



CRITICAL THINKING.
SOLUTIONS DELIVERED.



Documentation in ACE

presented by:

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Why should we document our estimates?

- Provides written justification for cost estimate
- Allows estimate to be replicable and traceable
- Makes the estimate credible
- Adds quality to estimate's content

Another analyst should be able to recreate your estimate using your documentation and arrive at the same answer.

- Comment Rows (Asterisk)
- Brackets
- Comment DEC
- Definition Editor

Document AS YOU GO!



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Comment Rows

Comment Rows

- WBS/CES Description Column
- Two very easy ways to do this...
 - Manually type asterisk in first character position, or
 - Use Comment WBS Icon (note the uncomment button)



ACE 7.2 - [AF RAES PROGRAM 20080513.aceit - Methodology (BY2008\$M)]

File Edit View Documentation Calc Cases Reports Tools Window Help

Arial 10

Methodology

33

	WBS/CES Description	Approp	Unique ID	Point Estimate	Phasing Method	Equation
26	COTS SW			\$ 0.416 *	%	
27	Product 1	3600		\$ 0.102 *		

Comment Rows: Uses

- Titles of sections
 - Good for organization
 - Toggle

74	*Communications Subsystem		
75	Comm Cost (FFP Contract)	3600	COMM_
76			
77	*Software		
78	Application #1 SLOC Count		SW_A
79	Application #2 SLOC Count		SW_A
80	Application #3 SLOC Count		SW_A
81	Software Productivity		SW_P
82	Software Development Rate (\$/MM)	3600	SW_F
83			

The screenshot shows a spreadsheet interface with a context menu open over row 71. The context menu includes options like 'Calc Point Estimate', 'Cut', 'Copy', 'Paste', 'Toggle Bookmark', 'Result Format...', 'Insert Row', 'Delete Row', 'Auto-Height', 'Hide', 'Unhide', 'Lock', and 'Unlock'. A secondary menu is also open, showing a list of comment text: '*Configuration Functions', '*AF RAES Program Estimate', '*INPUT VARIABLES', '*Communications Subsystem', and '<Last Row>'. The spreadsheet content visible includes rows 68-76, with row 71 highlighted as a comment row. The spreadsheet data is as follows:

73			
74	*Communications Subsystem		
75	Comm Cost (FFP Contract)	3600	COMM_
76			
77	*Software		
78	Application #1 SLOC Count		SW_A
79	Application #2 SLOC Count		SW_A
80	Application #3 SLOC Count		SW_A
81	Software Productivity		SW_P
82	Software Development Rate (\$/MM)	3600	SW_F
83			
84			
85			
86			
87			
88			
89			
90			

Comment Rows: Uses

- Titles of fiscal year columns on phasing work screen

	WBS/CES Description	FY 2013	FY 2014	FY 2015
306	*AVIONICS REMOVED	QPA	MTBF	MX MANHOURS
307	INDICATOR, TEMPERATURE (ECT)	1	1314.6	201.5
308	TRANSDUCER, PRESSURE RATIO (EPR)	1	3812.5	1642.2
309	INDICATOR, TACHOMETER (N1)	1	4765.6	198.5
310	TRANSMITTER, FUEL FLOW	4	8026.3	390.0

- Tracker
 - For quick notes from version to version, or an excursion
 - Add rows at top of ACE session
 - Highlight
 - Easy to see when opening your ACE session

	WBS/CES Description	Appri
1	***MELISSA'S TRACKER***	
2	*Updated Communications Subsystem Variables	
3	*Need to put risk on variables	
4	*Need to add documentation in keywords screen	
5		
6		
7		



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Brackets

Brackets

- Equation/Throughput Column
- Surround text with square brackets []

ACE 7.1a - [AF RAES PROGRAM 20080513.aceit - Methodology (BY2008\$M)]

File Edit View Documentation Calc Cases Reports Tools Window Help

100%

Arial 10 B I U %

Methodology

81 180 [SLOC/MM]

	WBS/CES Description	Approp	Unique ID	Point Estimate	Phasing Method	Equation / Throughput	Fiscal Year	Unit
77	*Software							
78	Application #1 SLOC Count		SW_APP1	4,500.000 *	C	4500		
79	Application #2 SLOC Count		SW_APP2	6,800.000 *	C	6800		
80	Application #3 SLOC Count		SW_APP3	5,300.000 *	C	5300		
81	Software Productivity		SW_PROD	180.000 *	C	180 [SLOC/MM]		
82	Software Development Rate (\$/MM)	3600	SW_RATE	\$ 0.018 *	C	18	2007	\$
83								

Brackets: Uses

- Use:
 - Quick notes
 - Cost Throughputs (BY, TY, SY phasing methods)
 - Input Throughputs (I phasing method)

nt rate	Phasing Method	Equation / Throughput	Fiscal Year	Ur
.000 *	C		5300	
.000 *	C	180 [SLOC/MM]		
.018 *	C		18	2007
.000 *	SY	[Cost Throughput]		
	I	[Input Throughput]		
.000 *	IS	[Input Throughput]		
	I	[Input Throughput]		
.164 *	C		160	2007



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Comment DECs

- Dynamic Equation Columns
- User-defined columns mostly used for immediate inputs or calculations on a row
- Makes session wider (i.e. more columns)
- 4 types of DECs:
 - Normal
 - Cost
 - Comment
 - Date

Comment DECs

- Holds comments and text that is not evaluated
- Data stored here will not be used in any ACE calculations for the row
- Unlike using an asterisk, the ACE row will still calculate
- Use:
 - Select this when you do not want ACE to do anything with this information except store it in the column

How to create Comment DECs

- DEC Icon 
- Edit > Add DEC

Add New DEC X

Column Description:

Column Identifier

Unique ID:

Change all instances of old ID to new ID?

Cell Content

Normal - Column holds non-cost data and/or equations

Cost - Column holds cost data and/or equations

Comment - Column holds comments and text that is not evaluated

Date - Column holds dates of the form DDMMYYYY

Sum up results of children into their parents for this column

ACE 7.1a - [AF RAES PROGRAM 20080513.aceit - Methodology (BY2008\$M)]

File Edit View Documentation Calc Cases Reports Tools Window Help

Arial 10

Methodology

27 Needs updating

	WBS/CES Description	Approp	Unique ID	Point Estimate	Phasing Method	COMMENTS (*) Comments	Equation / Throughput	Fisc Year
25	COTS HW	3600		\$ 0.015 *	BY		[Cost Throughput]	200
26	COTS SW			\$ 0.416 *	%			
27	Product 1	3600		\$ 0.102 *		Needs updating		100 200
28	Product 2	3600		\$ 0.050 *				50 200
29	Product 3	3600		\$ 0.079 *				75 200



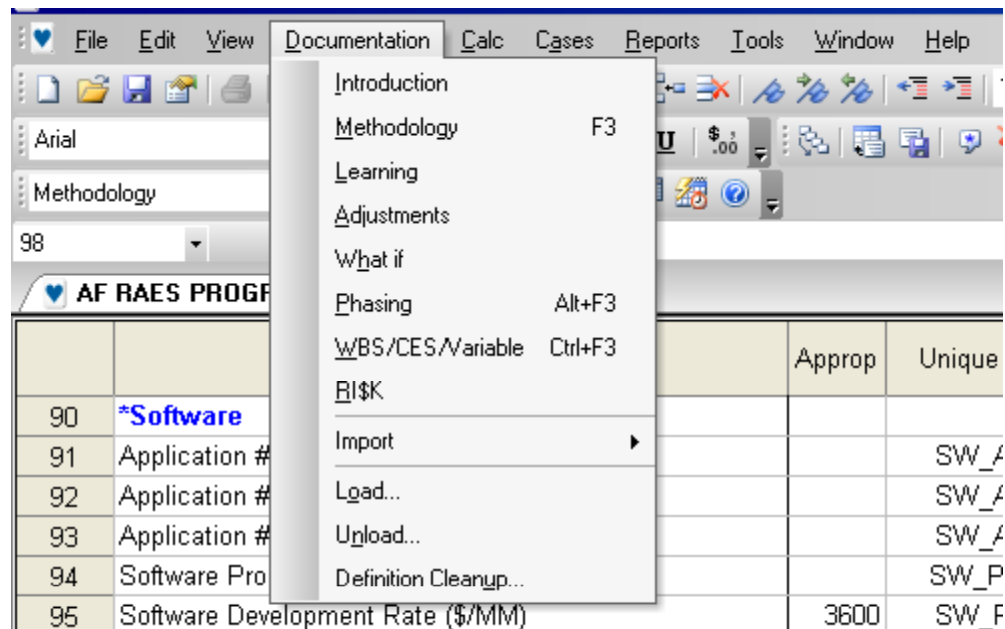
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Definition Editor / Keywords Workscreen

Definition Editor

- Documentation drop down menu
- Automatically integrated into documentation output
- Format meets OSD, Air Force and Army cost estimate documentation requirements



- View/Edit definitions and descriptions of:
 - WBS
 - Methodologies
 - Adjustments
 - Learning Curve Parameters
 - What-if cases
 - Time-phasing parameters
- Stored on a row-by-row basis
- Format, view and print using Reports commands

Definition Editor: Uses

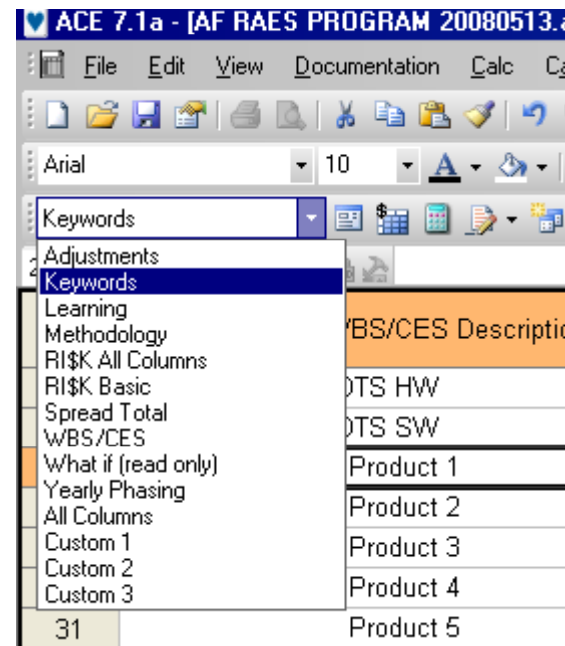
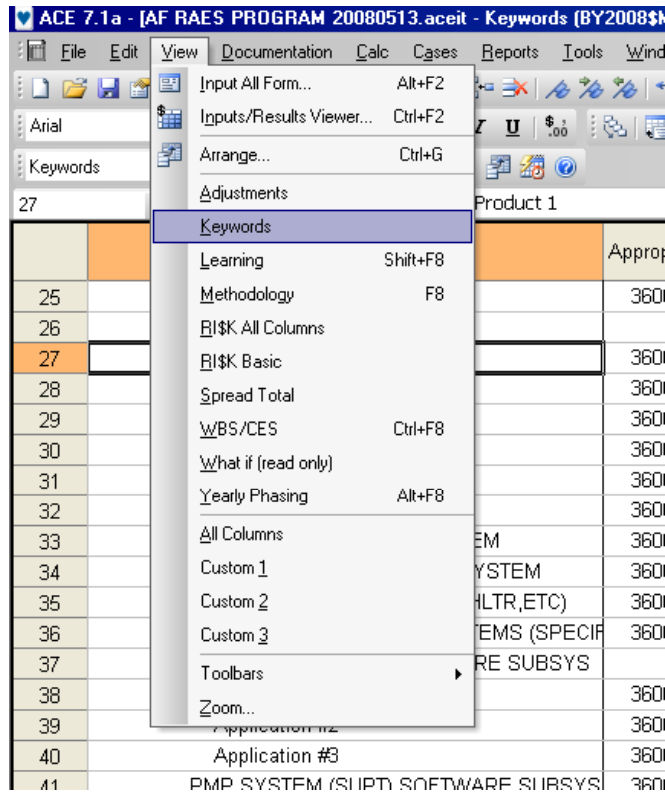
- Automatic documentation placed into Keywords workscreen:
 - Using system WBS/CES indenture structure
 - Extracting CERs from a library
 - Bringing back a result from CO\$TAT

	WBS/CES Description	Approp	Phase Code	WBS/CES/VA R Definition	Mi D
31	Mission Analysis	3600			
32	AF RAES Program DEVELOPMENT PHASE		EMD		
33	ELECTRONICS SYSTEM		EMD	ELECSY	
34	PRIME MISSION PRODUCT (PMP)		EMD	PMP	
35	RADAR SUBSYSTEM	3600	EMD	RADAR	
36	DATA PROCESSING EQUIPMENT SUBSYS		EMD	DPE	

52	Application #3	3600			
53	Application #3	3600			
54	PMP SYSTEM (SUPT) SOFTWARE SUBSYS	3600	EMD	PMP SUPSW	
55	PMP INTEGR/ASSY/CHECKOUT	3600	EMD	PMPIAC	NCER5001
56	TRAINING		EMD	TRNG	
57	EQUIPMENT				

Keywords Workscreen

- To access:
 - View > Keywords, or
 - Workscreen dropdown menu > Keywords



Keywords Workscreen

- Displays a keyword (number) for each block of text that is not automatically generated by the session
- To access text, right click on cell > Edit Definition

ACE 7.1a - [AF RAES PROGRAM 20080513.aceit - Keywords (BY2008\$M)]

File Edit View Documentation Calc Cases Reports Tools Window Help

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Keywords

50 1

	WBS/CES Description	Approp	Phase Code	WBS/CES/VA R Definition	Methodology Description	Learning Description	Phasing Description	Adjustments Description	V De
46	COTS SW	3600							
47	SERVICES	3600				2			
48	FACILITIES	3600							
49	PECULIAR SUPPORT EQUIPMENT (PSE)	3600	EMD	PSE					
50	SYSTEMS TEST AND EVALUATION	3600	EMD	SYSTE	NCER5004	1			
51	SYSTEMS ENGINEERING/PROJECT MGT		EMD	SEPM					
52	Systems Engineering	3600							
53	Program Management	3600							
54	DATA	3600	EMD	DATA					
55	OPERATIONAL SITE ACTIVATION	3600	EMD	OPSITEACT					

Right-click context menu:

- Edit Definition... Ctrl+L
- Equation Builder... Ctrl+E
- Calc Point Estimate F9
- Cut Ctrl+X
- Copy Ctrl+C

Keywords Workscreen

- After editing, make sure to Save
- To make same definition apply to multiple WBS/CES items, copy keyword

ACE 7.1a - [AF RAES PROGRAM 20080513.aceit - Methodology Definition (ID: NCER5001)]

DEVELOPMENT COST FACTOR - Integration & Assembly (I&A)

DESCRIPTION - Estimates Development Integration a Product (PMP) less I&A" cost. This factor was updated

SOURCE DATA - An analysis was made of 117 CPRs All were from ESC Development contract efforts occu were normalized to BY97, \$K, using monthly OSD infla segregated into two reasonably homogeneous datasets

ACE 7.1a - [AF RAES PROGRAM 20080513.aceit - Keywords (BY2008\$M)]

	WBS/CES Description	Approp	Phase Code	WBS/CES/VA R Definition	Methodology Description	Learning Descriptive
40	Application #3	3600				
41	PMP SYSTEM (SUPT) SOFTWARE SUBSYS	3600	EMD	PMPSUPSW		
42	PMP INTEGR/ASSY/CHECKOUT	3600	EMD	PMPIAC	NCER5001	
43	TRAINING		EMD	TRNG		
44	EQUIPMENT					
45	COTS HW	3600				4
46	COTS SW	3600				4
47	SERVICES	3600				
48	FACILITIES	3600				

- 10 columns, plus the WBS/CES column:
 - Appropriation
 - Phase Code
 - WBS/CES/VAR Definition
 - Methodology Description
 - Learning Description
 - Phasing Description
 - Adjustments Description
 - What-if Description
 - RI\$K Description
 - Methodology Library

Customizing the Workscreen

- View > Arrange - to shift columns and customize

The screenshot shows the 'Arrange Workscreen' dialog box. The 'Go To' dropdown is set to 'Keywords'. The 'Workscreen Title' is 'Keywords'. The 'Column Arrangement' table is as follows:

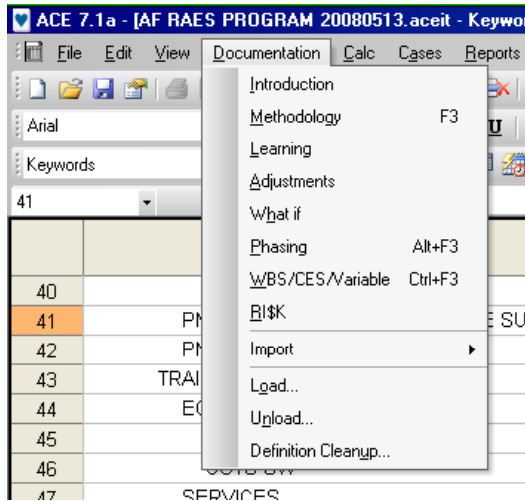
Title	Width	Align
WBS/CES Description	42.0	Left
Approp	6.0	Right
Phase Code	6.0	Right
WBS/CES/VAR Definition Keyw	12.0	Right
Methodology Description Keywo	10.0	Right
Learning Description Keyword	10.0	Right
Phasing Description Keyword	10.0	Right
Adjustments Description Keywo	10.0	Right
What if Description Keyword	10.0	Right
RI\$K Definition Keyword	10.0	Right
Methodology Library Keyword	10.0	Right

The 'Available Columns' list includes: Adjusted SE, Allow RI\$K When PE=0, Alpha, Beta, Beta % Spent, Beta % Time, Beta Peakness, Buy Qty, Category 1 through 8, and Category 9. The 'Filter' section has radio buttons for: Display all columns (selected), Display what-if case columns, Display DEC's, and Display category columns. The 'Column Headers' section has a checkbox for 'Short Titles' and a 'Height' field set to 2.

- Methodology Library Keyword:
 - Link WBS/CES item to particular methodologies in ACE Methodology Library
 - CERs
 - Factors
 - Model functions
 - Keywords are system assigned
 - Cannot edit these definitions

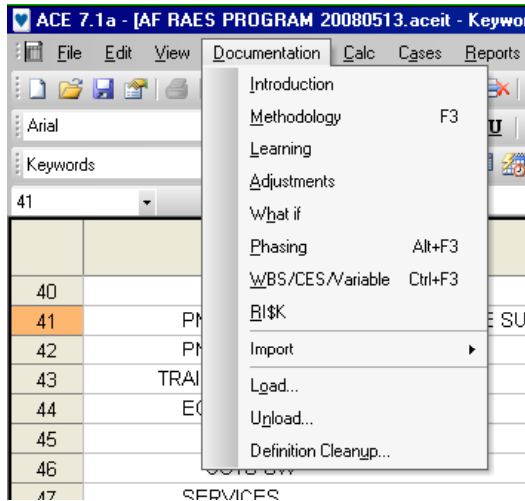
Methodology Library
PMP
RADAR
DPE

Documentation Menu



- **Documentation > Introduction**
 - Create or edit an introduction or overview of estimate
 - You cannot enter an Introduction for each line of the estimate
- **Documentation > Methodology**
 - Create or edit methodology definition associated with the active row
 - If you copied or imported a CER from the ACE Libraries, or if you are using a CER you imported from CO\$TAT, a definition automatically displays
- **Documentation > Learning**
 - Create or edit learning curve adjustment definitions
 - If you fit the learning curve with CO\$TAT, the CO\$TAT definition will display here

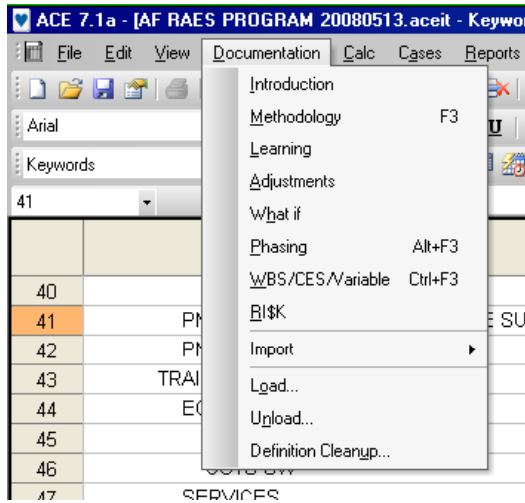
Documentation Menu



- Documentation > Adjustments
 - Create or edit the G&A, fee, overhead, escalation, and currency adjustment definitions associated with active row
- Documentation > What-if
 - Create or edit the What if or sensitivity case definition associated with active row
- Documentation > Phasing
 - Create or edit time phasing definition

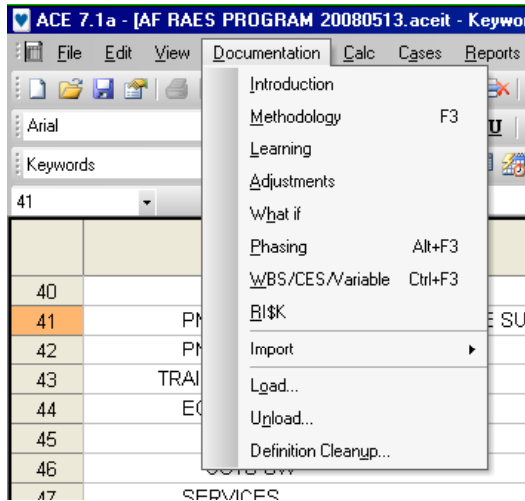


Documentation Menu

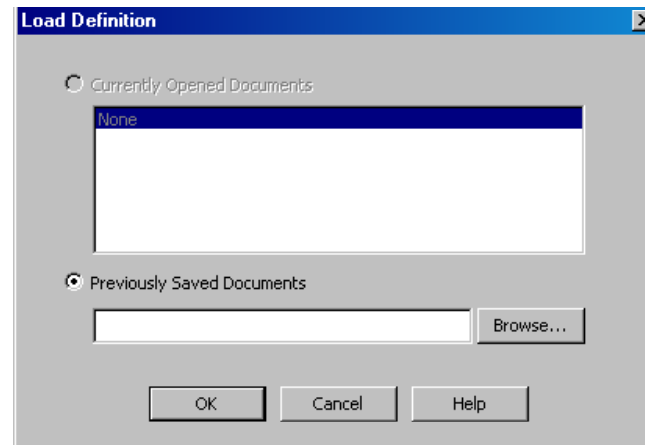


- Documentation > WBS/CES/Variable
 - Create or edit WBS or CES definitions
 - Create or edit definition for the input or variable the active row represents
 - e.g. the active row estimates WEIGHT, which is a cost driver of the estimate
- Documentation > RI\$K
 - Create or edit documentation on RI\$K parameters

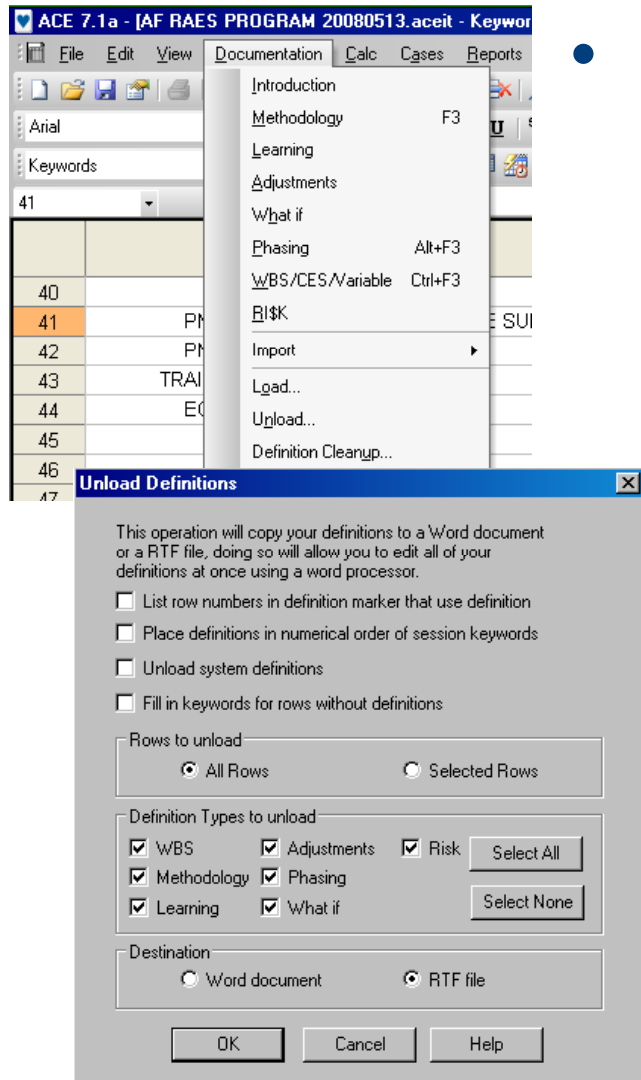
Documentation Menu



- Documentation > Load
 - Opens Load Definition Dialog
 - Allows you to load or import ACE definitions from a rich text format or Word file that was created by unloading the definitions



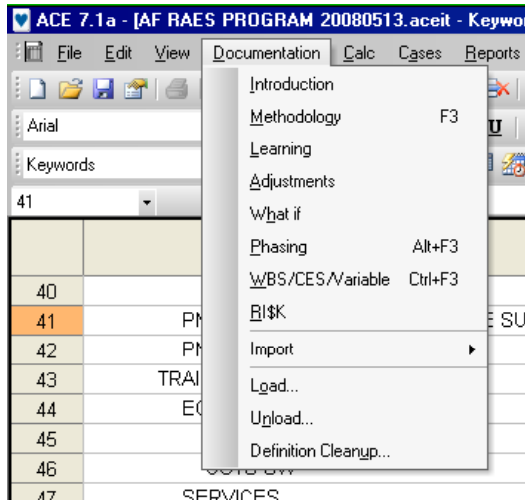
Documentation Menu



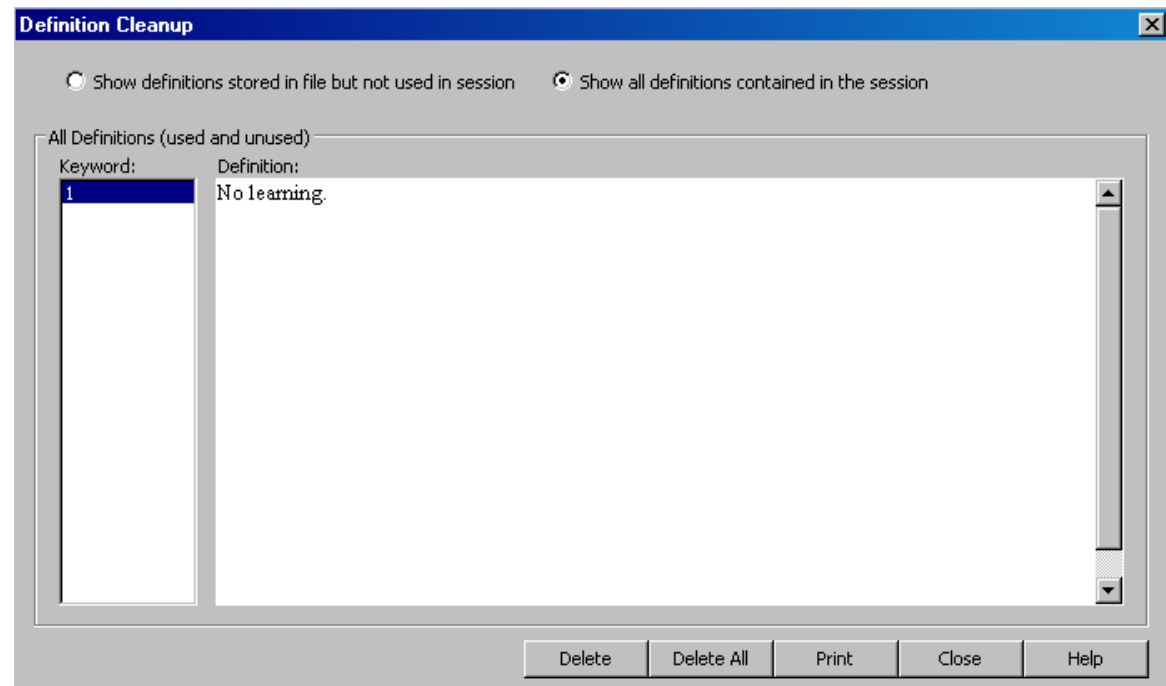
- Documentation > Unload

- Opens Unload Definitions Dialog, which allows you to unload or export ACE definitions to a rich text format or Word Format
- Copies all definitions in session to a single file with a text string like <ACEIT-DEFINITION 3 on ROW 3> acting as separator between individual definitions
- When saved to computer, can be read and edited by most word processors
- Great way to edit all definition text at once
- Once edited, load these definitions back into ACE by clicking Documentation > Load

Documentation Menu



- Documentation > Definition Cleanup
 - Opens Definition Cleanup Dialog
 - Allows you to delete any unused definitions



Narrative Report

- Reports > Generate
- Report Type - Narrative

The screenshot shows the ACE 7.1a software interface. The main window title is "ACE 7.1a - [AF RAES PROGRAM 20080513.aceit - Keywords (BY2008\$M)]". The menu bar includes File, Edit, View, Documentation, Calc, Cases, Reports, Tools, Window, and Help. The Reports menu is open, showing options like "Generate (Edit, View, Print)...", "Export Report Templates...", "Import Report Templates...", "Organize Favorites...", "Inflation Factors", "Equation Results BY\$", "ACE Narrative (Selected Rows)", "BY Phased (Selected Rows)", "BY Phased (Landscape)", and "TY Phased - Funding Only (Landscape)".

The Reports dialog box is open, showing the "Report Type" dropdown set to "Narrative". Below it are radio buttons for "All", "Session", and "System". The "Available Reports" list includes:

- ACE Narrative (Portrait)
- ACE Narrative (Selected Rows)
- ACE Narrative with RI\$K (Landscape)
- ACE Narrative with RI\$K (Selected Rows)
- ACE Narrative with RI\$K Basic (Portrait)
- Detailed Narrative Traceback for the Active Row
- Narrative Traceback (Selected Rows)

 The "Notes" field contains "Full Documentation (Portrait)". On the right side of the dialog, there are buttons for View, Print, Print Preview, Export..., New..., Edit..., Delete, Add Favorite, Undo, Redo, Help, and Close.

	WBS/CES Description
40	Application #3
41	PMP SYSTEM (SUPT) SOFTW
42	PMP INTEGR/ASSY/CHECKOU
43	TRAINING
44	EQUIPMENT
45	COSTUM

Narrative Report

- Allows you to print, view, or export your narrative text on a line-by-line basis
- You can select an existing narrative report format to view, export, print, add a new format, modify an existing format, or delete an existing format
- Copy text from the report using the Edit Copy command
- You cannot type into the viewer and change its contents or the ACE definition text
- To exit viewer: click on box in upper left corner of the viewer box, select close

- Use Word as your definition editor and to generate narrative reports
- Tools > User Options

The screenshot shows the ACE 7.1a software interface. The 'Tools' menu is open, and 'User Options...' is selected. The 'User Options' dialog box is displayed, showing settings for General, Documentation, AutoComplete, and Sheet Behavior.

WBS/CES Description	
40	Application #3
41	PMP SYSTEM (SUPT) SOFTWARE SU
42	PMP INTEGR/ASSY/CHECKOUT
43	TRAINING
44	EQUIPMENT
45	COTS HW
46	COTS SW
47	SERVICES
48	FACILITIES
49	PECULIAR SUPPORT EQUIPMENT (PSE)

User Options

General

- Use selected case column as default case
- Position total of phased report after yearly data
- Automatically make rows visible in POST and Exec
- Color for locked cells and case columns: [Color Picker]
- Recently used file list: 9 entries
- Save recovery file every 10 minutes
- Suppress syntax check completion dialog

Documentation

Text Editor: Built-In ACE Editor

Default font: Microsoft Word

Font: Times New Roman, 10 pt.

AutoComplete

Find functions and IDs using an interactive list:

Automatically display AutoComplete

Paste parameters to functions and UDFs

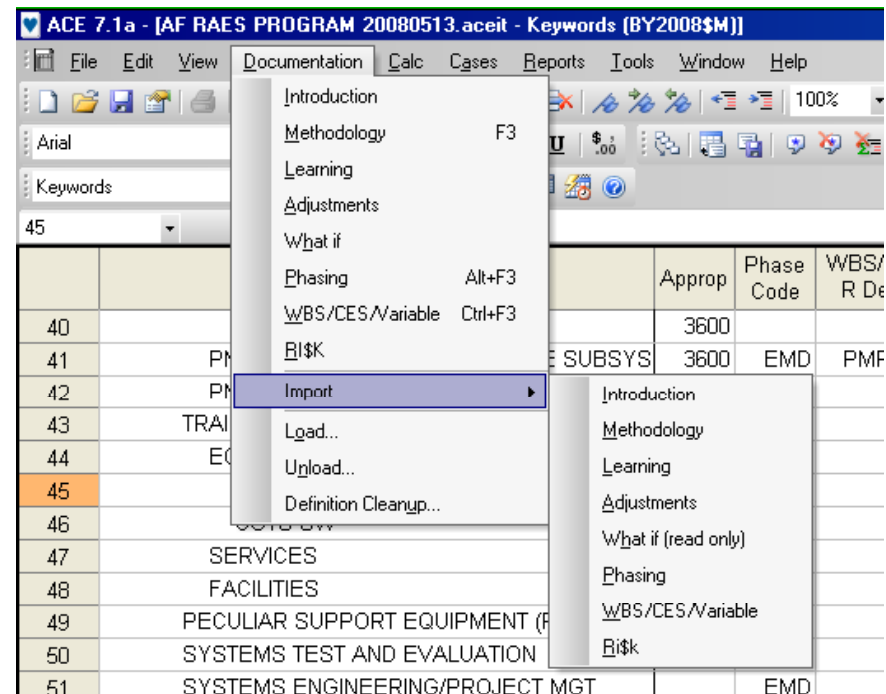
Sheet Behavior

Move direction on Enter: Right

Sort bookmarks alphabetically

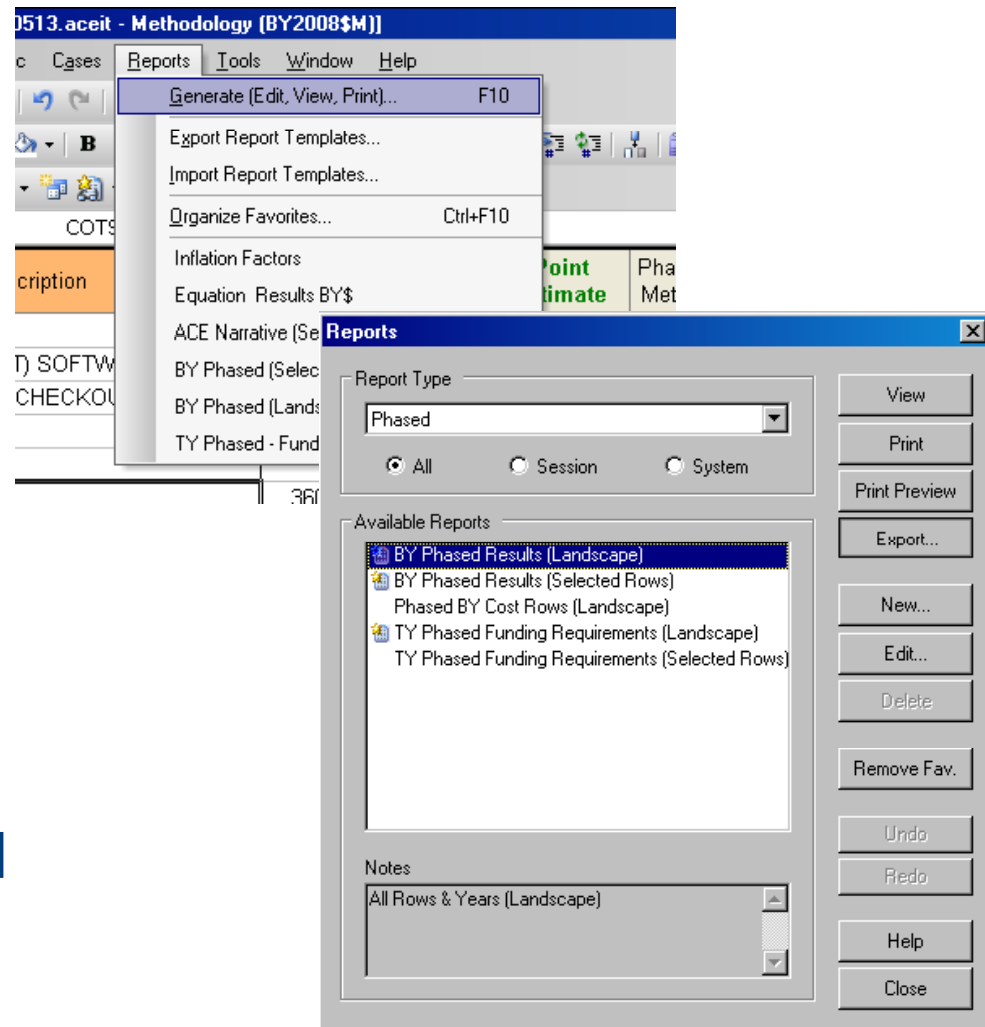
OK Cancel Help

- Greater flexibility and more options when editing definitions or reports
- How it works:
 - When you create a new definition or edit an existing one, ACE opens Word
 - Create or edit the definition
 - Format text as desired
 - Return to ACE and import the new definition
 - Documentation > Import



Export Reports to Word or Excel

- Reports > Generate > Select desired report, click Export
- Specify a filename for the report
- All reports except narrative are TXT files; Narrative reports are RTF files
- TXT files can be imported into Excel and RTF files can be imported into Word



Lessons Learned

- Document all changes made from version to version of an estimate
- Find your preferred method of documentation and follow a format – be consistent
- Document AS YOU GO!!!



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Questions?

- ACE 7.1a Help Menu
- ACEIT 7.0 User Guide
- Presentation, “The Power of ACEIT Reporting,” ACEIT Users’ Conference, 24 January 2007
- www.ACEIT.com
- Article, “Including Notes or Category columns in ACE Narrative Reports,” www.ACEIT.com, article ID# 1247, 6 February 2008
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