

“WHAT-IF” IMPACT ANALYSIS

EVA23 Presentation

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What does ANTICIPATION mean ?

anticipation

noun

the action of anticipating something; expectation or prediction.

synonyms: expectation, prediction, forecast

Why was I so convinced that TOTTENHAM would win this year's FA CUP ?

Anticipate



- Spurs last won the FA Cup in 1991.
- Since then they have lost eight FA Cup semi-finals.
- Their record against the Top Six is W-11 D-11 L-14

Anticipate future situations that will impact your program or company

Anticipate

- 69% of UK Construction projects exceed their budgets.
- One third of major UK Government projects (37 out of 106) due to deliver in the next five years are rated as red or amber-red.

Anticipate future situations that will impact your program or company

Anticipate

- Commons Public Accounts Committee stated that a ***'culture of over optimism' is to blame for underestimating cost of major Government projects.***
- National Audit Office stated that there is a ***'particularly persistent RISK management problem – the difficulties caused for government projects by unrealistic expectations and over-optimism'.***

Anticipate future situations that will impact your program or company

Anticipate

- How do you best anticipate and assess the risks that may impact your project so that you come up with a realistic and attainable schedule ?

Anticipate future situations that will impact your program or company

Anticipate

- Geo-political situations
- Corporate changes
- Workforce
- Innovation and Technology
- Subcontractor or raw material

What-If

- Anticipate potential what-if scenarios
- Define and Analyze the impacts of What-If
 - Schedule
 - Resources
 - Cost

Anticipate, then identify impacts of potential scenarios using what-if analysis

What-if analysis supports:

- Risk and Opportunity identification
- Management Reserve and Schedule Margin usage
- Financial Projections

Example of how to easily create and maintain what-ifs in a program's life cycle

Example

A small business subcontractor to your program has just lost a major contract that made up 60% of their sales. They have a major milestone scheduled to your program in 14 months.

Anticipate that they are going to claim bankruptcy so you need bring the work in house

Create a what if to identify impacts to schedule, your revised resource requirements and cost impacts

Project	Description	Version	Description
ADMIN	Administrative Tasks	0	Current Version
ATHENS	ATHENS Development Project	1	Jan 15
CAIRO	CAIRO Development Project for TV Testing	2	FEB 15
DC1114	Documentation for 1996 Tax Laws	3	MAR 15
DUBLIN	DUBLIN Development Project	4	APR 15
EVPROJ	Case Study of Different EV Methods	5	MAY 15
GL1114	General Ledger 1996 Tax Laws	6	JUN 15
HAVANA	HAVANA Development Project	7	JUL 15
HOURPROJ	Hourly Case Study	8	AUG 15
MAINT1	Maintenance Project #1	9	SEP 15
MAINT2	Maintenance Project #2	10	OCT 15
MAINT3	Maintenance Project #3	11	NOV 15
MAINT4	Maintenance Project #4	12	DEC 15
MAINT5	Maintenance Project #5	13	JAN 16
MILAN	MILAN Development Project	14	FEB 16
ORLANDO	ORLANDO Development Project	40	What-if material late Risk 001
PARIS	PARIS Development Project	41	What-if Iron Work Strike R018
PR1108	Personnel Benefits Report Package	45	What-if ABC Bankruptcy R032
PR1115	Rework Personnel Benefits Screen	97	Baseline Ver as of 07222015
PY1109	Payroll New Quarterly Report Package	98	Baseline Ver as of 01012015
PY1114	Payroll Systems 1996 Tax Laws	99	Baseline Version (Current)
TEMPLATES	Information Services Project Models		
VIEWS ENT-DEMO	Demo Project Ent One to One		
VIEWS5-DEMO 1	Demo Project-CostView Only		
VIEWS5-DEMO 2	Demo Project-ProjectView Only		
VIEWS5-DEMO 3	Demo Project-Interoperable 1-1		
VIEWS5-DEMO 4	Demo Project-Interoperable Many-1 Weekly Data		
VIEWS5-DEMO 5	Demo Project-Interoperable Many-1 Multi-Cur/Sum Res/		

- Artemis ProjectView enables up to 100 active schedule versions of a project
 - An unlimited number can be achieved
- User defines the identification of version number except Version 0 is the current status version and Version 99 is the current baseline version
- Our what-if example is Version 45

What-if or Baseline Change Process

The screenshot shows the 'BCR Process Options' dialog box. It contains several input fields for project and cost type information, a log file name field with a browse button, and a list of checkboxes for process options. The 'OK', 'Close', and 'Help' buttons are located on the right side of the dialog.

Field	Value
Project Name:	VIEW'S ENT-DEMO-2
Program Name:	VIEW'S ENT-DEMO-2
Contract Number:	FAB707-12-0003
Baseline Cost Type:	B2
New Plan Cost Type:	N1
Replan Cost Type:	B1
Actual Cost Type:	A1
Earned Cost Type:	B3
BCR Request ID:	2002
BCR Status:	M
Trace ID:	TR1011
Current Status Version:	0
Baseline Version:	99
Model Version:	40
Proposed Baseline Version:	2
Model Backup Version:	1

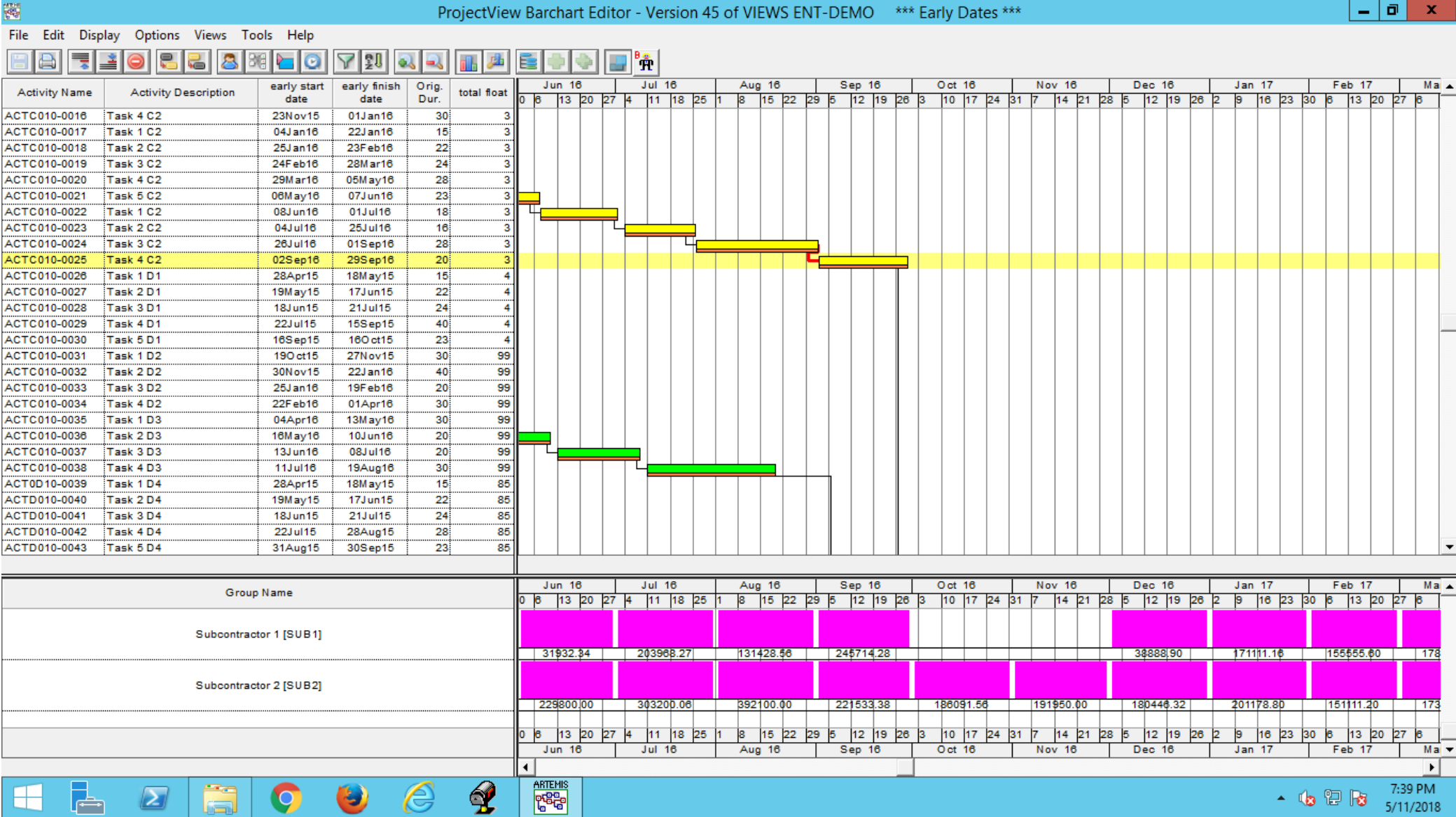
Log File Name:
D:\swinst\ArtemisViews\VIEW'S\FILES\VIEW'S ENT-DEMO-2-2002.rpt

Execute Schedule Adjustment (before Trace ID Propagate)
 Propagate Trace ID
 Merge Modeled Version with Current Status Version
 Merge Modeled version with Baseline version
 Consolidate Modeled changes into New Plan cost type (New Plan is rated after consolidation)
 Merge New Plan cost type with Baseline cost type into Replan cost type (with validation checks)
 Prepare for final BCR approval
 Calculate delta between Replan cost type and Baseline cost type, and prepare WADs.
 Invoke final BCR approval
 Replace Baseline with Approved Proposed Baseline and Update Current Status schedule version

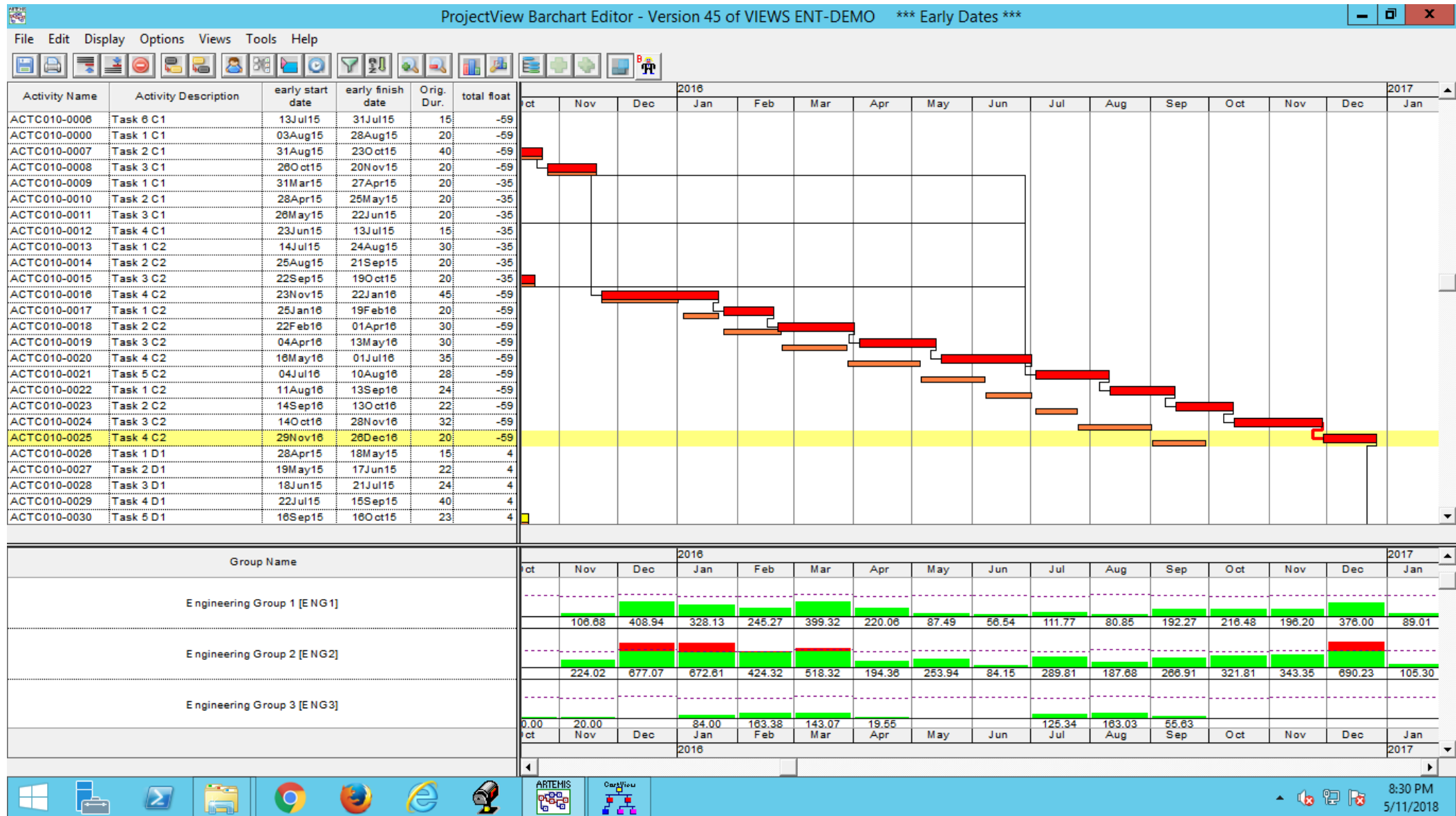
Buttons: OK, Close, Help

- Artemis also has an automated Baseline Change Process that can be used to support the what-if analysis by using all of the imbedded change process steps except the ones which commits changes to the Baseline.
- Using this process will allow the what-if impact to use all of the built in analysis and reporting within the single database application

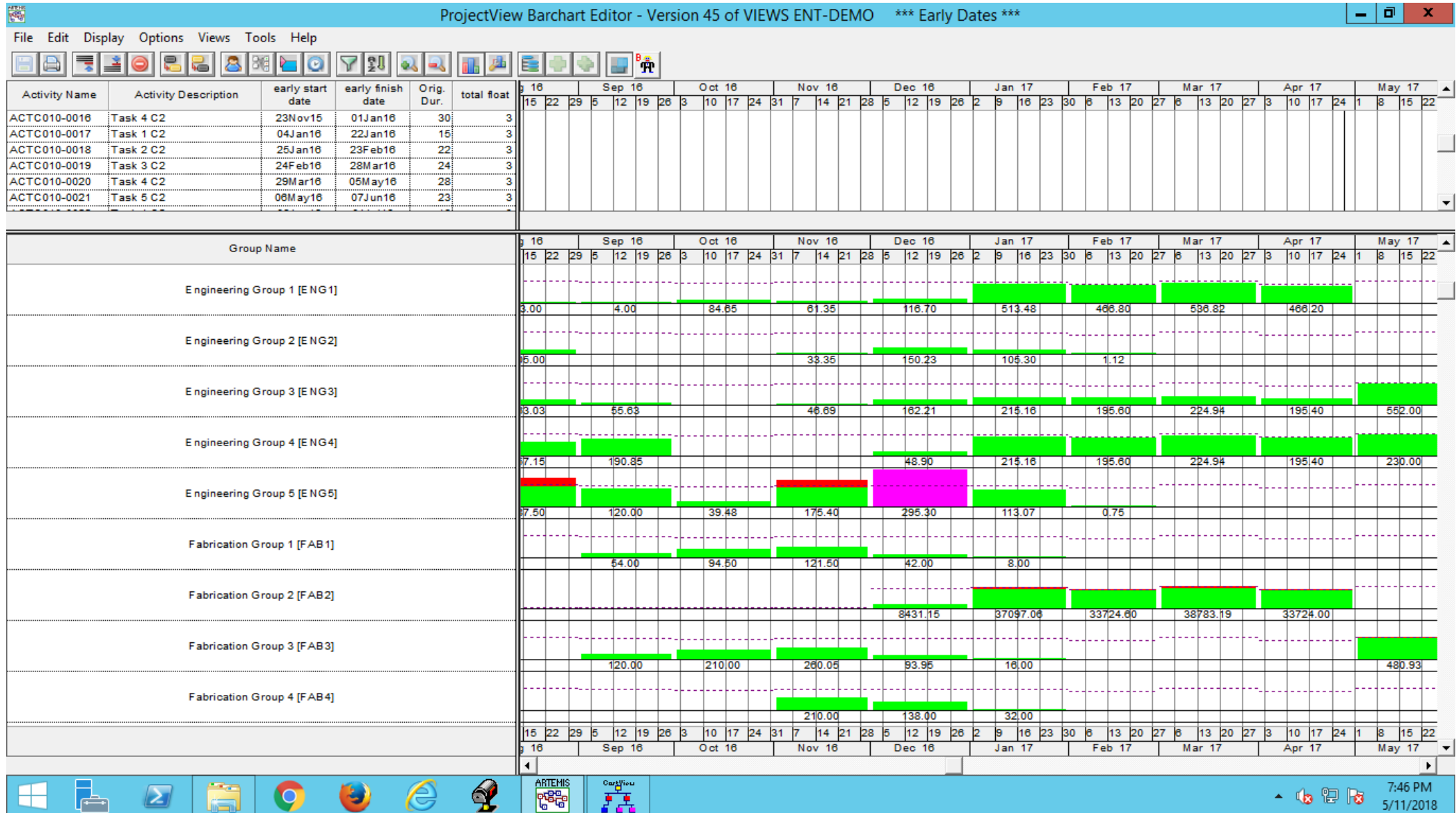
Schedule Prior to What-If Update



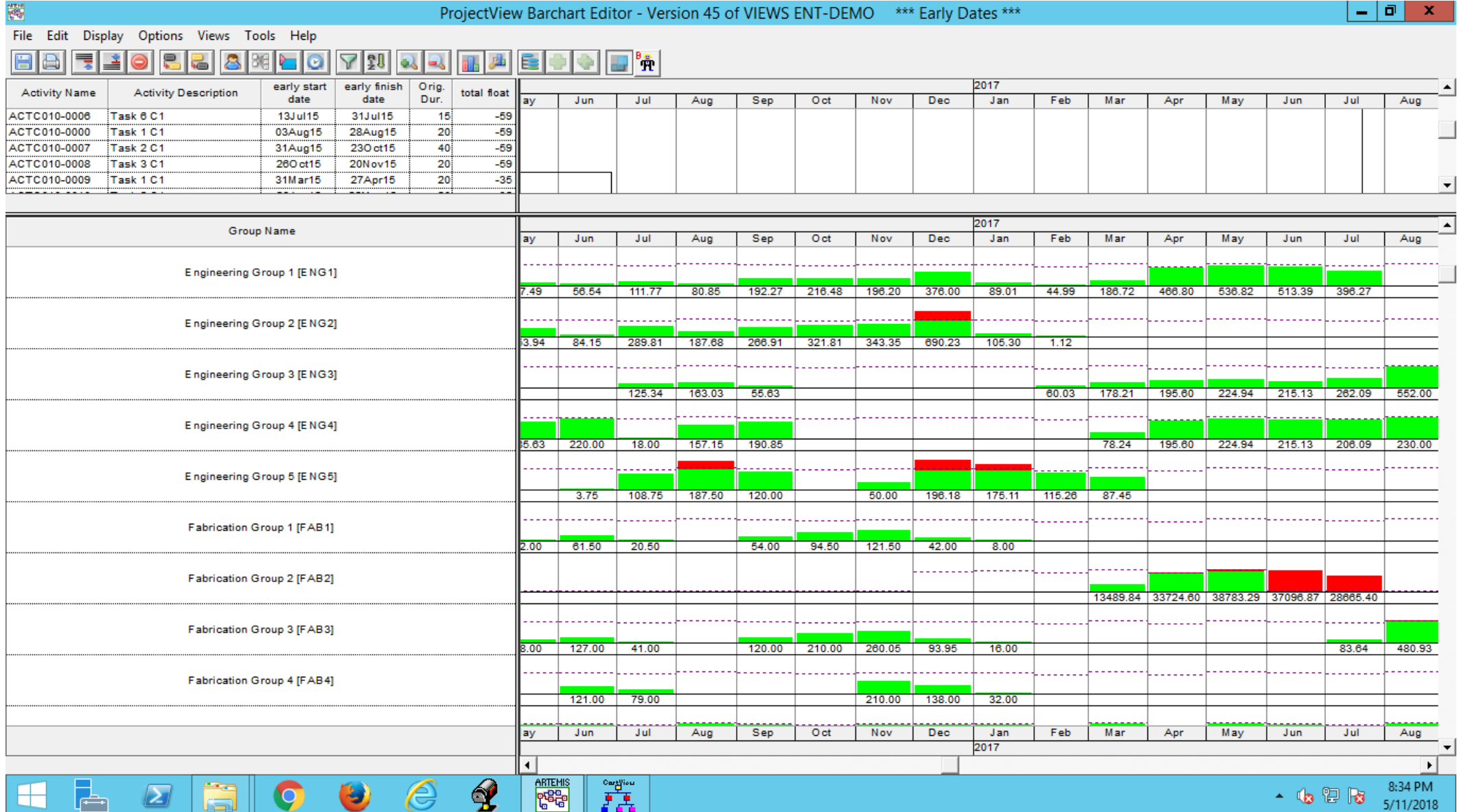
Schedule After What-If Update



Resources Prior to What-If Update



Resources After What-If Update



What-If Cost Analysis

WBS	Prior to Change		After Change		Change Delta	
1.1 (Ship)	Hours	242,985	Hours	242,985	Hours	0
	Total	\$19,758,940	Total	\$19,772,362	Total	\$13,422
1.2 (Electric Plant)	Hours	1,800	Hours	1,800	Hours	0
	Total	\$97,337	Total	\$97,337	Total	\$0
1.3 (Command, Communication)	Hours	971	Hours	971	Hours	0
	Total	\$79,330	Total	\$79,330	Total	\$0
1.4 (Auxiliary Systems)	Hours	10,920	Hours	10,920	Hours	0
	Total	\$1,374,120	Total	\$1,376,970	Total	\$2,850
1.5 (Outfit and Furnishings)	Hours	2,660	Hours	2,660	Hours	0
	Total	\$9,858,767	Total	\$9,861,933	Total	\$3,166
1.6 (Armament)	Hours	9,865	Hours	9,865	Hours	0
	Total	\$692,616	Total	\$703,078	Total	\$10,462
1.7 (Total Ship)	Hours	1,480	Hours	1,480	Hours	0
	Total	\$11,967,219	Total	\$11,963,747	Total	-\$3,472
1.8 (Ship Assembly and Support)	Hours	1,875	Hours	1,875	Hours	0
	Total	\$100,910	Total	\$100,910	Total	\$0
1.9 (Systems Engineering)	Hours	4,187	Hours	11,192	Hours	7,005
	Total	\$15,307,430	Total	\$11,898,671	Total	-\$3,408,759
1.11 (Propulsion Plant)	Hours	2,880	Hours	2,880	Hours	0
	Total	\$268,307	Total	\$271,503	Total	\$3,196
	Hours	279,623	Hours	286,628	Hours	7,005
TOTALS	Total	\$59,504,976	Total	\$56,125,841	Total	-\$3,379,134

Example Analysis

Schedule: Program Total Float goes from +3 to -59 so approximately a 12 week negative impact to the schedule

Resources: Some added stress to the Engineering Groups 1 and 2 but nothing that can't be dealt with overtime since it is less than 10% but Fabrication Group 2 will have to be investigated since their activities are being push out but currently they are being shown as unavailable

Cost shows a favorable impact of \$3.4M all from in house labor costing less than the subcontractor. There are some increases due to activities being moved out but not significant.

Example Next Steps

Most likely this will be added to the Risk Register and monitored.

Additional investigation for mitigation of the schedule impact and resource issues need to be done

Based on the current information the program has a few months to make a decision to stay with subcontractor or bring it in-house

If the what-if is done using the Baseline Change process updates can easily be incorporated along with progress and other baseline changes

QUESTIONS

THANK YOU