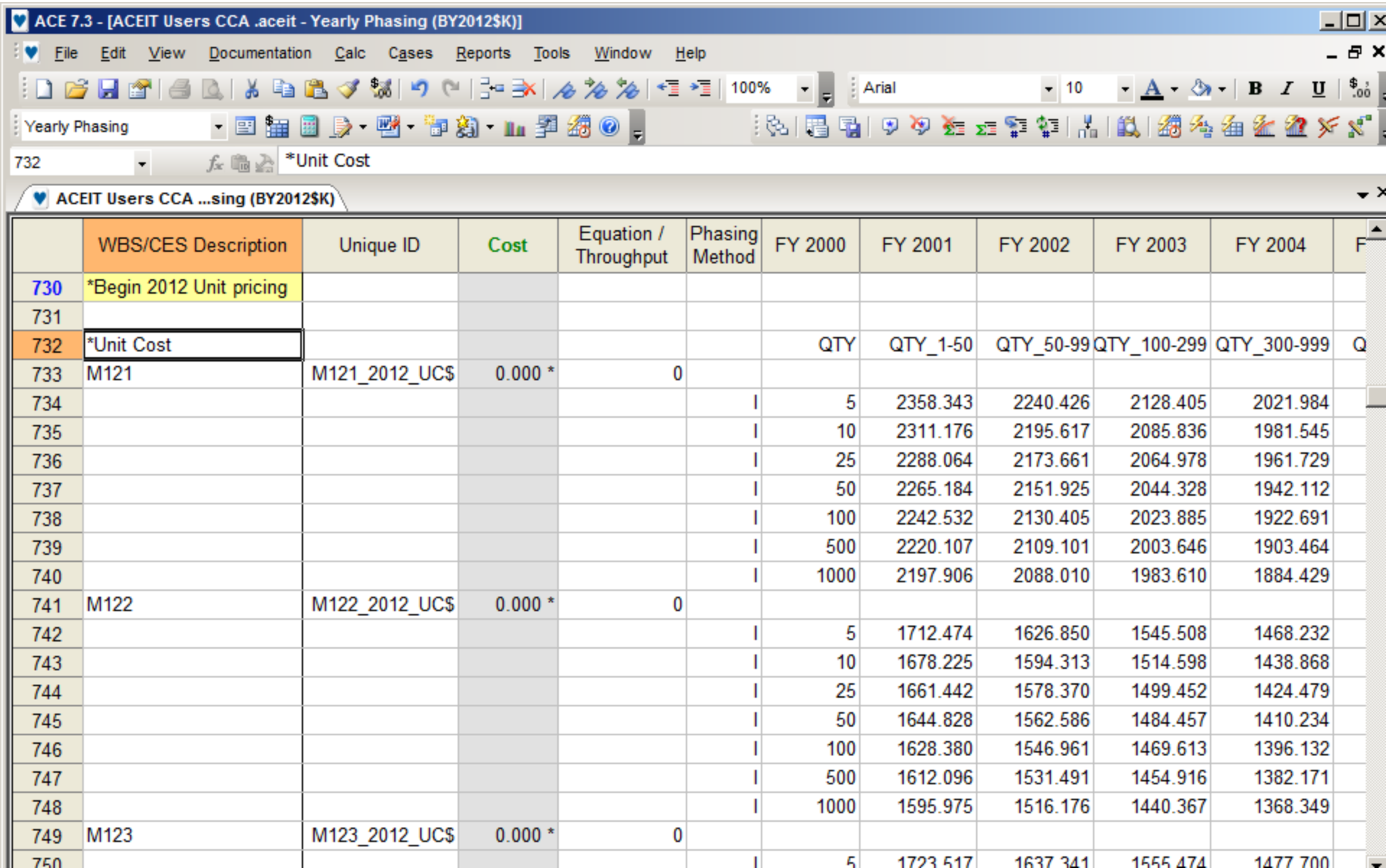
First Uses of 7.3 Features (Lookup Tables)

Problem:

- Several variants each with different stepladder pricing
- Additional total quantity effect
- Pricing also varies by year
- Quantities subject to change during the estimate due to affordability constraints
- Traditionally may use complicated DEC or user defined functions, or StepVal function

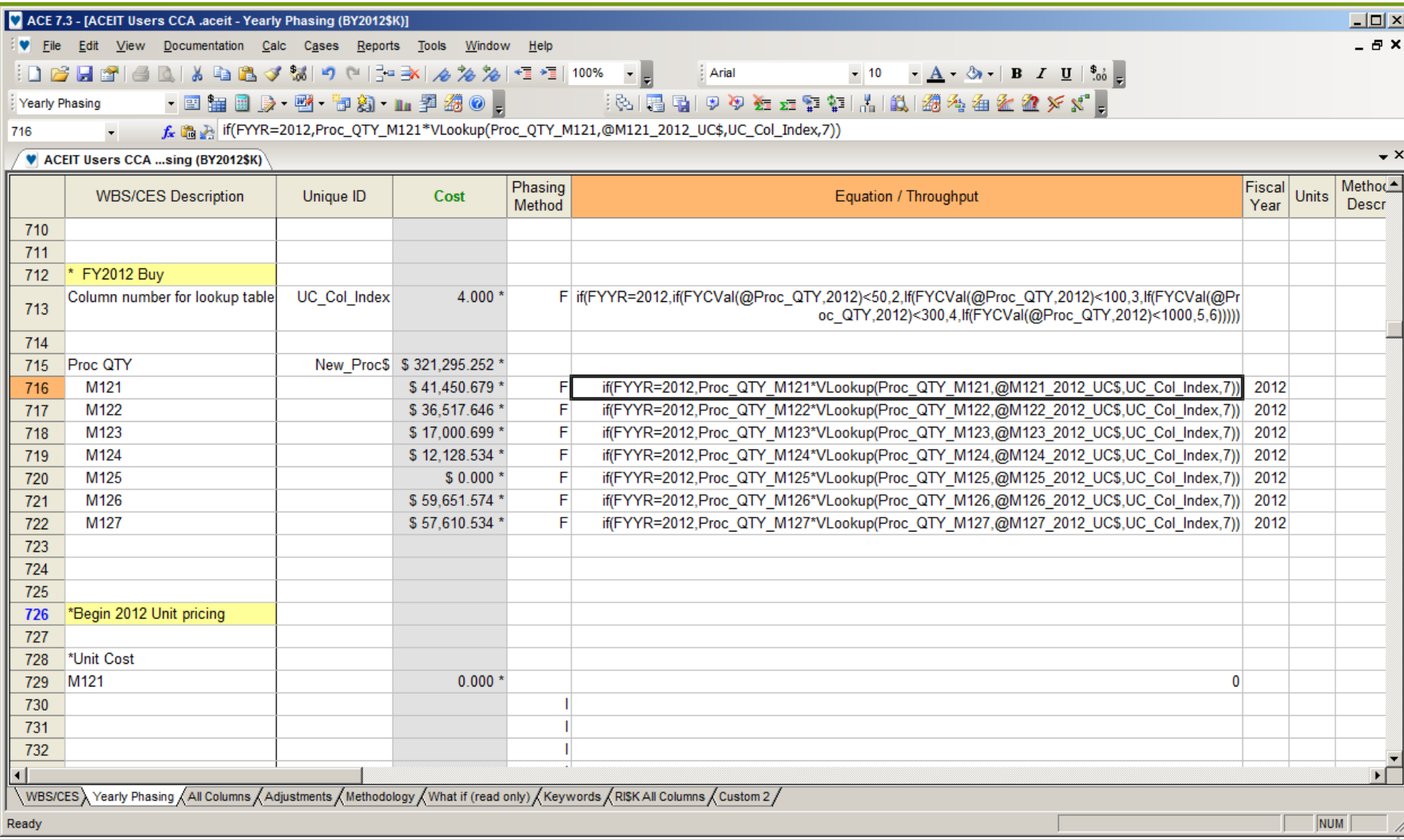
Solution: ACEIT 7.3 lookup tables by variant

Stepladder pricing (1 of 2)



	WBS/CES Description	Unique ID	Cost	Equation / Throughput	Phasing Method	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	F
730	*Begin 2012 Unit pricing										
731											
732	*Unit Cost					QTY	QTY_1-50	QTY_50-99	QTY_100-299	QTY_300-999	Q
733	M121	M121_2012_UC$	0.000 *	0							
734					I	5	2358.343	2240.426	2128.405	2021.984	
735					I	10	2311.176	2195.617	2085.836	1981.545	
736					I	25	2288.064	2173.661	2064.978	1961.729	
737					I	50	2265.184	2151.925	2044.328	1942.112	
738					I	100	2242.532	2130.405	2023.885	1922.691	
739					I	500	2220.107	2109.101	2003.646	1903.464	
740					I	1000	2197.906	2088.010	1983.610	1884.429	
741	M122	M122_2012_UC$	0.000 *	0							
742					I	5	1712.474	1626.850	1545.508	1468.232	
743					I	10	1678.225	1594.313	1514.598	1438.868	
744					I	25	1661.442	1578.370	1499.452	1424.479	
745					I	50	1644.828	1562.586	1484.457	1410.234	
746					I	100	1628.380	1546.961	1469.613	1396.132	
747					I	500	1612.096	1531.491	1454.916	1382.171	
748					I	1000	1595.975	1516.176	1440.367	1368.349	
749	M123	M123_2012_UC$	0.000 *	0							
750					I	5	1723.517	1637.341	1555.474	1477.700	

Stepladder pricing (2 of 2)



	WBS/CES Description	Unique ID	Cost	Phasing Method	Equation / Throughput	Fiscal Year	Units	Method Descr
710								
711								
712	* FY2012 Buy							
713	Column number for lookup table	UC_Col_Index	4.000 *	F	if(FYYR=2012,if(FYCVal(@Proc_QTY,2012)<50,2,If(FYCVal(@Proc_QTY,2012)<100,3,If(FYCVal(@Proc_QTY,2012)<300,4,If(FYCVal(@Proc_QTY,2012)<1000,5,6)))))			
714								
715	Proc QTY	New_Proc$	$ 321,295.252 *					
716	M121		$ 41,450.679 *	F	if(FYYR=2012,Proc_QTY_M121*VLookup(Proc_QTY_M121,@M121_2012_UC$,UC_Col_Index,7))	2012		
717	M122		$ 36,517.646 *	F	if(FYYR=2012,Proc_QTY_M122*VLookup(Proc_QTY_M122,@M122_2012_UC$,UC_Col_Index,7))	2012		
718	M123		$ 17,000.699 *	F	if(FYYR=2012,Proc_QTY_M123*VLookup(Proc_QTY_M123,@M123_2012_UC$,UC_Col_Index,7))	2012		
719	M124		$ 12,128.534 *	F	if(FYYR=2012,Proc_QTY_M124*VLookup(Proc_QTY_M124,@M124_2012_UC$,UC_Col_Index,7))	2012		
720	M125		$ 0.000 *	F	if(FYYR=2012,Proc_QTY_M125*VLookup(Proc_QTY_M125,@M125_2012_UC$,UC_Col_Index,7))	2012		
721	M126		$ 59,651.574 *	F	if(FYYR=2012,Proc_QTY_M126*VLookup(Proc_QTY_M126,@M126_2012_UC$,UC_Col_Index,7))	2012		
722	M127		$ 57,610.534 *	F	if(FYYR=2012,Proc_QTY_M127*VLookup(Proc_QTY_M127,@M127_2012_UC$,UC_Col_Index,7))	2012		
723								
724								
725								
726	*Begin 2012 Unit pricing							
727								
728	*Unit Cost							
729	M121		0.000 *		0			
730				I				
731				I				
732				I				

if(FYYR=2012,Proc_QTY_M121*VLookup(Proc_QTY_M121,@M121_2012_UC$,UC_Col_Index,7))

First Uses of 7.3 Features (Stepwise Analysis in CO$TAT)

- Yesterday's Session

First Uses of 7.3 Features (Summary)

- Best practices
  - Based on well-documented examples
  - Context is important
- Develop first uses as “best practices” demonstrations
  - Use these in the weekly training sessions
  - Reference the files
  - Documentation as a training file

Turning Lessons Learned into Best Practices

Developing Best practices (Introduction)

The next AUW 2012 session is about Standard Operating Procedures (best practices). Instead of going too far into that area, in the next section, I will discuss key takeaways and examples from our studies that will make their way into our future best practices improvements. Many of our best practices development plans were targeted towards newer users and other characteristics of our organization.

Developing Best practices (1 of 8)

- The lessons learned inform our refinement of best practices
- Leverage existing resources
  - Other Best Practice and Standard Operating Procedures (Tecolote newsletters and tech assistance)
  - When possible use peer reviews or Tecolote reviews of ACEIT sessions
- Develop World Class ACEIT estimates for use as examples
  - Better than a series of rules and regulations
  - Don’t overlook a “Back to the Basics” approach
  - Consider the target audience(s) and purpose

Developing Best practices (2 of 8)

Key “easy win” areas:

- Eliminating error and warning messages
- Using session analyzer
- Naming conventions
- Documentation quality and ease of traceability
- Flow

Developing Best practices (3 of 8)

Eliminating error and warning messages:

- Standard is no warning messages
- Several users liked the security of at least one warning message so you know the calculation completed
- Common uncorrected warning messages:
  - Lines without methodology
  - Methodology on parent WBS
  - Unused variables
  - Often the warnings are non-substantial but get user in the practice of ignoring warnings

Developing Best Practices (4 of 8)

Using Session Analyzer:

- Some divisions use this as Standard Operating Procedure (recommended)
- Gives additional important warning messages
- Each warning in Session Analyzer needs to be addressed, frequently the file may not be performing the calculation you think it is
- One of the first things I check, along with keywords, and suppressed warnings

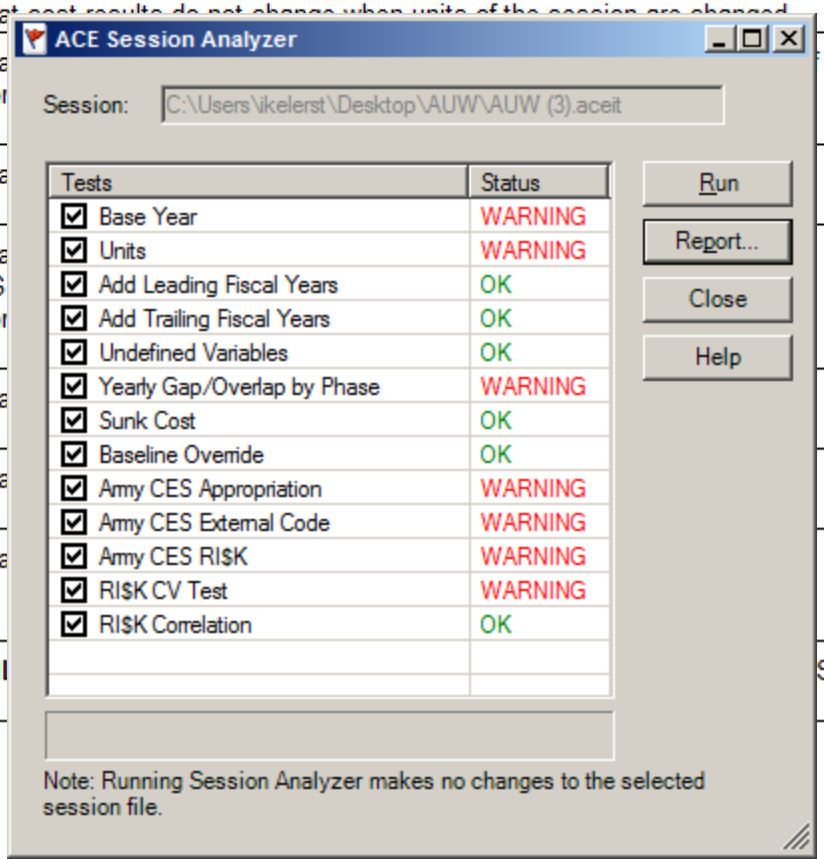
Session Analyzer (5 of 8)

Tools > Session Analyzer

Session Analyzer

The Session Analyzer, accessed from the Tools menu in ACE, scans your ACE session and identifies potential problems that could lead to unexpe
practices have been implemented. After scanning the session, you can generate a report that provides detailed information on potential problems in
tests:

Test Name	Test Description	Possible Cause
Base Year	Verifies that cost results do not change when base year of the session is changed.	A cost input row in the
Units	Verifies tha	A cost input row does
Add Leading Fiscal Years	Verifies tha the sessio	Your session may con (e.g., matrices, values function).
Add Trailing Fiscal Years	Verifies tha session.	Your session may con session. Adding years
Undefined Variables	Verifies tha WBS/CES the sessio	An equation in the ses with the words User-De set the Undefined Vari on the Calculation tab
Yearly Gap/Overlap by Phase	Verifies tha	You may have activitie items finishing too earl
Sunk Cost	Verifies tha	You entered data encl year.
Baseline Override	Verifies tha	You may have override case column. Best pra the Equation/Throughp
Army CES Appropriation	**ARMY ONI** number.	S You have entered an a have that appropriation



Developing Best Practices (6 of 8)

Naming Conventions:

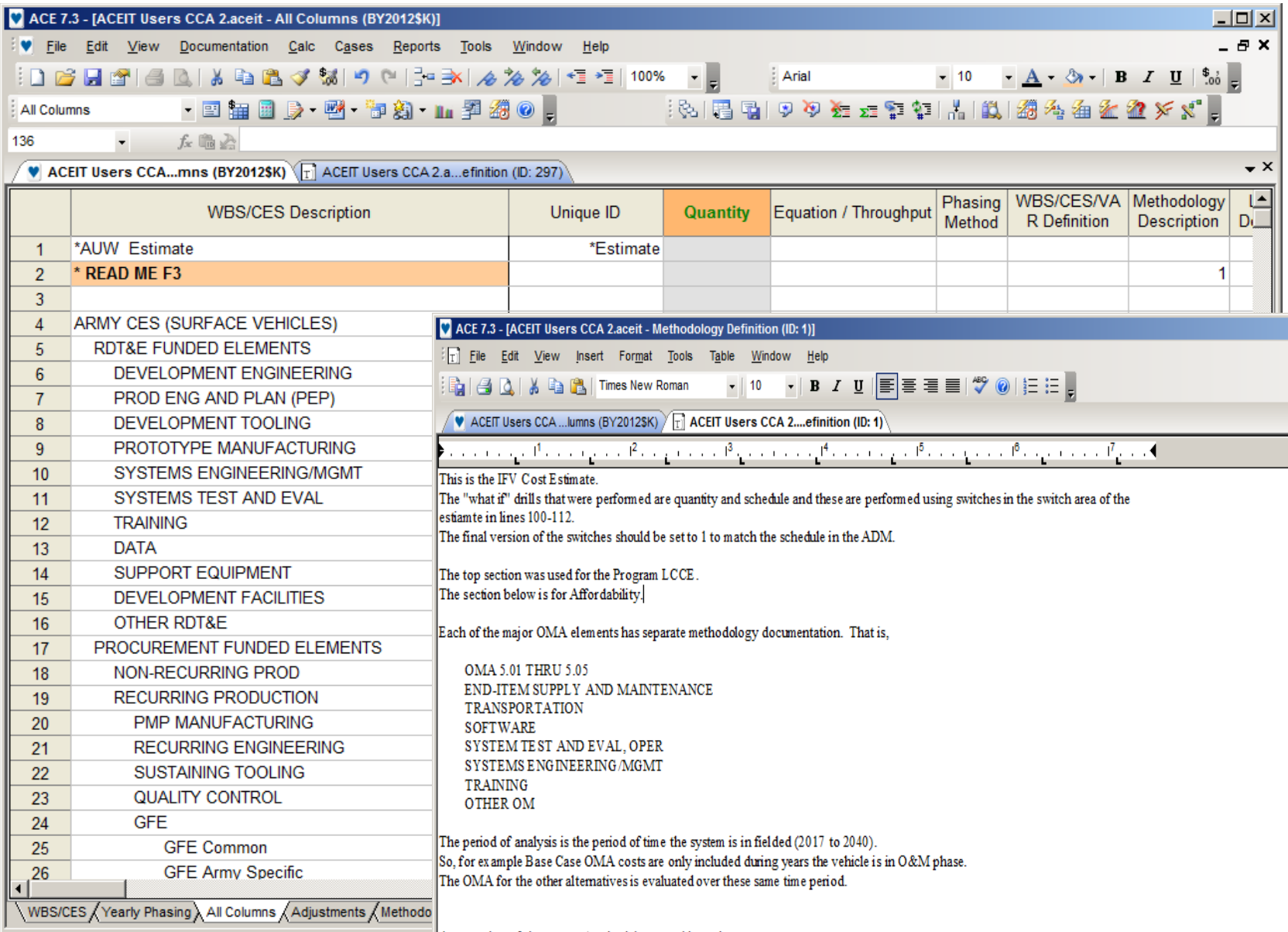
- Highly dependant on the individual (high variability)
- Some divisions have standardized and used the "Replace Unique ID" feature
- Most successful had documentation listing all variables, definitions, and general methodology even if the choice of names was not the best
- Use CTL+F3 and/or variables definition summary

Developing Best Practices (7 of 8)

Flow:

- Purpose of the estimate
- General layout
- Anything unusual should be explained
  - Cases/switches (upfront)
  - Defaults explained
  - Intended use of the estimate

Flow (8 of 8)


ACE 7.3 - [ACEIT Users CCA 2.aceit - All Columns (BY2012$K)]
File Edit View Documentation Calc Cases Reports Tools Window Help
All Columns
ACEIT Users CCA...mns (BY2012$K)
ACEIT Users CCA 2.a...efinition (ID: 297)
WBS/CES Description
Unique ID
Quantity
Equation / Throughput
Phasing Method
WBS/CES/VAR Definition
Methodology Description
1 *AUW Estimate *Estimate
2 * READ ME F3 1
4 ARMY CES (SURFACE VEHICLES)
5 RDT&E FUNDED ELEMENTS
6 DEVELOPMENT ENGINEERING
7 PROD ENG AND PLAN (PEP)
8 DEVELOPMENT TOOLING
9 PROTOTYPE MANUFACTURING
10 SYSTEMS ENGINEERING/MGMT
11 SYSTEMS TEST AND EVAL
12 TRAINING
13 DATA
14 SUPPORT EQUIPMENT
15 DEVELOPMENT FACILITIES
16 OTHER RDT&E
17 PROCUREMENT FUNDED ELEMENTS
18 NON-RECURRING PROD
19 RECURRING PRODUCTION
20 PMP MANUFACTURING
21 RECURRING ENGINEERING
22 SUSTAINING TOOLING
23 QUALITY CONTROL
24 GFE
25 GFE Common
26 GFE Army Specific
WBS/CES Yearly Phasing All Columns Adjustments Methodo
ACE 7.3 - [ACEIT Users CCA 2.aceit - Methodology Definition (ID: 1)]
File Edit View Insert Format Tools Table Window Help
Times New Roman 10
ACEIT Users CCA ...lumns (BY2012$K)
ACEIT Users CCA 2....efinition (ID: 1)
This is the IFV Cost Estimate.
The "what if" drills that were performed are quantity and schedule and these are performed using switches in the switch area of the estiamte in lines 100-112.
The final version of the switches should be set to 1 to match the schedule in the ADM.
The top section was used for the Program LCCE.
The section below is for Affordability.
Each of the major OMA elements has separate methodology documentation. That is,
OMA 5.01 THRU 5.05
END-ITEM SUPPLY AND MAINTENANCE
TRANSPORTATION
SOFTWARE
SYSTEM TEST AND EVAL, OPER
SYSTEMS ENGINEERING/MGMT
TRAINING
OTHER OM
The period of analysis is the period of time the system is in fielded (2017 to 2040).
So, for example Base Case OMA costs are only included during years the vehicle is in O&M phase.
The OMA for the other alternatives is evaluated over these same time period.

Summary

- Users learn from what they have done or seen in the past
  - Can be a limiting factor
  - Within an individual and/or organization
  - Consider workshops to review ACEIT files
- Communicate goal-oriented documentation standards
  - Not every line requires the same documentation
  - Develop “world-class” documentation examples
- Develop, teach and review “world-class” examples to build on ACEIT Help > Example Files
- Customize best practices plan to your organization

Questions