



Project Controls

E X P O

Project Controls Expo – 13th Nov 2013

Twickenham Stadium, London

**From Cost Plan To Bid Evaluation
To Contract Administration
The Earned Value Project Control Cycle**



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About the Speaker

Roland Horat, Managing Director of Supertech Project Management (Australia) Pty Ltd. an international project management consulting company.

Roland is a specialist in Earned Value (EVPM) Based Project Management and Control systems.

Roland's company are the developers of the EVENGINE range of Earned Value based project control and reporting software.

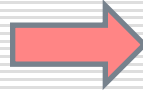
The EVENGINE Project Control software is showcased at this Expo.

The Earned Value Project Control Cycle Overview

The Cycle Overview - Data and Software

COST PLAN

SCHEDULE



CASH FLOW PRODUCTIVITY

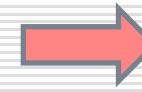
The Cost Plan

Contractor's PRICE

Contractor's PRICE

Contractor's Schedule

Contractor's Schedule

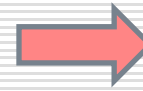


CASH FLOW PRODUCTIVITY ANALYSIS

The Bid Evaluation And Award

Contractor's PRICE

Contractor's Schedule

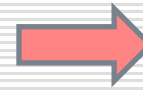


EARNED VALUE PERFORMANCE REPORTS

The Contract Administration

Contract PRICE

Contractor's Schedule



EARNED VALUE PERFORMANCE REPORTS

The Cost Plan

The Cost Plan - Work Breakdown Structure

What is a Cost Plan ? Cost Plan is the Estimate for the project based on the Scope of Work Measured Trade Elements

The Cost Plan has a Cost Work Breakdown Structure (CWBS) To Mirror The Project Scope of Work.

Typical CWBS for an Industrial/Infrastructure Project:

- Level 1 - The Project
 - Level 2 - Phase/Stage - Separable Portions
 - Level 3 - Area /Facility – Construction Zones
 - Level 4 - Resource - Trade Based Activities
 - Level 5 - Resource Trade Based Elements - Units of Measure and Pricing
- ❑ The Estimate Outline Structure is then generally mirrored within the corresponding schedule.

The Cost Plan - Structure Example

Representative CWBS Outline for an Infrastructure Project

- L1 - THE PROJECT
- L2 – KEY CONTROL MILESTONES
- L2 - SEPARABLE PORTIONS (SP1 – 5)
 - ❖ L3 - CONSTRUCTION ZONE C7 (SP5)
 - L4 - PRELIMINARIES
 - L4 - DEMOLITION
 - L4 - CIVIL ROAD WORKS
 - L4 – SERVICES & FINISHES
 - L4 – CONCRETE WORKS
 - ❑ L5 - 50mm thick blinding concrete - mx2
 - ❑ L5 - Concrete to protection barriers - mx2
 - ❑ L5 - Formwork to edge of protection barriers - mx2
 - ❑ L5 - Reinforcement to protection barriers - 100 kg/m³ - t
 - ❑ L5 - 100mm compressible foam to pylons - mx2
 - ❑ L5 - Impact attenuator at protection barriers - No



The Cost Plan - Structure

Example Infrastructure Level 5 Trade Element Based Estimate

Trade	Separable Portion	Construction Zone	Reference	Description	Quantity	Unit	Rate	Cost	Subtotals And Totals
DEMOLITION	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES	2-2-0	SITE CONTAMINATION / ASBESTOS REMOVAL				\$	250,000.00
DEMOLITION	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES	2-3-0	DEMOLITION				\$	2,483,165.60
DEMOLITION	TOTAL	TOTAL	2-5-0	TOTAL DEMOLITION				\$	2,733,165.60
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	NOT APPLICABLE	3-0-0	EXCAVATION AND EARTHWORKS				\$	6,965,123.00
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	ALL CONSTRUCTION ZONES	3-2-0	SOFT SPOTS				\$	200,000.00
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	ALL CONSTRUCTION ZONES	3-3-0	RE-USE OF EXISTING FILL ON SITE				\$	530,000.00
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 1	NOT APPLICABLE	3-3-4	SEPARABLE PORTION - SP1 - BUFFERS				\$	85,542.00

Trade	Separable Portion	Construction Zone	Reference	Description	Quantity	Unit	Cost
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	3-3-42	General excavation and earthworks for hard pavements (Area of pavements provided)	7,101	m2	\$ 163,323.00
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	3-3-43	Ditto - hard landscaping pavements	800	m2	\$ 4,800.00
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	3-3-44	Ditto - soft landscaping areas (lawns, garden beds, etc)	6,150	m2	\$ 36,900.00
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-58	Wearing Course : 40 thick layer of size 14mm Type H/V	4,417	m2	\$ 73,322.20
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-59	Intermediate Course : 180 thick layer of size 20mm Type SI	4,417	m2	\$ 310,073.40
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-60	Sub-base : 75 thick layer of size 20mm Type SF Asphalt	4,417	m2	\$ 129,197.25
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-59	Upper Sub-base : 180 thick layer of Class 3.3% Cement Treated Upper Subbase, E 500 MPa	4,417	m2	\$ 95,407.20
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-60	Lower Sub-base : 180 thick layer of Class 4 Crushed Rock	4,417	m2	\$ 51,678.90
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-61	Addenda 4 Addition - 345mm Capping material	4,417	m2	\$ 38,096.63
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-63	Subgrade preparation	4,417	m2	\$ 13,251.60
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-65	Wearing Course : 40 thick layer of size 14mm Type H/V Asphalt	1,613	m2	\$ 26,775.80
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-65	Intermediate Course : 140 thick layer of size 20mm Type SI	1,613	m2	\$ 88,069.80
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-65	Sub-base : 75 thick layer of size 20mm Type SF Asphalt	1,613	m2	\$ 50,325.60
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-68	Upper Sub-base : 180 thick layer of Class 3.3% Cement Treated Upper Subbase, E 500 MP	1,613	m2	\$ 34,840.80
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-69	Lower Sub-base : 180 thick layer of Class 4 Crushed Rock	1,613	m2	\$ 18,872.10
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-70	Subgrade preparation	1,613	m2	\$ 4,839.00
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-72	Concrete pavement to Traffic Islands	1,071	m2	\$ 131,733.92
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-76	Kerbs to edge of pavements (as per detail on Drawing 200-1000 dia RC bored piles - 20m long - with 150 kg/m3 reinforcement - to Pier Protection Barriers (2 No. to pylons	1,038	m	\$ 46,710.00
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-76	area of pavements provided)	1,038	m	\$ 47,746.37
EXCAVATION AND EARTHWORKS	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	4-1-76	area of pavements provided)	6,029	m2	\$ 30,145.00
PILING	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	5-2-19	'1000 dia RC bored piles - 20m long - with 150 kg/m3 reinforcement - to Pier Protection Barriers (2 No. to pylons	8	No.	\$ 312,800.00
CONCRETE (INCLUDING	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	6-4-27	Under protection barriers	334	m2	\$ 8,016.00
CONCRETE (INCLUDING	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	6-4-28	50mm thick blinding concrete	334	m2	\$ 6,346.00
CONCRETE (INCLUDING	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	6-4-29	Concrete to protection barriers	650	m3	\$ 230,750.00
CONCRETE (INCLUDING	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	6-4-30	Formwork to edge of protection barriers	388	m2	\$ 68,288.00
CONCRETE (INCLUDING	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	6-4-31	Reinforcement to protection barriers - 100 kg/m3	64.96	t	\$ 168,902.50
CONCRETE (INCLUDING	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	6-4-32	100mm compressible foam to existing pylons	136	m2	\$ 2,720.00
CONCRETE (INCLUDING	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	6-4-33	Impact attenuator at end of protection barriers - 2200 wide	4	No.	\$ 56,000.00
DRAINAGE SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	12-1-1	excavation exceeding 3m deep, with side entry cover	1	Item	\$ 50,000.00
DRAINAGE SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	12-1-52	Ditto - exceeding 3m but not exceeding 4m deep	2	No.	\$ 13,500.00
DRAINAGE SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C7	12-1-53	Ditto - exceeding 4m but not exceeding 6m deep	1	No.	\$ 6,750.00

L5 - Trade Category Estimate Element

Estimate Extract for Separable Portion 5, Construction Zone C7, Resource Trade Category Civil Road Works, Element Pavement

Estimate Quantity

Estimate Unit

Estimate Price

L4 - Resource/Trade Category

Estimate Line item

L2 - Separable Portions

L3 - Construction Zone

The Cost Plan - Schedule

Example Cost Plan Corresponding Level 1 to 5 Implementation Schedule

LEVEL 1 - Project		ES	EF	Half 2, 2014					Half 1, 2015					Half 2, 2015								
				J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
				Gantt Chart (Blue bars)																		
	[-] CIVIL CONSTRUCTION	29 Jan '14	1 Dec '15	[Gantt bar]																		
8625	+ SEPARABLE PORTION 1	29 Jan '14	12 Dec '14	[Gantt bar]																		
8652	+ SEPARABLE PORTION 2	29 Jan '14	18 Feb '15	[Gantt bar]																		
8662	+ SEPARABLE PORTION 3	1 May '15	1 Dec '15	[Gantt bar]																		
8706	+ SEPARABLE PORTION 4	1 May '15	21 Aug '15	[Gantt bar]																		
8735	[-] SEPARABLE PORTION 5	29 Jan '14	1 Dec '15	[Gantt bar]																		
9283	AREA C DEMOLITION	1 Apr '14	5 Mar '15	[Gantt bar]																		
8736	+ SP05-C19: BUFFERS No.6, WEBB POINT OBSERVATION DECK (OPTION A)	16 Oct '14	14 Mar '15	[Gantt bar]																		
8757	+ SP05-C20: BUFFERS No.4, PERC WHITE RESERVE	25 Nov '14	4 Mar '15	[Gantt bar]																		
8780	+ SP05-C21: BUFFERS No.5, WEBB DOCK EAST TRAIL RECREATIONAL FACILITIES	29 Oct '14	18 Mar '15	[Gantt bar]																		
	+ SP05-C11: TODD ROAD NORTH INCL WEST GATE PARK	29 Jul '14	20 Oct '14	[Gantt bar]																		
	+ SP05-C12: TODD ROAD/ COOK STREET INTERSECTION	23 Aug '14	29 Nov '14	[Gantt bar]																		
	+ SP05-C13: COOK STREET	21 Oct '14	12 Feb '15	[Gantt bar]																		
	+ SP05-C14: TODD ROAD/ WESTGATE FREEWAY INTERSECTION	22 Jan '15	3 Jun '15	[Gantt bar]																		
8939	+ SP05-C15: WESTGATE FREEWAY ON RAMP	12 Feb '15	13 May '15	[Gantt bar]																		
8970	+ SP05-C05: ALPHA ROAD	29 Jan '14	9 Oct '14	[Gantt bar]																		
9002	[-] SP05-C07: ALPHA ROAD/ CHARLIE ROAD		30 Oct '14	[Gantt bar]																		
9285	+ DEMOLITION		5 Aug '14	[Gantt bar]																		
9003	+ EARTHWORKS		4 Sep '14	[Gantt bar]																		
9015	[-] CIVIL ROADWORKS		9 Oct '14	[Gantt bar]																		
9016	Trim Subgrade	4 Sep '14	8 Sep '14	[Gantt bar]																		
9017	Lower Subbase		1 Sep '14	[Gantt bar]																		
9018	Subbase		6 Sep '14	[Gantt bar]																		
9019	Kerb & Channel/ Edge Strip		2 Sep '14	[Gantt bar]																		
9020	Base Course		7 Oct '14	[Gantt bar]																		
9021	Intermediate Wearing Course	7 Oct '14	8 Oct '14	[Gantt bar]																		
9022	Wearing Course	8 Oct '14	9 Oct '14	[Gantt bar]																		
9025	+ SERVICES & FINISHES			[Gantt bar]																		
9284	+ CONCRETE			[Gantt bar]																		
9029	+ SIGN GANTRY			[Gantt bar]																		
9274	+ SIGNALLING/LIGHTING/BARRIERS/SIGNAGE			[Gantt bar]																		
9275	+ LANDSCAPING			[Gantt bar]																		
9036	+ SP05-C08: CHARLIE ROAD and BUFFER No.1	5 Aug '14	11 Aug '15	[Gantt bar]																		
9097	+ SP05-C09: SHORT ROAD STORMWATER DRAINAGE	22 Nov '14	16 Jan '15	[Gantt bar]																		

LEVEL 2 - Separable Portions

LEVEL 3 - Construction Zones

LEVEL 4 - Resource/Trade Category

LEVEL 5 - Trade Category Estimate Element

[-] The Schedule is Structured To facilitate Mapping to the Cost Plan

The Cost Plan - Schedule to Cost Plan Mapping

Schedule and Cost Data Mapped, Imported & Maintained Within EVENGINE

Project	Unique ID	Level	Summary	Name	Early Start	Early Finish	Baseline Start	Baseline Finish	Baseline2 Start	Baseline2 Finish	Late Start	Late Finish	WBS	CA	OBS	Resource	Stage/Phase	Area/Facility	User Defined 1
RD	8607	1	No	Allow for preparation of shop drawings	21-Nov-2013	28-Feb-2014										PORTIONS	CARPENTRY	ALL SEPARABLE PORTIO	ALL CONSTRUCTION ZONES 10 - 1 - 1
RD	8607	1	No	Allow for preparation of shop drawings	21-Nov-2013	28-Feb-2014										PORTIONS	CARPENTRY	ALL SEPARABLE PORTIO	ALL CONSTRUCTION ZONES 10 - 1 - 1
RD	8607	1	No	Allow for samples	21-Nov-2013	28-Feb-2014										PORTIONS	CARPENTRY	ALL SEPARABLE PORTIO	ALL CONSTRUCTION ZONES 10 - 1 - 2
RD	8607	1	No	Allow for samples	21-Nov-2013	28-Feb-2014										PORTIONS	CARPENTRY	ALL SEPARABLE PORTIO	ALL CONSTRUCTION ZONES 10 - 1 - 2
RD	8607	1	No	Allow for tests	21-Nov-2013	28-Feb-2014										ALL SEPARABLE PORTIONS	CARPENTRY	ALL SEPARABLE PORTIO	ALL CONSTRUCTION ZONES 10 - 1 - 3
RD	8607	1	No	Allow for tests	21-Nov-2013	28-Feb-2014										ALL SEPARABLE PORTIONS	CARPENTRY	ALL SEPARABLE PORTIO	ALL CONSTRUCTION ZONES 10 - 1 - 3
RD	8638	1	No	Allow for protective coatings, maintain the works and for cleaning off on complete	2014	8-Apr-2014										CARPENTRY			
RD	8638	1	No	Allow for protective coatings, maintain the works and for cleaning off on complete	2014	8-Apr-2014										CARPENTRY			
RD	8638	1	No	All exposed panels are to be coated with specified	2014	2-Oct-2014	28-May-2014	2-Oct-2014	8-Apr-2014	11-Jul-2014	28-May-2014	2-Oct-2014				ALL SEPARABLE PORTIONS	CARPENTRY	ALL SEPARABLE PORTIO	ALL CONSTRUCTION ZONES 10 - 2 - 1
RD	8638	1	No	All exposed panels specified	2014	2-Oct-2014	28-May-2014	2-Oct-2014	8-Apr-2014	11-Jul-2014	28-May-2014	2-Oct-2014				ALL SEPARABLE PORTIONS	CARPENTRY	ALL SEPARABLE PORTIO	ALL CONSTRUCTION ZONES 10 - 2 - 1
RD	8747	1	No	190 x 32mm timber	2014	13-Mar-2015	24-Nov-2014	13-Mar-2015	2-Sep-2014	29-Nov-2014	24-Nov-2014	13-Mar-2015				SEPARABLE PORTION 5	CARPENTRY	SEPARABLE PORTION 5	CONSTRUCTION ZONE C19 10 - 2 - 41
RD	8747	1	No	190 x 32mm Iron Bark Timber Top Class 1 for concrete seats	24-Nov-2014	13-Mar-2015										CARPENTRY			
RD	8747	1	No	300 wide x 2000 long timber seat on steel frame	24-Nov-2014	13-Mar-2015										CARPENTRY			
RD	8747	1	No	300 wide x 2000 long timber seat on steel frame	24-Nov-2014	13-Mar-2015										CARPENTRY			
RD	8747	1	No	190 x 32mm Iron Bark timber decking or Class 1 Spotted Gum comprising 316 stainless steel bugle screws and structural 150 x	13-Mar-2015											CARPENTRY			

Project	Unique ID	Level	Summary	Name	%CompC	BAC	BAC	EAC	SP	Cost Var.	%CompW	BACW	BACW2	EACW	Work Var.	%CompQ	BACQ	BACQ2	EACQ	Qty Var.	Unit	Var. Type
RD	8983	1	No	Ditto - Short Road from North West Roundabout	0.00%	\$16,887	\$16,887	\$16,887	\$0	\$0	0.00%	5,275.44	70.00	75.36	0.00%	431.00	431.00	431.00			m2	
RD	8983	1	No	Kerbs to edge of pavements (as per detail on Drawing 200-CPD-001) Allow for subsurface drain adjacent to kerbs as per Vicroads Drawing SD1621)	0.00%	\$66,929	\$66,929	\$66,929	\$0	\$0	0.00%	20,908.80	70.00	298.70	0.00%	1,936.00	1,936.00	1,936.00			m	
RD	8983	1	No	Kerb channel between differing pavements	0.00%	\$68,414	\$68,414	\$68,414	\$0	\$0	0.00%	21,372.71	70.00	305.32	0.00%	1,936.00	1,936.00	1,936.00			m	
RD	8983	1	No	Allow for linemarking to all new and re-shaped pavements (area of pavements provided)	0.00%	\$899	\$899	\$899	\$0	\$0	0.00%	280.80	70.00	4.01	0.00%	26.00	26.00	26.00			m	
RD	9015	1	No	Wearing Course : 40 thick layer of size 14mm Type H/V Asphalt	0.00%	\$38,351	\$38,351	\$38,351	\$0	\$0	0.00%	11,980.80	70.00	171.15	0.00%	9,984.00	9,984.00	9,984.00			m2	
RD	9015	1	No	Intermediate Course : 180 thick layer of size 20mm Type SI Asphalt	0.00%	\$56,329	\$56,329	\$56,329	\$0	\$0	0.00%	17,597.33	70.00	251.39	0.00%	4,417.00	4,417.00	4,417.00			m2	
RD	9015	1	No	Base Course : 80 thick layer of size 20mm Type SF Asphalt	0.00%	\$238,211	\$238,211	\$238,211	\$0	\$0	0.00%	74,417.62	70.00	1,063.11	0.00%	4,417.00	4,417.00	4,417.00			m2	
RD	9015	1	No	Upper Sub-base	0.00%	\$99,254	\$99,254	\$99,254	\$0	\$0	0.00%	31,007.34	70.00	442.96	0.00%	4,417.00	4,417.00	4,417.00			m2	
RD	9015	1	No	Removal of existing pavements and making good for soft landscaping (measured elsewhere) where shown in yellow on Pavement Drawings	0.00%	\$73,296	\$73,296	\$73,296	\$0	\$0	0.00%	22,897.73	70.00	327.11	0.00%	4,417.00	4,417.00	4,417.00			m2	
RD	8627	1	No	Lower Sub-base, 180 thick layer of Class 4 Crushed Rock	0.00%	\$13,759	\$13,759	\$13,759	\$0	\$0	0.00%											
RD	9015	1	No	Addend	0.00%	\$39,702	\$39,702	\$39,702	\$0	\$0	0.00%											
RD	9015	1	No	Subgrade	0.00%	\$29,267	\$29,267	\$29,267	\$0	\$0	0.00%											
RD	9015	1	No	Wearing	0.00%	\$10,180	\$10,180	\$10,180	\$0	\$0	0.00%											
RD	9015	1	No	Intermediate	0.00%	\$20,570	\$20,570	\$20,570	\$0	\$0	0.00%											
RD	9015	1	No	Base Course	0.00%	\$67,659	\$67,659	\$67,659	\$0	\$0	0.00%											
RD	9015	1	No	Upper Sub-base	0.00%	\$38,662	\$38,662	\$38,662	\$0	\$0	0.00%											
RD	9015	1	No	Subbase, E 500	0.00%	\$26,766	\$26,766	\$26,766	\$0	\$0	0.00%											
RD	9015	1	No	Lower Sub-base	0.00%	\$14,498	\$14,498	\$14,498	\$0	\$0	0.00%											
RD	9015	1	No	Subgrade preparation	0.00%	\$3,718	\$3,718	\$3,718	\$0	\$0	0.00%											
RD	9015	1	No	Concrete pavement to Traffic Islands	0.00%	\$101,203	\$101,203	\$101,203	\$0	\$0	0.00%	31,616.14	70.00	451.66	0.00%	1,071.00	1,071.00	1,071.00			m2	
RD	9015	1	No	Kerbs to edge of pavements (as per detail on Drawing 200-CPD-001) Allow for subsurface drain adjacent to kerbs as per Vicroads Drawing SD1621)	0.00%	\$35,884	\$35,884	\$35,884	\$0	\$0	0.00%	11,210.40	70.00	160.15	0.00%	1,038.00	1,038.00	1,038.00			m	
RD	9015	1	No		0.00%	\$36,681	\$36,681	\$36,681	\$0	\$0	0.00%	11,459.13	70.00	163.70	0.00%	1,038.00	1,038.00	1,038.00			m	
					0.00%	103.35					0.00%	6,029.00	6,029.00	6,029.00			6,029.00	6,029.00	6,029.00			m2
					0.00%	384.06					0.00%	6,748.00	6,748.00	6,748.00			6,748.00	6,748.00	6,748.00			m2
					0.00%	0.98					0.00%	11.00	11.00	11.00			11.00	11.00	11.00			m2
					0.00%	1,624.15					0.00%	6,748.00	6,748.00	6,748.00			6,748.00	6,748.00	6,748.00			m2
					0.00%	676.73					0.00%	6,748.00	6,748.00	6,748.00			6,748.00	6,748.00	6,748.00			m2
					0.00%	499.74					0.00%	6,748.00	6,748.00	6,748.00			6,748.00	6,748.00	6,748.00			m2
					0.00%	270.69					0.00%	6,748.00	6,748.00	6,748.00			6,748.00	6,748.00	6,748.00			m2
					0.00%	199.55					0.00%	6,748.00	6,748.00	6,748.00			6,748.00	6,748.00	6,748.00			m2

BAC2 = Budget At Completion 2 = Control Budget
 BAC = Budget At Completion = Contract Value
 EAC = Estimate At Completion = Contract Value with Cost Trends Covered By "Not Approved Variations" and "Contractor Other Costs"

Estimate Extract for Separable Portion 5, Construction Zone C7, Resource Trade Category Civil Road Works, Element Pavement

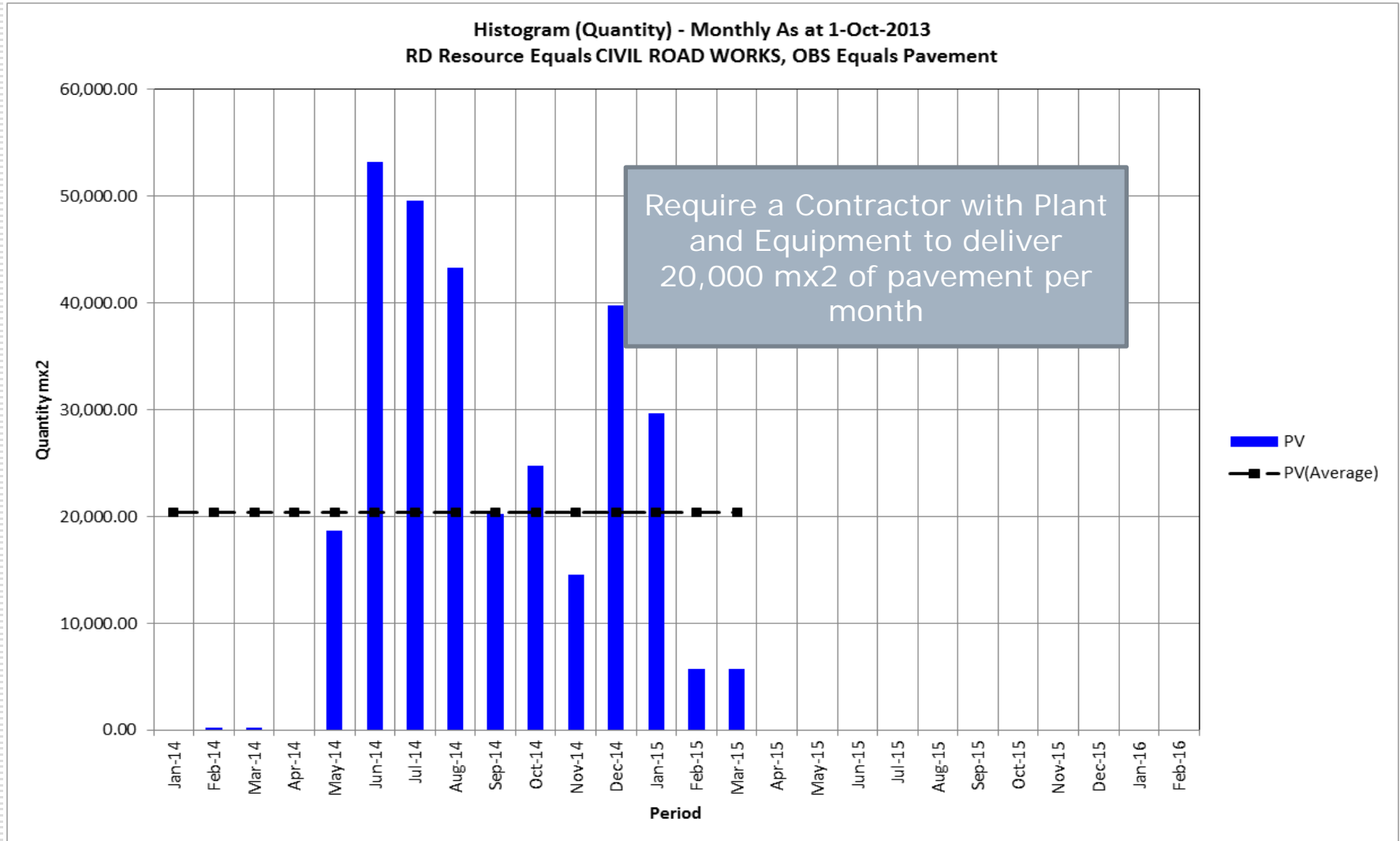
The Cost Plan – Earned Value Based Reports Benefits

The Benefits Early Integration of Cost Plan with Corresponding Implementation Schedule brings:

- ✓ Used to Estimate Expected Preliminary Costs (Overhead & Profit)
- ✓ Cash Flow - Expected Funding Requirements - Bank Facility - Interest
- ✓ Cash Flow - Expected Phased & Staged Funds Commitments
- ✓ Allocation for Funds for Risk and Inclement Weather Allowances
- ✓ Allocation of Contingency Time and Funds
- ✓ Identification Of Provisional Sums
- ✓ Allocation of Management Reserve
- ✓ Trade Based Labour Analysis - Used for Contractor Tender Selection
- ✓ Productivity Analysis to Assess Contractor's Requirement for Plant & Equipment - Used for Contractor Tender Selection
- ✓ Supply Chain Management - Assess Requirement for Early Placement of Bulk Orders Time Line and Value for Novation
- ✓ Data is Used to Shape the Contracting Plan

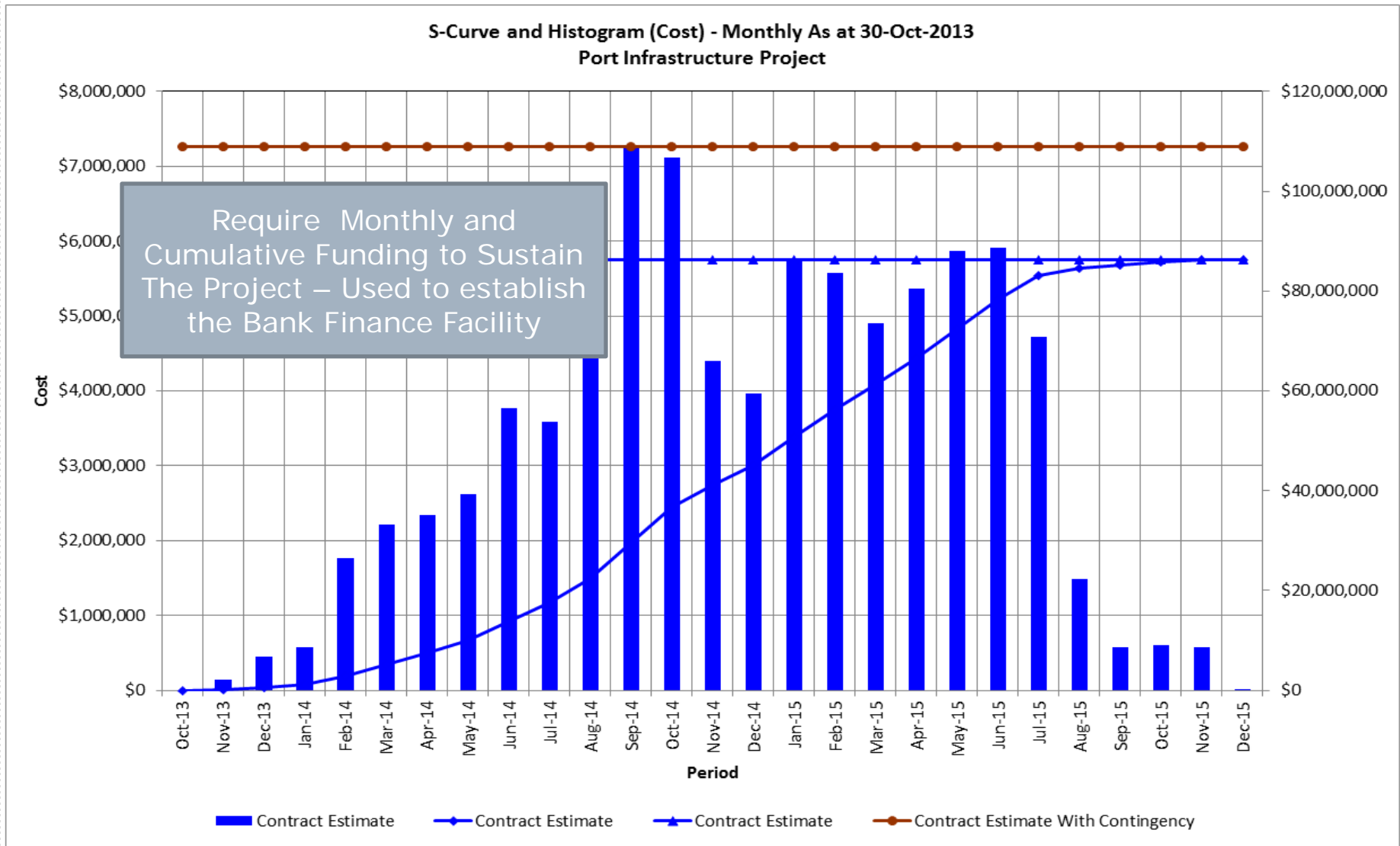
The Cost Plan – Earned Value Based Reports and Graphs

Trade Based Resource Analysis - Productivity Analysis to Assess Contractor's Requirement for Plant & Equipment - Used for Contractor Tender Selection



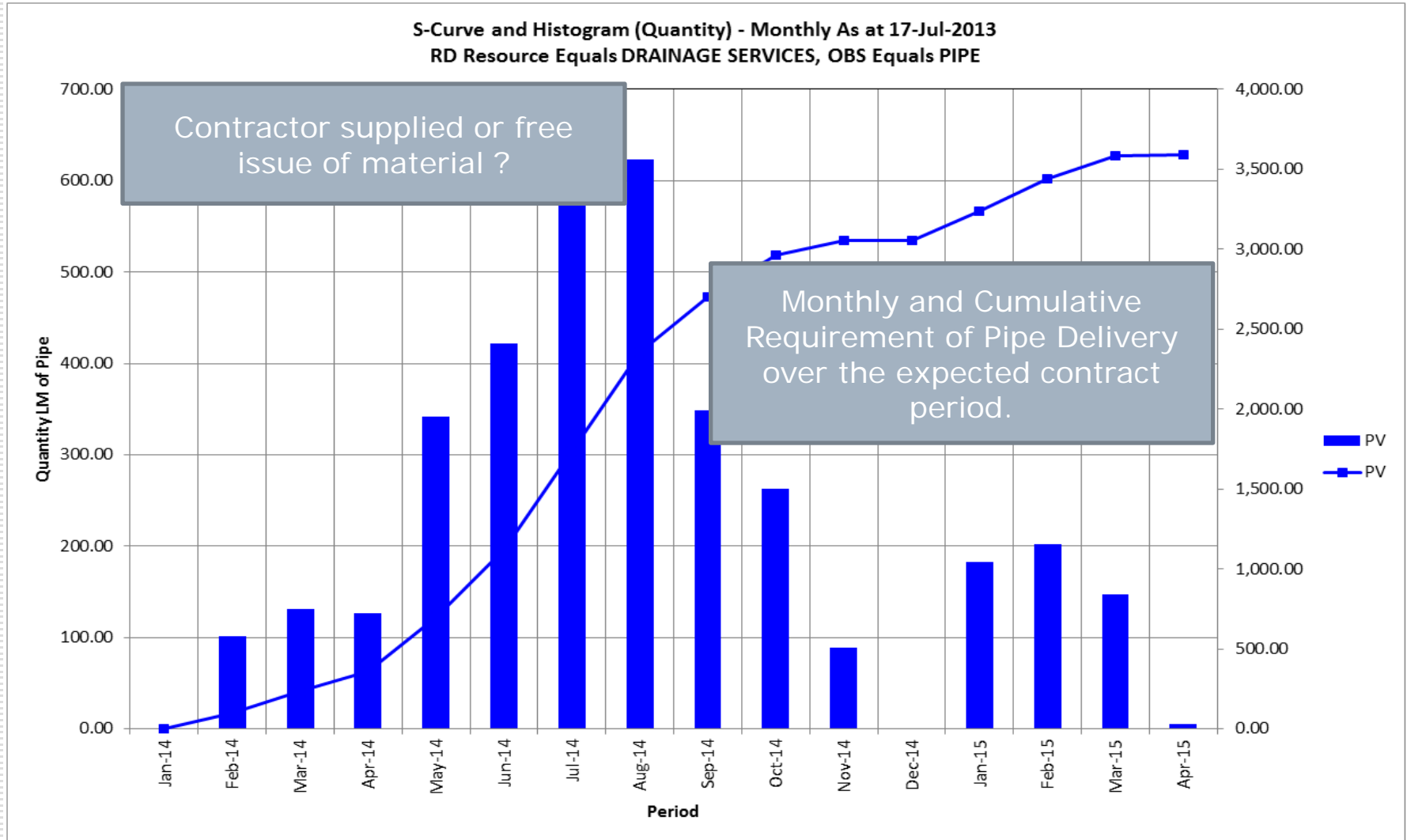
The Cost Plan – Earned Value Based Reports and Graphs

❑ Cash Flow - Expected Funding Requirements - Bank Facility - Interest



The Cost Plan – Earned Value Based Reports and Graphs

Supply Chain Management - Assess Requirement for Early Placement of Bulk Orders Time Line and Value for Novation



The Bid Evaluation and Award

The Bid Evaluation and Award

□ The Cost Plan and Schedule forms the Basis of the Contractor's Bid

- ✓ Prequalify and Select the Bidders based on Labour, Plant and Equipment requirements and Contractor Financial Capability to service the contract.
- ✓ Issue as part of the Tender Documentation The Schedule Template and Contract Bill for Pricing Corresponding the Cost Plan

Task Name	Start1	Finish1
CIVIL CONSTRUCTION	NA	NA
SEPARABLE PORTION 1	NA	NA
SEPARABLE PORTION 2	NA	NA
SEPARABLE PORTION 3	NA	NA
SEPARABLE PORTION 4	NA	NA
SEPARABLE PORTION 5	NA	NA
AREA C DEMOLITION	NA	NA
SPOS-C19: BUFFERS No.6, WEBB POINT OBSERVATION DECK (OPTION A)	NA	NA
SPOS-C20: BUFFERS No.4, PERC WHITE RESERVE	NA	NA
SPOS-C21: BUFFERS No.5, WEBB DOCK EAST TRAIL, RECREATIONAL FACILITIES	NA	NA
SPOS-C11: TODD ROAD NORTH INCL WEST GATE PARK	NA	NA
SPOS-C12: TODD ROAD/ COOK STREET INTERSECTION	NA	NA
SPOS-C13: COOK STREET	NA	NA
SPOS-C14: TODD ROAD/ WESTGATE FREEWAY INTERSECTION	NA	NA
SPOS-C15: WESTGATE FREEWAY ON RAMP	NA	NA
SPOS-C05: ALPHA ROAD	NA	NA
SPOS-C07: ALPHA ROAD/ CHARLIE ROAD INTERSECTION	NA	NA
DEMOLITION	NA	NA
EARTHWORKS	NA	NA
CIVIL ROADWORKS	NA	NA
SERVICES & FINISHES	NA	NA
CONCRETE	NA	NA
SIGN GANTRY	NA	NA
SIGNALLING/LIGHTING/BARRIERS/SIGNAGE	NA	NA
LANDSCAPING	NA	NA
SPOS-C08: CHARLIE ROAD and BUFFER No.1	NA	NA
SPOS-C09: SHORT ROAD STORMWATER DRAINAGE	NA	NA
SPOS-C10: WILLIAMSTOWN ROAD	NA	NA
SPOS-C16: TODD ROAD	NA	NA
SPOS-C17: TODD ROAD/ WILLIAMSTOWN ROAD INTERSECTION	NA	NA
SPOS-C2: BUFFERS No.7, WEBB DOCK WEST	NA	NA
SPOS-C23: SITE WIDE WATER/ SEWERAGE UTILITIES	NA	NA
SPOS-C24: SITE WIDE IT/ CCTV/ SECURITY	NA	NA
SPOS-C25: SITE WIDE ELECTRICAL INFRASTRUCTURE UPGRADE	NA	NA
All Roads, Services and Buffers works completed	NA	NA

Priced Schedule Item	Name	BAC	BACW	BACD	Unit	WBS	CA	OBS	Resource	Stage/Phase	Area/Facility
10-1-1	Allow for preparation of shop drawings	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		CARPENTRY	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
10-1-1	Allow for preparation of shop drawings	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		CARPENTRY	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
10-1-2	Allow for samples	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		CARPENTRY	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
10-1-2	Allow for samples	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		CARPENTRY	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
10-1-3	Allow for tests	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		CARPENTRY	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
10-1-3	Allow for tests	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		CARPENTRY	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
10-1-4	Allow for protective coatings, maintaining coatings during progress of the works and for cleaning off on completion	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		CARPENTRY	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
10-1-4	Allow for protective coatings, maintaining coatings during progress of the works and for cleaning off on completion	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		CARPENTRY	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
10-1-4	All exposed panels are to be coated with anti-graffiti coatings as specified	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		CARPENTRY	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
10-2-1	All exposed panels are to be coated with anti-graffiti coatings as specified	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		CARPENTRY	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
10-2-1	All exposed panels are to be coated with anti-graffiti coatings as specified	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		CARPENTRY	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
10-2-41	190 x 32mm timber top Class 1 for concrete seats	\$0	0.00	7.00	m2		SEPARABLE PORTION 5		CARPENTRY	SEPARABLE PORTION 5	CONSTRUCTION ZONE C19
10-2-41	190 x 32mm timber top Class 1 for concrete seats	\$0	0.00	7.00	m2		SEPARABLE PORTION 5		CARPENTRY	SEPARABLE PORTION 5	CONSTRUCTION ZONE C19
10-2-42	300 wide x 2000 long timber seat on steel frame	\$0	0.00	1.00	No.		SEPARABLE PORTION 5		CARPENTRY	SEPARABLE PORTION 5	CONSTRUCTION ZONE C19
10-2-42	300 wide x 2000 long timber seat on steel frame	\$0	0.00	1.00	No.		SEPARABLE PORTION 5		CARPENTRY	SEPARABLE PORTION 5	CONSTRUCTION ZONE C19
10-2-44	190 x 32mm Iron Bark timber decking or Class 1 Spotted Gum comprising 316 stainless steel bugle screws and structural150 x 45mm timber joist at 600ctrs to lookout level	\$0	0.00	83.00	m2		SEPARABLE PORTION 5		CARPENTRY	SEPARABLE PORTION 5	CONSTRUCTION ZONE C19
10-2-44	190 x 32mm Iron Bark timber decking or Class 1 Spotted Gum comprising 316 stainless steel bugle screws and structural150 x 45mm timber joist at 600ctrs to lookout level	\$0	0.00	83.00	m2		SEPARABLE PORTION 5		CARPENTRY	SEPARABLE PORTION 5	CONSTRUCTION ZONE C19
10-2-44	190 x 32mm Iron Bark timber decking or Class 1 Spotted Gum comprising 316 stainless steel bugle screws and structural150 x 45mm timber joist at 600ctrs to lookout level	\$0	0.00	83.00	m2		SEPARABLE PORTION 5		CARPENTRY	SEPARABLE PORTION 5	CONSTRUCTION ZONE C19
10-2-45	190 x 32mm Iron Bark timber decking or Class 1 Spotted Gum comprising 316 stainless steel bugle screws and structural150 x 45mm timber joist at 600ctrs to lookout level	\$0	0.00	8.00	m2		SEPARABLE PORTION 5		CARPENTRY	SEPARABLE PORTION 5	CONSTRUCTION ZONE C19
10-2-45	190 x 32mm Iron Bark timber decking or Class 1 Spotted Gum comprising 316 stainless steel bugle screws and structural150 x 45mm timber joist at 600ctrs to lookout level	\$0	0.00	8.00	m2		SEPARABLE PORTION 5		CARPENTRY	SEPARABLE PORTION 5	CONSTRUCTION ZONE C19
10-2-45	190 x 32mm Iron Bark timber decking or Class 1 Spotted Gum comprising 316 stainless steel bugle screws and structural150 x 45mm timber joist at 600ctrs to lookout level	\$0	0.00	8.00	m2		SEPARABLE PORTION 5		CARPENTRY	SEPARABLE PORTION 5	CONSTRUCTION ZONE C19
11-3-1	Allow for any other items deemed necessary to carry out the works but not detailed in the foregoing items.	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		CARPENTRY	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
11-1-1	Allow for shop drawings as specified.	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		HYDRAULIC SERVICES	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
11-1-2	Allow for as installed drawings as specified.	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		HYDRAULIC SERVICES	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
11-1-3	Allow for samples as specified.	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		HYDRAULIC SERVICES	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
11-1-4	Allow for Testing and Commissioning all as specified.	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		HYDRAULIC SERVICES	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES
11-1-5	Allow for inspections as specified.	\$0	0.00	1.00	Item		ALL SEPARABLE PORTIONS		HYDRAULIC SERVICES	ALL SEPARABLE PORTIONS	ALL CONSTRUCTION ZONES

Contractor Provides Level 4 Early Start & Early Finish Dates

Contractor Provides Level 5 Price & Direct Labour Hours

Level 5 Material and Items Pricing Data Provided By QS

SCHEDULE

COST PLAN

The Bid Evaluation and Award

Contractor Tender Evaluation Checklist

FOR EACH BIDDER EVENGINE CHECK ON:

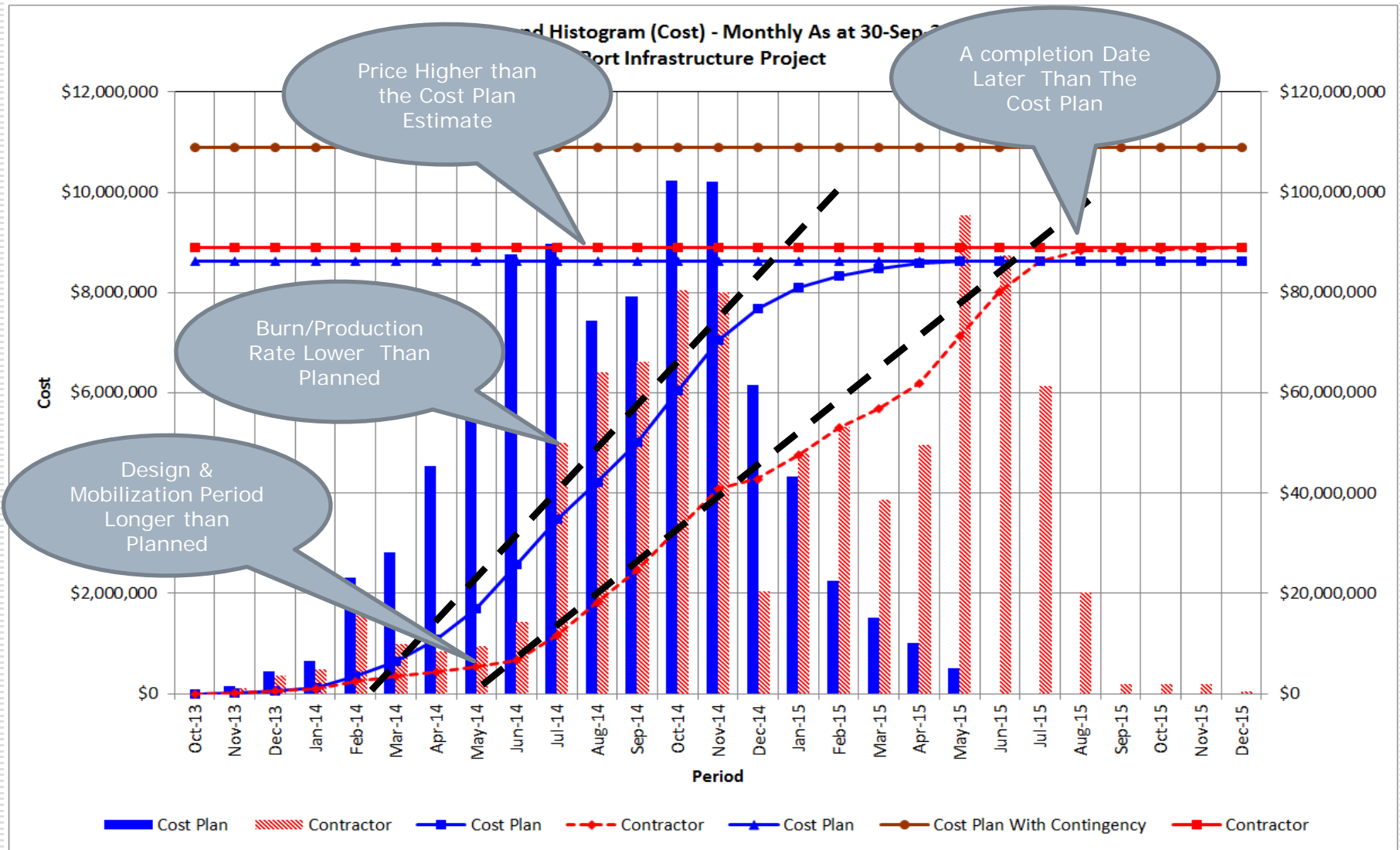
- ✓ Available Construction Plant to Sustain Planned Production
- ✓ Available Labour by Trade Category to Sustain Planned Production
- ✓ Assessment of Variance between QS Budget and Contractor Price
(Thresholds should not be more than a range of 5% -10%)
- ✓ Contractor Cash Flow Versus Control Estimate (Check on Loadings)
- ✓ Conformance to Schedule Requirements, CPM Rules
- ✓ Productivity Check for key Commodities
- ✓ Model Potential Variation Claims to Assess Impact on Schedule and Cost

CONTRACT FINALIZATION:

- ✓ Select Contractor on Price and Schedule Delivery.
- ✓ Formalize the Contract Reporting and Progress Evaluation Process
- ✓ Revised Finance Facility Based on Contract Schedule and Program

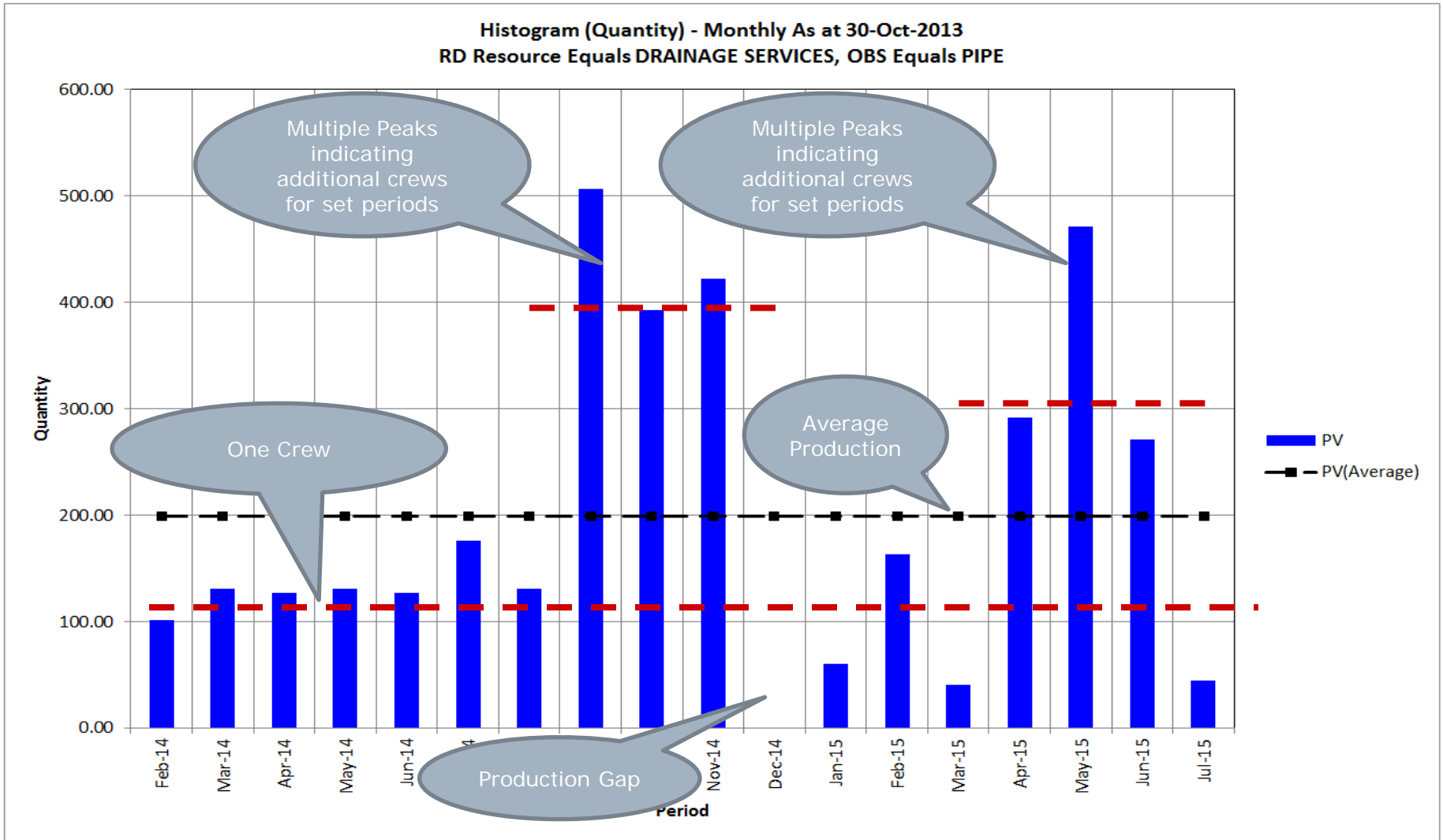
The Bid Evaluation and Award

✓ Assessment of Variance between QS Budget and Contractor Price Cash Flow



The Bid Evaluation and Award

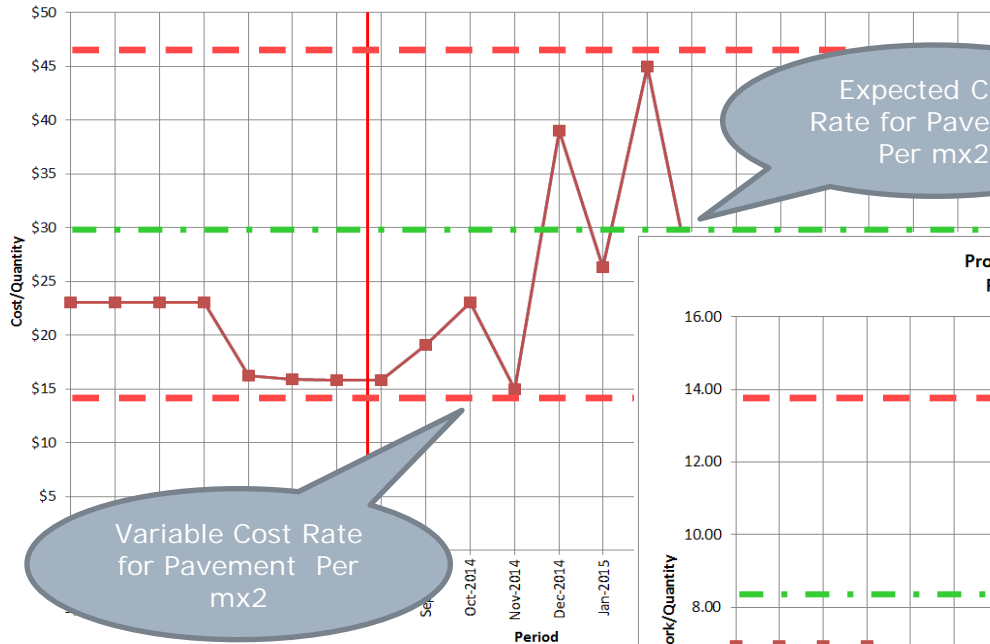
- ✓ Productivity Check for key Commodities
- ✓ Available Labour by Trade Category to Sustain Planned Production



The Bid Evaluation and Award

✓ Productivity Rate Check for key Commodities

Productivity Graph (Cost Per Quantity) - Monthly As at 31-Jul-2014
RDRResource Equals CIVIL ROAD WORKS, OBS Equals Pavement

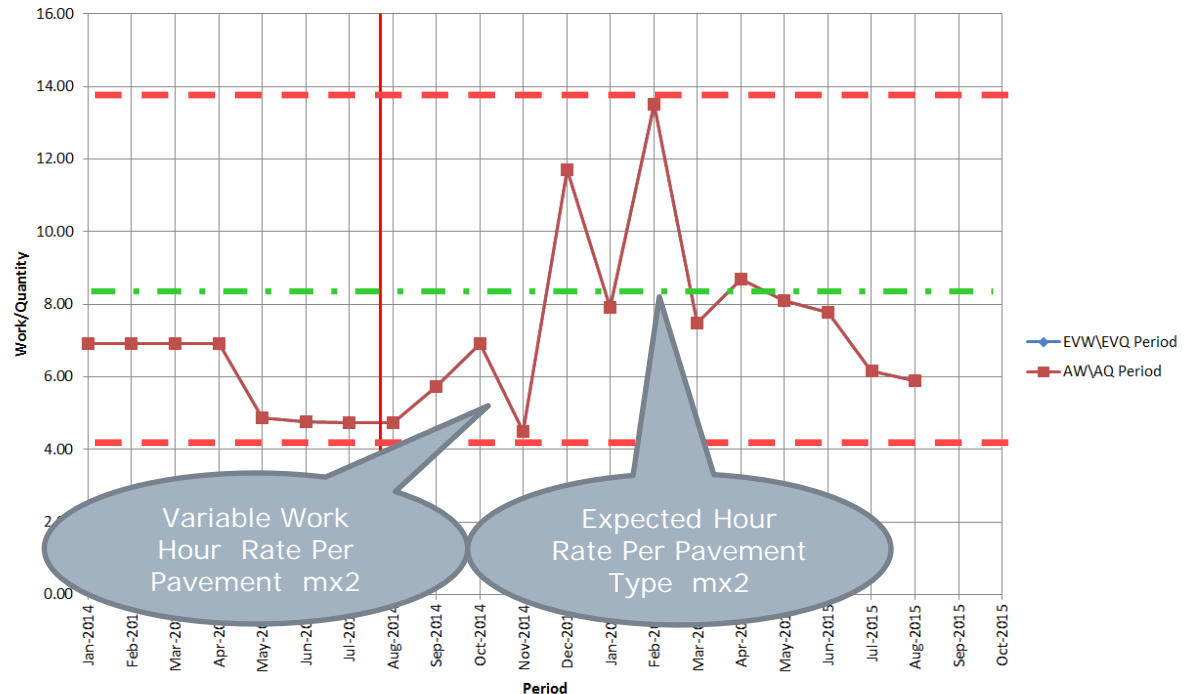


Evaluate Cost per Units of Quantity over the Execution Period and Compare Against Expected

Expected Cost Rate for Pavement Per mx2

Variable Cost Rate for Pavement Per mx2

Productivity Graph (Work Per Quantity) - Monthly As at 31-Jul-2014
RDRResource Equals CIVIL ROAD WORKS, OBS Equals Pavement



Variable Work Hour Rate Per Pavement mx2

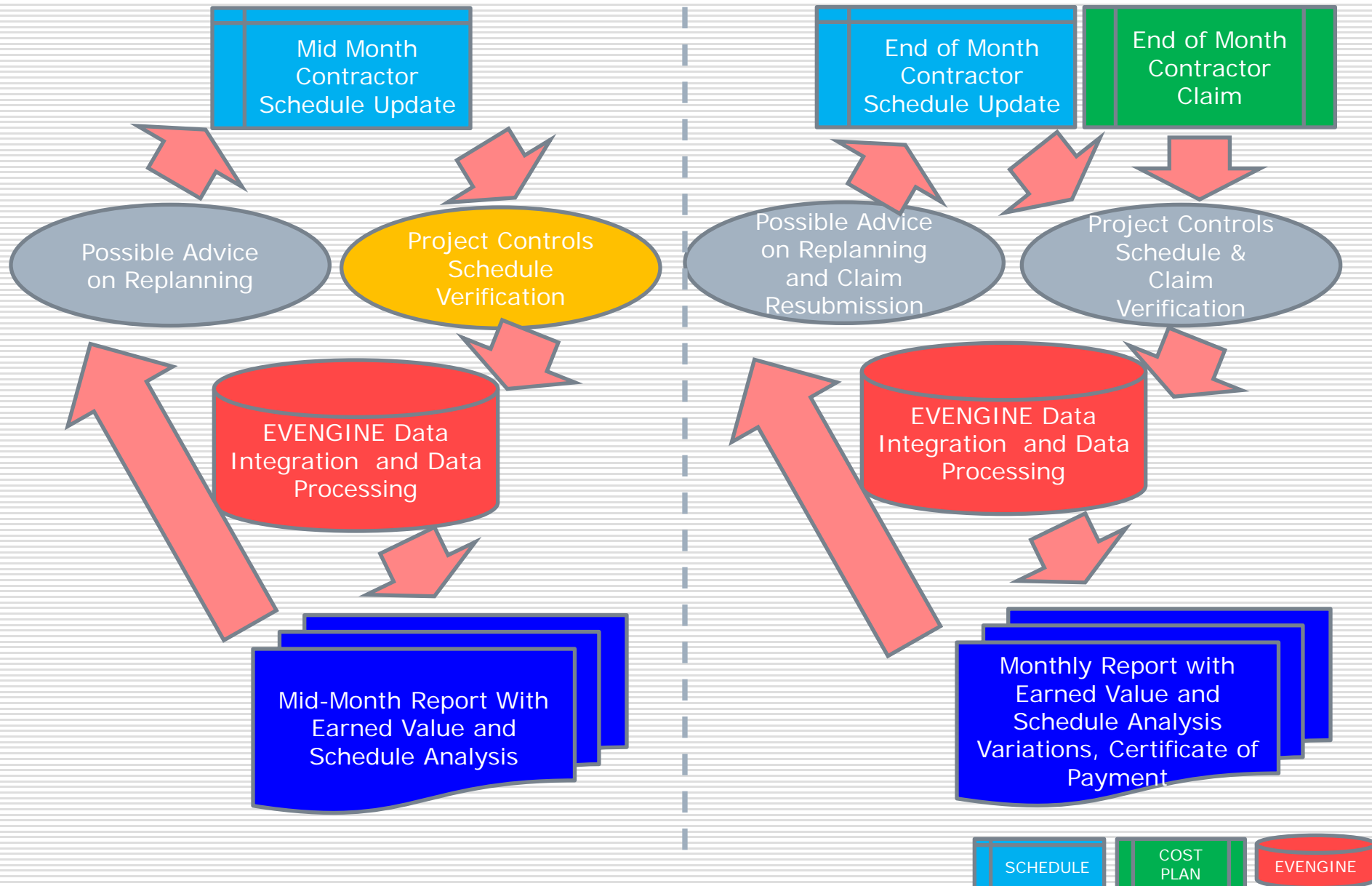
Expected Hour Rate Per Pavement Type mx2

Evaluate Productivity Work (Hrs) per Units of Quantity over the Execution Period and Compare Against Industry Published Constants

The Contract Administration Cycle

The Contract Administration

The Fortnightly Report Cycle (Recommended)



The Contract Administration Checklist

Contract Update Checklist

- ✓ Project Scheduler Verifies Contractor Schedule Status and Forecast To Completion (Use Audit Filters for Compliance to CPM Rules)
- ✓ Project Quantity Surveyor Verifies Materials Placed and To Complete and Corresponding % C
- ✓ Schedule, Units of Work and Material Placement EVENGINE data import and update
- ✓ Add **Variations Approved and Not Approved** As Cost Trend
- ✓ Run Earned Value and Earned Schedule Based Reports and Graphs
- ✓ Undertake Data Performance Analysis and Report To Project Management Team
- ✓ Combined Review With Contractor and If Necessary Replan and Resubmit Claim
- ✓ Issue Certificate of Payment
- ✓ Prepare Data for Monthly Dash Board Report

Contract Administration – Representative Cost Reports

Project Summary Report – Earned Value & Schedule Metrics, Indicators and Predictors

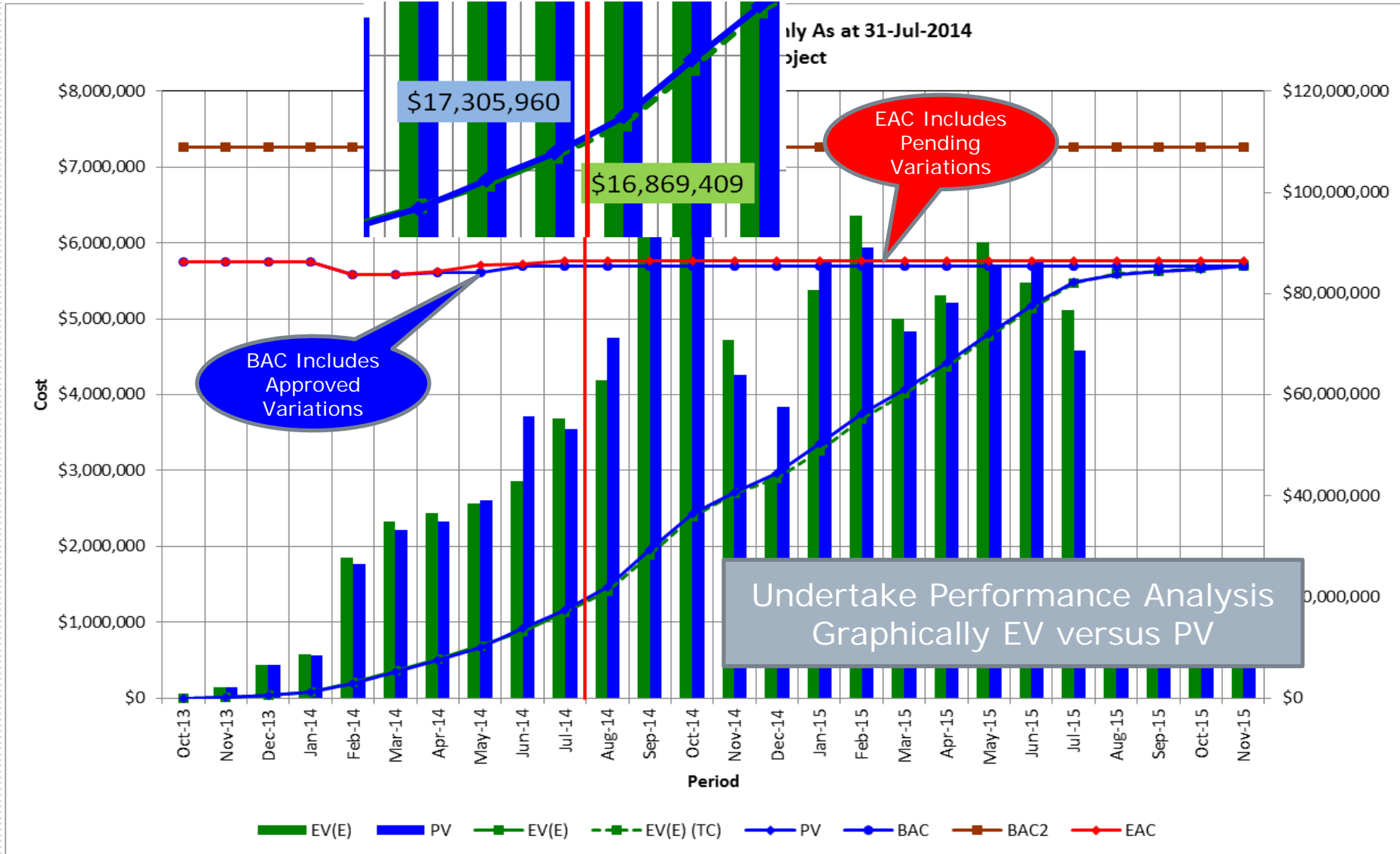
Earned Value Performance Measurement			31-Jul-2014									
Metrics			4 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015	
Metrics	Planned Value	\$17,305,960	\$573,580	\$5,116,372	\$13,761,234	\$29,421,582	\$44,556,684	\$61,093,008	\$77,733,890	\$84,320,529	\$85,481,184	
	Planned Value Percent	20.25%	0.68%	6.07%	16.10%	34.42%	52.12%	71.47%	90.94%	98.64%	100.00%	
	Earned Value (Early)	\$16,869,409	\$572,960	\$6,014,909	\$16,753,036	\$29,178,044	\$43,869,048	\$60,430,377	\$77,132,729	\$84,516,482	\$85,481,184	
	Earned Value Percent (Percent Complete (BAC)) (Early)	19.73%	0.68%	7.14%	19.60%	34.13%	51.32%	70.69%	90.23%	98.87%	100.00%	
	Actual Cost (Early)	\$16,869,409	0.68%	7.14%	19.60%	34.50%	52.02%	71.39%	91.08%	100.04%	101.16%	
	Estimate To Complete (Early)		0.68%	7.02%	19.37%	34.10%	51.42%	70.57%	90.03%	98.88%	100.00%	
	Actual Cost Percent (Percent Spent (BAC)) (Early)	19.73%	\$573,580	\$4,511,637	\$13,761,234	\$29,421,582	\$44,556,684	\$61,093,008	\$77,733,890	\$84,320,529	\$85,481,184	
	Actual Cost Percent (Percent Spent (EAC)) (Early)	19.51%	\$83,791,184	\$84,211,637	\$85,611,234	\$85,611,234	\$85,611,234	\$85,611,234	\$85,611,234	\$85,611,234	\$85,611,234	
	Report Period Planned Value	\$3,544,726	-\$620	\$8								
	Budget At Completion	\$85,481,184	0.00%	\$0								
Estimate At Completion	\$86,476,184	0.00%	\$620	-\$8								
Indicators	Schedule Variance (Early)	-\$436,551	0.11%	-\$1								
	Schedule Variance Percent (Early)	-2.52%	0.00%	-1.60%	-1.16%	-1.16%	-1.16%	-1.16%	-1.16%	-1.16%		
	Cost Variance (Early)	\$0	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99		
	Cost Variance Percent (Early)	0.00%	1.00	1.18	1.22	0.99	0.98	0.99	0.99	1.00		
	Spending Variance (Early)	\$436,551										
	Spending Variance Percent (Early)	2.52%										
	Variance At Completion	-\$995,000	\$83,791,184	\$84,211,637	\$85,611,234	\$85,611,234	\$85,611,234	\$85,611,234	\$85,611,234	\$85,611,234		
	Variance At Completion Percent	-1.16%	\$83,809,184	\$83,791,184	\$83,881,184	\$83,881,184	\$83,881,184	\$83,881,184	\$83,881,184	\$83,881,184		
	Cost Performance Index (Early)	1.00	\$83,791,184	\$83,881,184	\$83,881,184	\$83,881,184	\$83,881,184	\$83,881,184	\$83,881,184	\$83,881,184		
	Schedule Performance Index (Early)	0.97	\$83,881,184	\$83,881,184	\$83,881,184	\$83,881,184	\$83,881,184	\$83,881,184	\$83,881,184	\$83,881,184		
Predictors	Independent Estimate At Completion (CPI) (Early)	\$85,481,184	4 2013	1-Nov	8-Nov	1-Nov	1-Dec					
	Independent Estimate At Completion (0.8CPI + 0.2SPI) (Early)	\$85,829,092										
	Independent Estimate At Completion (CPI Average) (Early)	\$85,481,184										
	Independent Estimate At Completion (CPI * SPI) (Early)	\$87,256,736										
	Independent Estimate At Completion (SPI) (Early)	\$87,256,736										
	Independent Estimate At Completion (SPI Average) (Early)	\$86,377,429										
	Mathematical Estimate At Completion (Early)	\$85,481,184										
	Independent Estimate At Completion (Date) (Early)	10-Dec-2015										
	Variance At Completion (Cal. Days) (Early)	VAC(t)(E)										
	Independent Estimate At Completion (Cal. Days) (Early)	IEAC1(Days)(E)										
Independent Estimate At Completion (Date) (Early)	IEAC1(t)(Date)(E)	1-Dec										
Independent Estimate At Completion (SPI(t)) (Early)	IEAC1(t)(E)	\$83,881,184										
Independent Estimate At Completion (0.8CPI + 0.2SPI(t)) (Early)	IEAC2(t)(E)	\$83,809,184										
Independent Estimate At Completion (SPI(t) Average) (Early)	IEAC3(t)(E)	\$83,881,184										
Independent Estimate At Completion (CPI * SPI(t)) (Early)	IEAC4(t)(E)	\$83,881,184	\$80,611,589	\$81,999,974	\$92,624,917	\$90,349,478	\$87,979,446	\$86,755,300	\$86,472,722	\$86,476,184		

Generate The Project Summary Report the basis of all Earned Value and Schedule Reporting

Earned Schedule Performance Measurement			31-Jul-2014	
Metrics				
Metrics	Scheduled Start (Early)		21-Nov-2013	
	Scheduled Finish (Early)		28-Nov-2015	
	Estimated Duration (Cal. Days) (Early)		738	
	Planned Start (Baseline) (Early)		21-Nov-2013	
	Planned Finish (Baseline) (Early)		1-Dec-2015	
	Planned Duration (Baseline) (Cal. Days) (Early)		741	
	Earned Schedule (Cal. Days) (Early)		223	
	Actual Time (Cal. Days) (Early)		253	
	Indicators	Schedule Variance (Cal. Days) (Early)		-30
		Schedule Variance (Percent) (Early)		-13.52%
Schedule Performance Index (Early)			0.88	
To Complete Schedule Performance Index (PD) (Early)			1.06	
To Complete Schedule Performance Index (ED) (Early)			1.07	
Variance At Completion (Cal. Days) (Early)			-100	
Predictors		Independent Estimate At Completion (Cal. Days) (Early)		841
		Independent Estimate At Completion (Date) (Early)		10-Mar-2016
		Independent Estimate At Completion (SPI(t)) (Early)		\$94,754,480
		Independent Estimate At Completion (0.8CPI + 0.2SPI(t)) (Early)		\$87,154,875
	Independent Estimate At Completion (SPI(t) Average) (Early)		\$91,718,403	
	Independent Estimate At Completion (CPI * SPI(t)) (Early)		\$94,754,480	

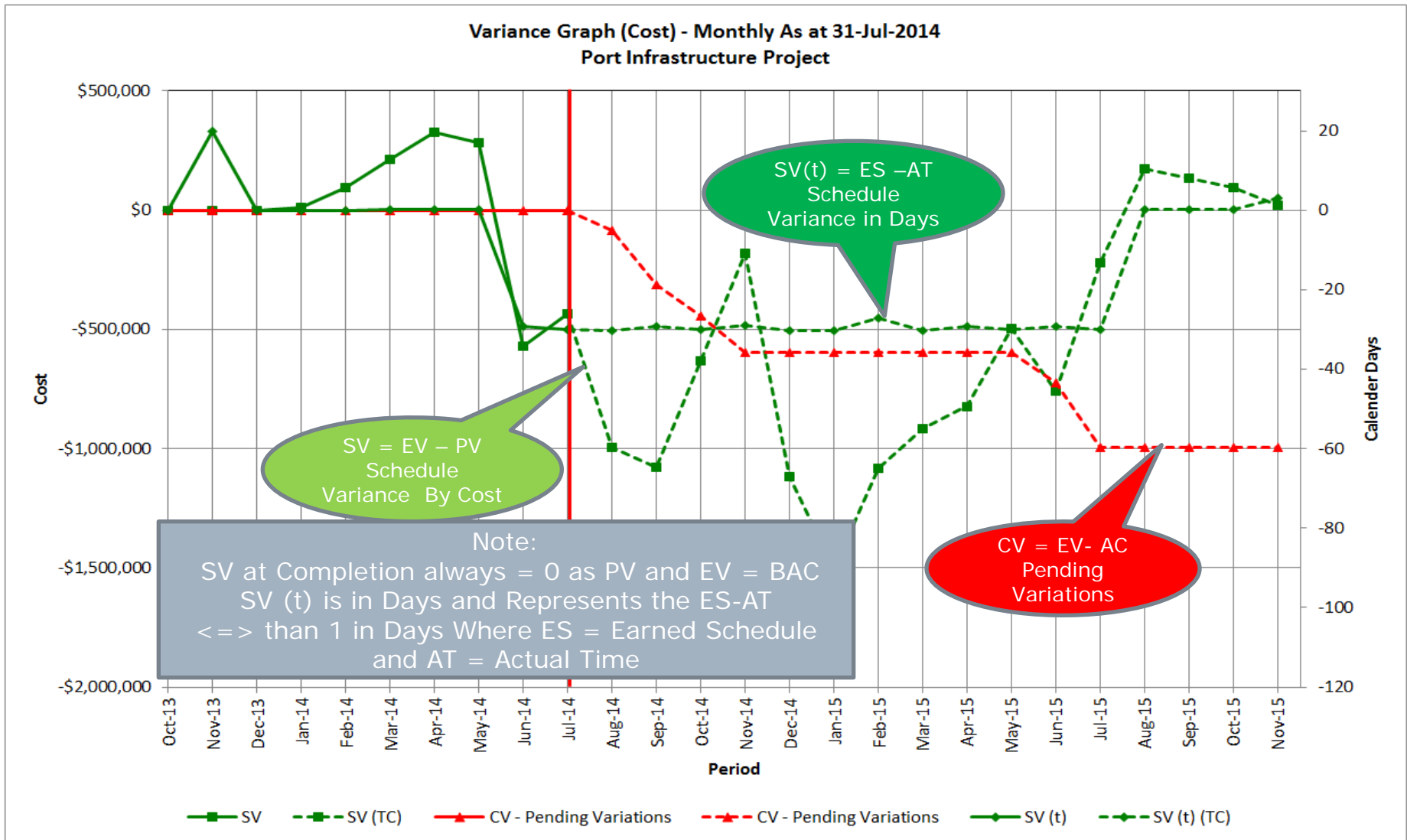
Contract Administration – Representative Reports

Combined Histogram S-Curve Metrics



Contract Administration – Representative Cost Reports

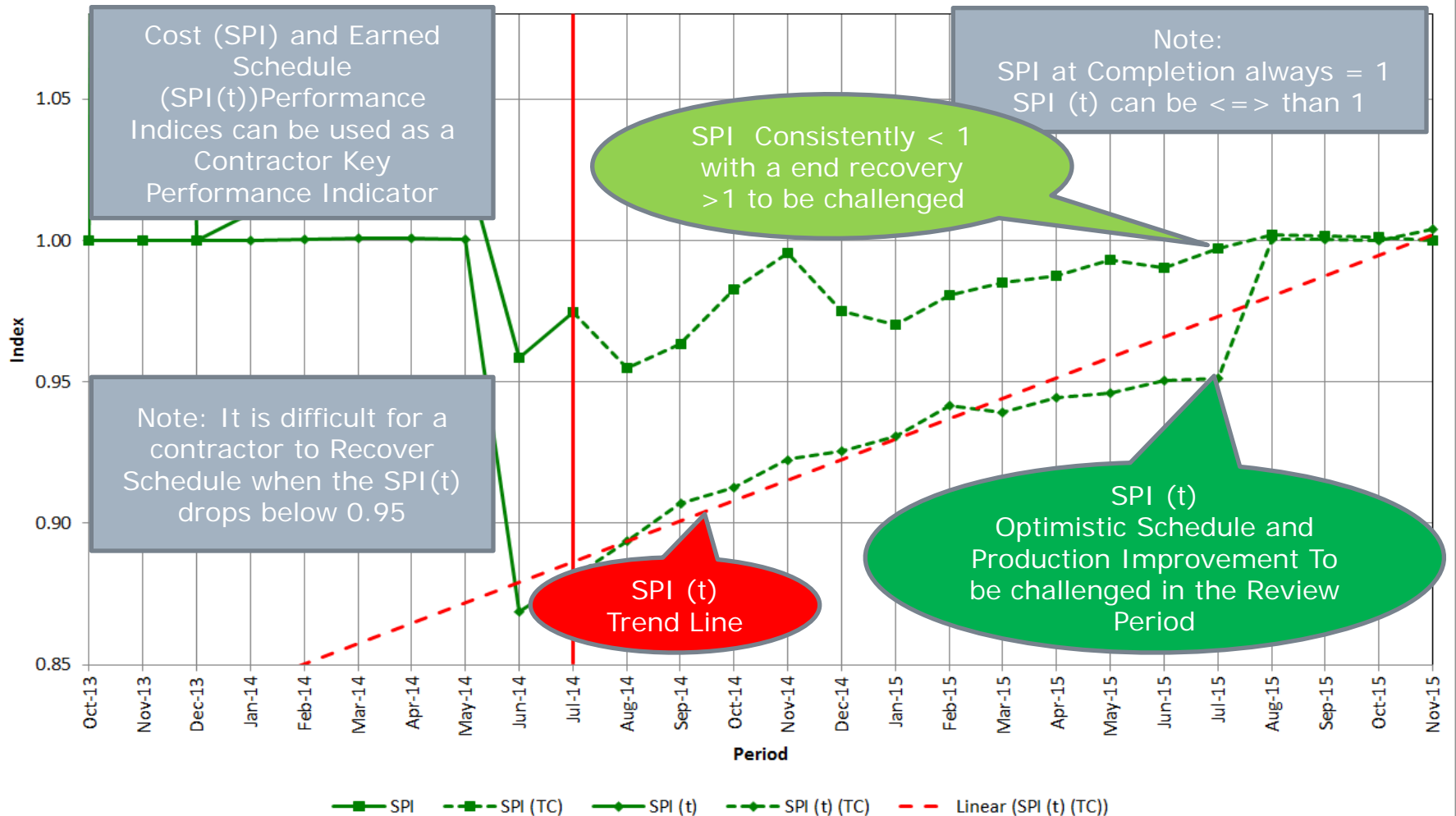
Cost & Schedule Variance Indicators



Contract Administration – Representative Cost Reports

Cost & Schedule Performance Indices

Performance Index Graph (Cost) - Monthly As at 31-Jul-2014
Port Infrastructure Project



Contract Administration – Representative Cost Reports

Project Status Report – Using Cost Management Reports (Mining Industry)

Cost Engineering Progress Reports Representing Metrics and Indicators

Activity	Start	End	Cumulative Report		Cumulative Report Period Cost Indicators				
			EV	PV	SV(E)	SPI	EV%	PV%	SPV%
ALL SEPARABLE PORTIONS	21-Nov-2013	28-Nov-2015	\$200,060	\$202,755	-\$2,695	0.99	27.02%	27.38%	1.33%
CONSTRUCTION ZONE C8	21-Nov-2013	21-Aug-2015	\$1,750,872	\$1,750,872	\$0	1.00	23.04%	23.04%	0.00%
ON COSTS	21-Nov-2013	2-Jul-2014	\$1,382,832	\$1,382,832	\$0	1.00	100.00%	100.00%	0.00%
SEPARABLE PORTION 1	21-Nov-2013	28-Nov-2015	\$1,689,408	\$2,426,651	-\$737,243	0.70	24.95%	35.84%	30.38%
SEPARABLE PORTION 2	29-Jan-2014	19-Dec-2014	\$434,675	\$420,107	\$14,568	1.03	65.06%	62.88%	-3.47%
SEPARABLE PORTION 3	4-Feb-2014	28-Nov-2015	\$37,644	\$37,644	\$0	1.00	0.24%	0.24%	0.00%
SEPARABLE PORTION 4	29-Apr-2015	17-Jul-2015	\$0	\$0	\$0	1.00	0.00%	0.00%	0.00%
SEPARABLE PORTION 5	29-Jan-2014	28-Nov-2015	\$11,373,919	\$11,085,098	\$288,820	1.03	21.83%	21.27%	-2.61%
Totals	21-Nov-2013	28-Nov-2015	\$16,869,409	\$17,305,960	-\$436,551	0.97	19.73%	20.25%	2.52%

Project Status Report – Using Contract Performance Report - Format 2 (Government)

CONTRACT PERFORMANCE REPORT - FUNCTIONAL CATEGORIES – FORMAT 2																							
CONTRACTOR: Beta Constructions Pty Ltd				CONTRACT TYPE/NUMBER: Fixed Price with Schedule of Rates Variation Options				PROGRAM NAME/NUMBER: SUP-2013-06				SIGNATURE: TITLE: Program Manager DATE: 15-Aug-2014				REPORT PERIOD: 1-Jul-2014 to 31-Jul-2014							
DEVELOPMENT [X]		PRODUCTION [Construction Project]						TARGET PROFIT/FEE		CONTRACT (TARGET) PRICE		ESTIMATED PRICE		SHARE RATIO		CONTRACT CEILING		ESTIMATED CONTRACT CEILING					
QUANTITY		PROJECT BUDGET				EST. COST OF AUTH. UNPRICED WORK				TARGET PROFIT/FEE		CONTRACT (TARGET) PRICE		ESTIMATED PRICE		SHARE RATIO		CONTRACT CEILING		ESTIMATED CONTRACT CEILING			
0.00		\$107,912,093				\$0				\$0		\$107,912,093		\$86,476,184		0:100		\$109,019,350		NA			
ITEM	WBS	CA	REPORT PERIOD							CUMULATIVE TO REPORT PERIOD							AT COMPLETION						
			PV	EV(E)	AC(E)	VARIANCE				PV	EV(E)	AC(E)	VARIANCE				BAC	EAC	VAC	VAC%			
						SV(E)	CV(E)	SV%(E)	CV%(E)				SV(E)	CV(E)	SV%(E)	CV%(E)							
(1)	(1a)	(1b)	(2)	(3)	(4)	(5)	(6)	(5a)	(6a)	(7)	(8)	(9)	(10)	(11)	(10a)	(11a)	(12)	(13)	(14)	(14a)			
N/A	ALL SEPARABLE PORTIONS		\$54,804	\$64,745	\$64,745	\$9,940	\$0	18.14%	0.00%	\$202,755	\$200,060	\$200,060	-\$2,695	\$0	-1.33%	0.00%	\$740,403	\$740,403	\$0	0.00%			
N/A	CONSTRUCTION ZONE C8		\$15,633	\$15,633	\$15,633	\$0	\$0	0.00%	0.00%	\$1,750,872	\$1,750,872	\$1,750,872	\$0	\$0	0.00%	0.00%	\$7,599,905	\$7,599,905	\$0	0.00%			
N/A	ON COSTS		\$12,347	\$12,347	\$12,347	\$0	\$0	0.00%	0.00%	\$1,382,832	\$1,382,832	\$1,382,832	\$0	\$0	0.00%	0.00%	\$1,382,832	\$1,382,832	\$0	0.00%			
N/A	SEPARABLE PORTION 1		\$1,063,992	\$1,286,248	\$1,286,248	\$222,256	\$0	20.89%	0.00%	\$2,426,651	\$1,689,408	\$1,689,408	-\$737,243	\$0	-30.38%	0.00%	\$6,770,588	\$6,770,588	\$0	0.00%			
N/A	SEPARABLE PORTION 2		\$54,149	\$56,604	\$56,604	\$2,454	\$0	4.53%	0.00%	\$420,107	\$434,675	\$434,675	\$14,568	\$0	3.47%	0.00%	\$668,147	\$668,147	\$0	0.00%			
N/A	SEPARABLE PORTION 3		\$0	\$0	\$0	\$0	\$0	0.00%	0.00%	\$37,644	\$37,644	\$37,644	\$0	\$0	0.00%	0.00%	\$15,698,764	\$15,698,764	\$0	0.00%			
N/A	SEPARABLE PORTION 4		\$0	\$0	\$0	\$0	\$0	0.00%	0.00%	\$0	\$0	\$0	\$0	\$0	0.00%	0.00%	\$509,154	\$509,154	\$0	0.00%			
N/A	SEPARABLE PORTION 5		\$2,343,800	\$2,243,590	\$2,243,590	-\$100,211	\$0	-4.28%	0.00%	\$11,085,098	\$11,373,919	\$11,373,919	\$288,820	\$0	2.61%	0.00%	\$52,111,390	\$53,106,390	-\$995,000	-1.91%			
TOTAL PMB			\$3,544,726	\$3,679,166	\$3,679,166	\$134,440	\$0	3.79%	0.00%	\$17,305,960	\$16,869,409	\$16,869,409	-\$436,551	\$0	-2.52%	0.00%	\$85,481,184	\$86,476,184	-\$995,000	-1.16%			
OVERHEAD			\$0	\$0	\$0	\$0	\$0	0.00%	0.00%	\$0	\$0	\$0	\$0	\$0	0.00%	0.00%	\$0	\$0	\$0	0.00%			
COST OF MONEY			\$0	\$0	\$0	\$0	\$0	0.00%	0.00%	\$0	\$0	\$0	\$0	\$0	0.00%	0.00%	\$0	\$0	\$0	0.00%			
GENERAL ADMINISTRATIVE			\$0	\$0	\$0	\$0	\$0	0.00%	0.00%	\$0	\$0	\$0	\$0	\$0	0.00%	0.00%	\$0	\$0	\$0	0.00%			
UNDISTRIBUTED BUDGET			\$0	\$0	\$0	\$0	\$0	0.00%	0.00%	\$0	\$0	\$0	\$0	\$0	0.00%	0.00%	\$22,430,909	\$0	\$22,430,909	100.00%			
SUBTOTAL			\$3,544,726	\$3,679,166	\$3,679,166	\$134,440	\$0	3.79%	0.00%	\$17,305,960	\$16,869,409	\$16,869,409	-\$436,551	\$0	-2.52%	0.00%	\$107,912,093	\$86,476,184	\$21,435,909	19.86%			
MANAGEMENT RESERVE			\$0	\$0	\$0	\$0	\$0	0.00%	0.00%	\$0	\$0	\$0	\$0	\$0	0.00%	0.00%	\$0	\$0	\$0	0.00%			
TOTAL			\$3,544,726	\$3,679,166	\$3,679,166	\$134,440	\$0	3.79%	0.00%	\$17,305,960	\$16,869,409	\$16,869,409	-\$436,551	\$0	-2.52%	0.00%	\$107,912,093	\$86,476,184	\$21,435,909	19.86%			

Government Agency Reports Representing Metrics and Indicators

SCHEDULE

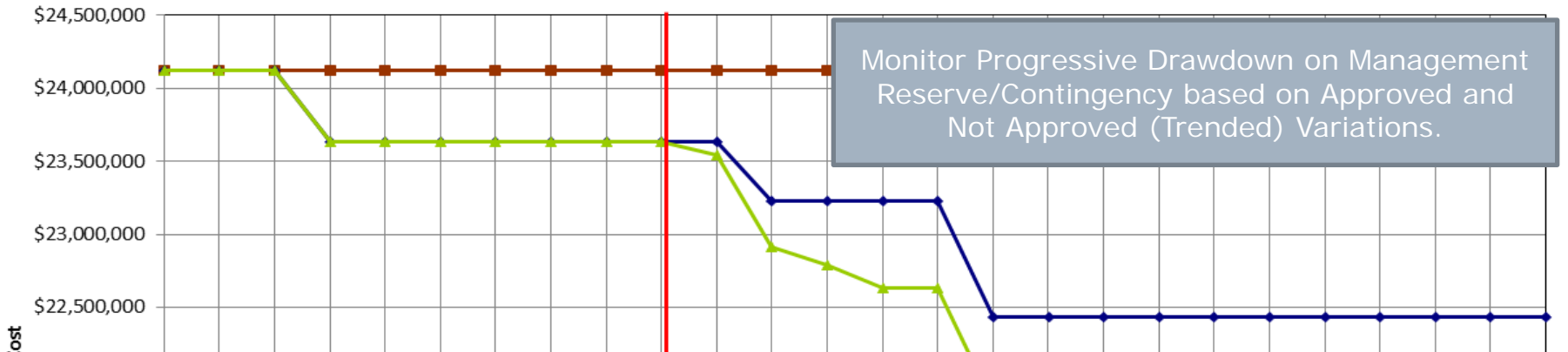
COST PLAN

EVENGINE

Contract Administration – Representative Cost Reports

Variations & Management Reserve Drawdown

Management Reserve Graph (Cost) - Monthly As at 31-Jul-2014
Port Infrastructure Project



Activity	CA	Start	End	Cost Variation	Qty Variation
Approved					
Variation Allow for locating and proving existing services	SEPARABLE PORTION 5	29-Jan-2014	24-Nov-2014	\$30,000	1.00
301 dia PE100 Class PN16 pipework laid in trench and backfill after completion, inclusive of all bends, tees and angles	SEPARABLE PORTION 5	29-Jan-2014	24-Nov-2014	\$400,000	1,466.68
Variation Break in and install valve to existing water mains for connection of new pipework / existing pipework joints	SEPARABLE PORTION 5	29-Jan-2014	24-Nov-2014	\$60,000	31.00
Variation Supply and install coloured concrete pavement as detailed and specified	SEPARABLE PORTION 1	19-Sep-2014	14-Oct-2014	\$400,000	2,200.00
Supply and install low timber boardwalk including all necessary support, framing, joist, fittings and fixture as specified	SEPARABLE PORTION 5	24-Jan-2015	5-Mar-2015	\$800,000	2,000.00
Total: Approved		29-Jan-2014	5-Mar-2015	\$1,690,000	5,698.68
Not Approved					
Variation 900 wide x 900 long junction pit exceeding 3m but not exceeding 4m deep, with side entry cover	SEPARABLE PORTION 5	26-Sep-2014	3-Oct-2014	\$100,000	19.00
Variation 450 dia concrete pipe - In trench exceeding 1m but not exceeding 2m deep	SEPARABLE PORTION 5	26-Sep-2014	3-Oct-2014	\$45,000	450.00
Supply and install 12.5 m mounting height high pedestals including push buttons	SEPARABLE PORTION 5	18-Nov-2014	20-Nov-2014	\$100,000	34.00
Variation Supply and install L Lantern Including 4.5 m outreach arm	SEPARABLE PORTION 5	18-Nov-2014	20-Nov-2014	\$20,000	3.00
Variation Supply and install R Lantern Including 4.5 m outreach arm	SEPARABLE PORTION 5	18-Nov-2014	20-Nov-2014	\$30,000	2.00
Supply and install coloured concrete pavement as detailed and specified	SEPARABLE PORTION 5	17-Jun-2015	30-Jul-2015	\$400,000	3,500.00
Supply and install medium shrub mix including garden bed and mulch as specified	SEPARABLE PORTION 5	13-Aug-2014	17-Oct-2014	\$300,000	4,000.00
Total: Not Approved		13-Aug-2014	30-Jul-2015	\$995,000	8,008.00
Totals		21-Nov-2013	28-Nov-2015	\$2,685,000	13,706.68

— Management Reserve

— Management Reserve with Approved Variation Drawdown

— Management Reserve with Approved and Pending Variations Drawdown

SCHEDULE

COST PLAN

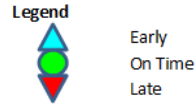
EVENGINE

Contract Administration – Representative Schedule Reports

Schedule Tracking By Separable Portions

Schedule Variance Report By CA - Monthly As at 31-Jul-2014

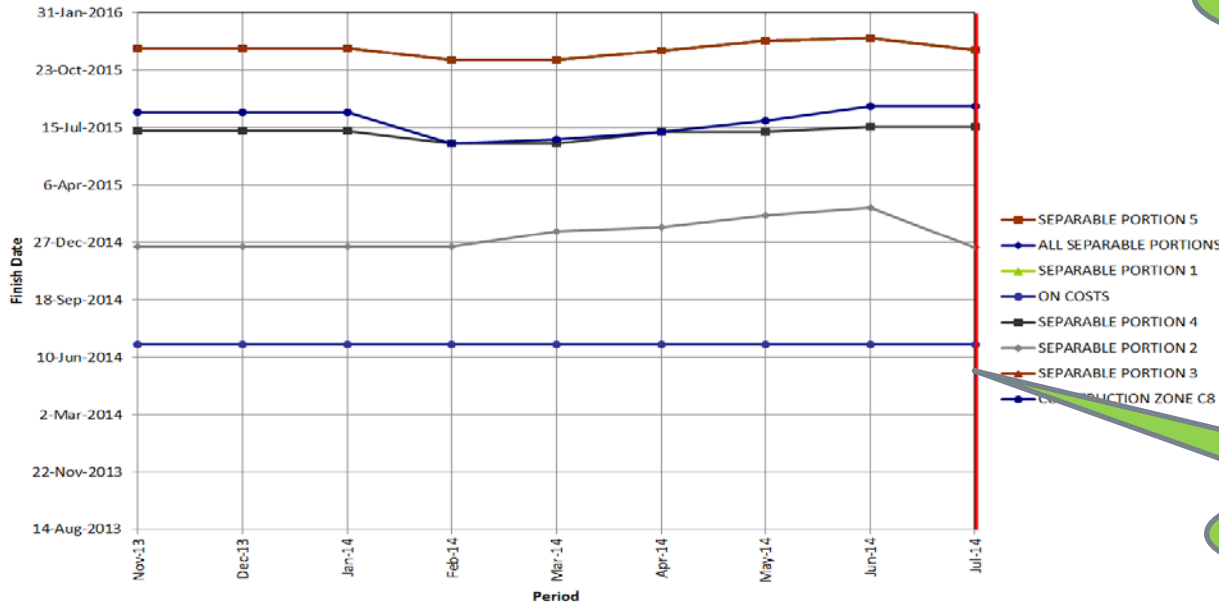
Project: RD
Filter: No Filter



Project	WBS	CA	ES	EF	BS	BF	BLSV (E)	Status	BLFV (E Status)	Float
RD	N/A	ALL SEPARABLE PORTIONS	21-Nov-2013	28-Nov-2015	21-Nov-2013	1-Dec-2015	0	●	3 ▲	0
RD	N/A	CONSTRUCTION ZONE C8	21-Nov-2013	21-Aug-2015	21-Nov-2013	11-Aug-2015	0	●	-10 ▼	55
RD	N/A	ON COSTS	21-Nov-2013	2-Jul-2014	21-Nov-2013	2-Jul-2014	0	●	0 ●	0
RD	N/A	SEPARABLE PORTION 1	21-Nov-2013	28-Nov-2015	21-Nov-2013	1-Dec-2015	0	●	3 ▲	0
RD	N/A	SEPARABLE PORTION 2	29-Jan-2014	19-Dec-2014	29-Jan-2014	20-Dec-2014	0	●	1 ▲	301
RD	N/A	SEPARABLE PORTION 3	4-Feb-2014	28-Nov-2015	4-Feb-2014	1-Dec-2015	0	●	3 ▲	0
RD	N/A	SEPARABLE PORTION 4	29-Apr-2015	17-Jul-2015	1-May-2015	10-Jul-2015	2	▲	-7 ▼	90
RD	N/A	SEPARABLE PORTION 5	29-Jan-2014	28-Nov-2015	29-Jan-2014	1-Dec-2015	0	●	3 ▲	0

Monthly Performance Schedule and Metrics Data is Captured at CA Level = Separable Portions, facilitates:
 Schedule Variance and Completion Variance Tracking by Report Period
 (Supplemental to the Schedule Tracking system)

Finish Date Analysis - Monthly As at 31-Jul-2014
Port Infrastructure Project



Schedule Variance Tracking by Separable Portions

Schedule Variance Tracking by Finish Date Analysis

SCHEDULE

COST PLAN

EVENGINE

Contract Administration – Representative Cost Reports

Certificate of Payment

Project : RD
 Certificate of Payment
 Certificate Number : 6
 Certificate Type : BAC
 Certificate CA : All
 Report Period Start : 1-Jul-2014
 Report Period Finish : 31-Jul-2014
 Authority Undertaking The Work :

Streamline the whole of the Payment Process with Payment Certification, in sync with Performance Measurement and Reporting.

1. CONTRACT SUM AS AT END OF THIS REPORTING PERIOD	\$85,481,184
2. CUMULATIVE TOTAL EARNED VALUE AT END OF THIS REPORT PERIOD	\$16,869,409
3. RETAINANCE AS % APPLIED TO EARNED VALUE AT END OF THIS REPORT PERIOD	0.00%
4. RETAINANCE FOR EARNED VALUE AT END OF THIS REPORT PERIOD	\$0
5. TOTAL EARNED VALUE LESS RETAINANCE AT END OF THIS PERIOD	\$16,869,409
6. CUMULATIVE TOTAL EARNED VALUE AT END OF LAST REPORT PERIOD	\$13,383,582
7. RETAINANCE AS % APPLIED TO EARNED VALUE AT END OF LAST REPORT PERIOD	0.00%
8. RETAINANCE FOR EARNED VALUE AT END OF LAST REPORT PERIOD	\$0
9. TOTAL EARNED VALUE LESS RETAINANCE AT END OF LAST PERIOD	\$13,383,582
10. CURRENT PAYMENT DUE WITHOUT ADJUSTMENTS	\$3,485,827
11. BALANCE TO FINISH PLUS RETAINANCE WITHOUT ADJUSTMENTS	\$68,611,774
12. AMOUNT CERTIFIED WITHOUT ADJUSTMENTS	\$3,485,827
13. ADJUSTMENTS THIS PERIOD	\$0
14. ADJUSTMENTS CARRIED FORWARD FROM LAST PERIOD	\$0
15. TOTAL ADJUSTMENTS THIS PERIOD	\$0
16. TOTAL ADJUSTMENTS CARRIED FORWARD TO NEXT PERIOD	\$0
17. CURRENT PAYMENT DUE	\$3,485,827
18. AMOUNT CERTIFIED	\$3,485,827

CA	OBS	EV	This Certificate			Percent Complete	Previous Certificate			Percent Complete
			BTC	BAC	BAC		EV	BTC	BAC	
ALL SEPARABLE PORTIONS			\$200,060	\$540,343	\$740,403	27.02%	\$130,756	\$609,647	\$740,403	17.66%
CONSTRUCTION ZONE C8			\$1,750,872	\$5,849,033	\$7,599,905	23.04%	\$1,733,363	\$5,866,542	\$7,599,905	22.81%
ON COSTS			\$1,382,832	\$0	\$1,382,832	100.00%	\$1,369,004	\$1,382,832	\$1,382,832	99.00%
SEPARABLE PORTION 1			\$1,689,408	\$5,081,180	\$6,770,588	24.95%	\$371,431	\$6,399,158	\$6,770,588	5.49%
SEPARABLE PORTION 2			\$434,675	\$233,471	\$668,147	65.06%	\$343,565	\$324,582	\$668,147	51.42%
SEPARABLE PORTION 3			\$37,644	\$15,661,120	\$15,698,764	0.24%	\$37,644	\$15,661,120	\$15,698,764	0.24%
SEPARABLE PORTION 4			\$0	\$509,154	\$509,154	0.00%	\$0	\$509,154	\$509,154	0.00%
SEPARABLE PORTION 5			\$11,373,919	\$40,737,472	\$52,111,390	21.83%	\$9,397,820	\$42,713,570	\$52,111,390	18.03%

Certificate of Payment Summary

Certificate Number	Certificate Type	Certificate CA	Certificate Period Start	Certificate Period End	Total	1	2	3	4	5	6
						BAC All	BAC All	BAC All	BAC All	BAC All	BAC All
1. CONTRACT SUM AS AT END OF THIS REPORTING PERIOD											
2. CUMULATIVE TOTAL EARNED VALUE AT END OF THIS REPORT PERIOD											
3. RETAINANCE AS % APPLIED TO EARNED VALUE AT END OF THIS REPORT PERIOD											
4. RETAINANCE FOR EARNED VALUE AT END OF THIS REPORT PERIOD											
5. TOTAL EARNED VALUE LESS RETAINANCE AT END OF THIS PERIOD											
6. CUMULATIVE TOTAL EARNED VALUE AT END OF LAST REPORT PERIOD											
7. RETAINANCE AS % APPLIED TO EARNED VALUE AT END OF LAST REPORT PERIOD											
8. RETAINANCE FOR EARNED VALUE AT END OF LAST REPORT PERIOD											
9. TOTAL EARNED VALUE LESS RETAINANCE AT END OF LAST PERIOD											
10. CURRENT PAYMENT DUE WITHOUT ADJUSTMENTS											
11. BALANCE TO FINISH PLUS RETAINANCE WITHOUT ADJUSTMENTS											
12. AMOUNT CERTIFIED WITHOUT ADJUSTMENTS											
13. ADJUSTMENTS THIS PERIOD											
14. ADJUSTMENTS CARRIED FORWARD FROM LAST PERIOD											
15. TOTAL ADJUSTMENTS THIS PERIOD											
16. TOTAL ADJUSTMENTS CARRIED FORWARD TO NEXT PERIOD											
17. CURRENT PAYMENT DUE											
18. AMOUNT CERTIFIED											

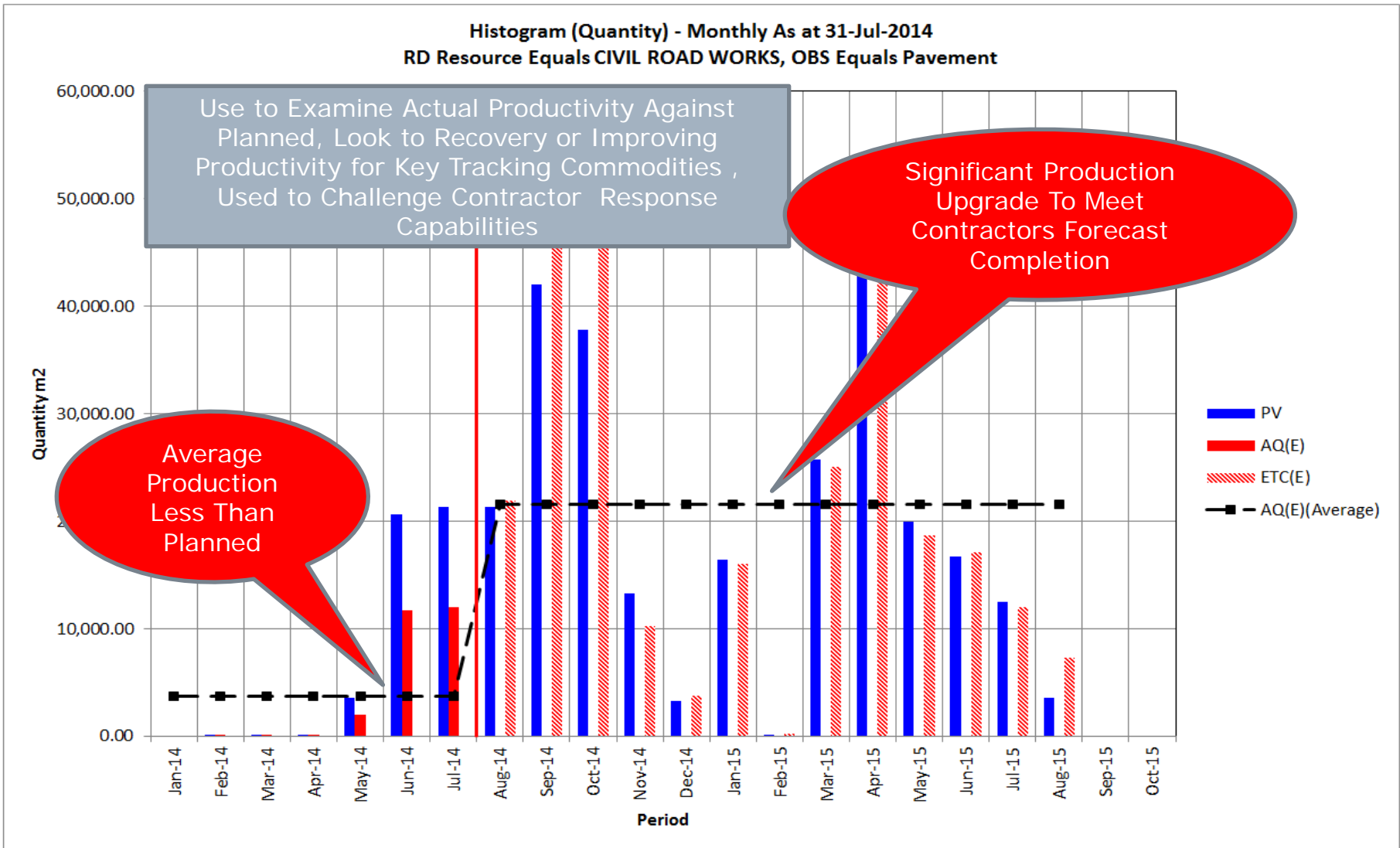
Agree with the Contractor on the Price distribution against the Level 4 activities and then automate the claims and claims approval process.

Schedule Update and Physical %C Complete Update within EVENGINE.

Complete Payments Record

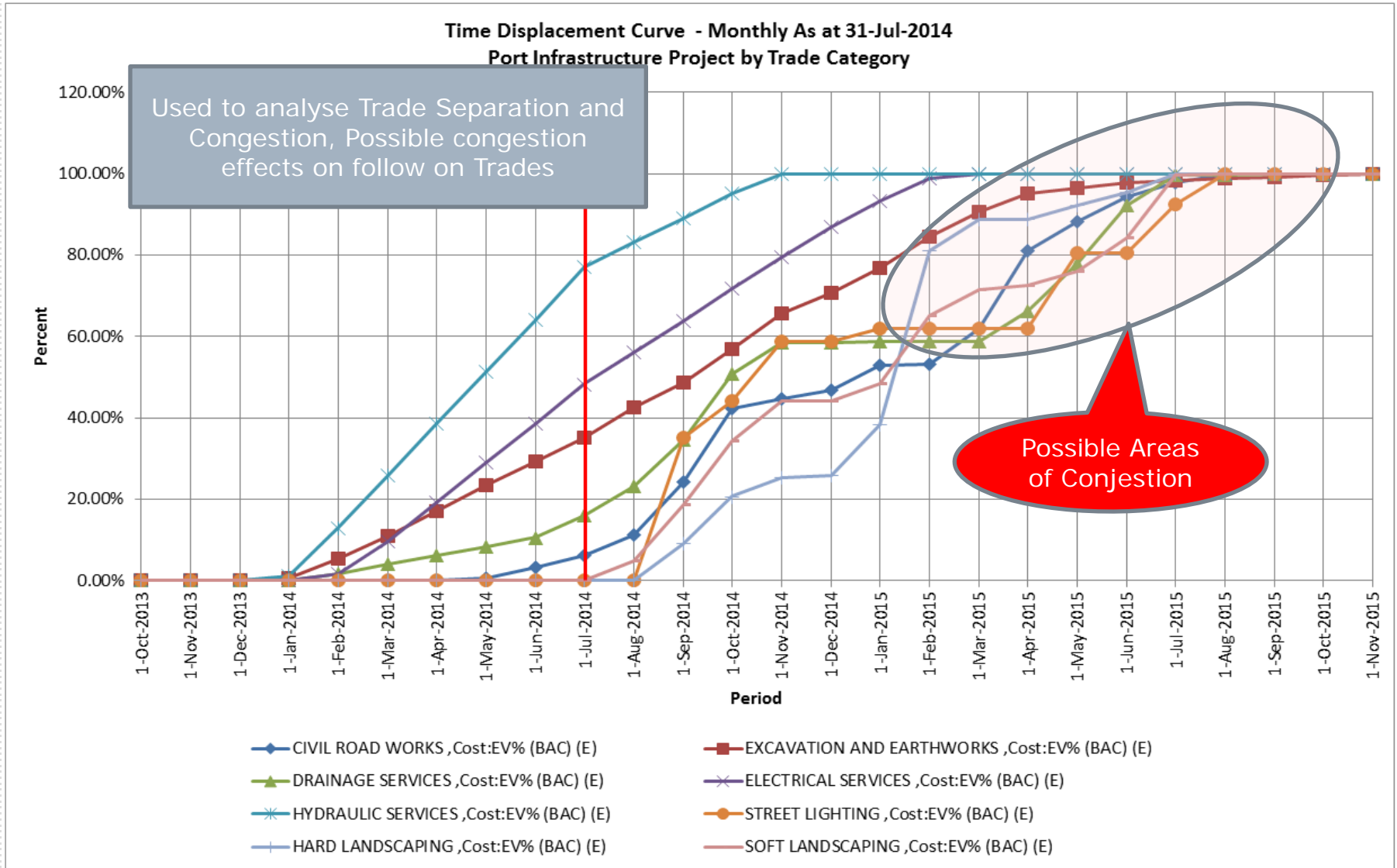
Contract Administration – Representative Productivity Reports

Productivity Analysis – Material Metrics



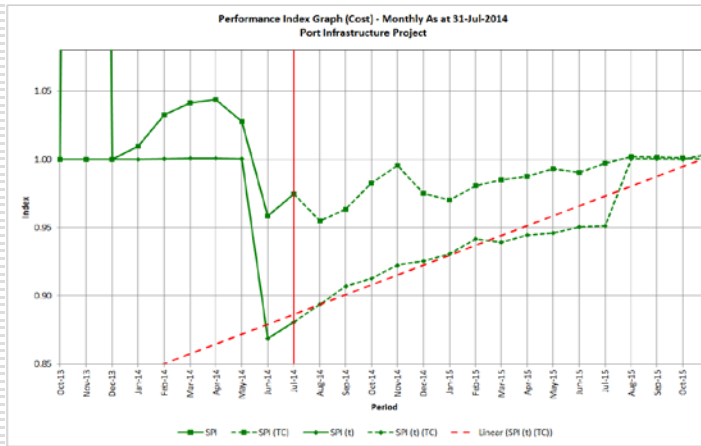
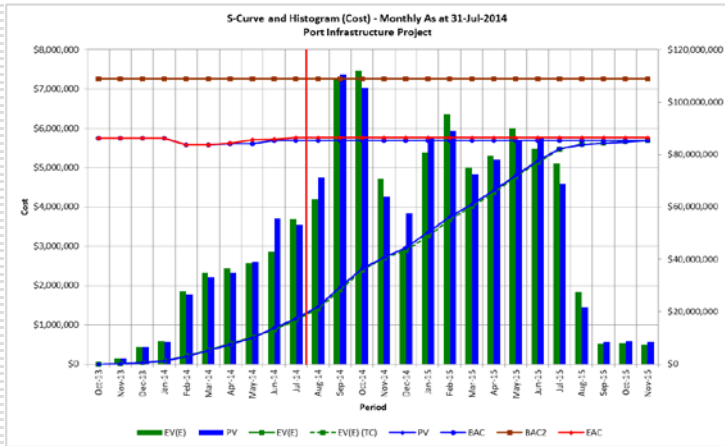
Contract Administration – Representative Productivity Reports

Trade Based Time Displacement – Metrics



Contract Administration – Representative Cost Reports

Consolidate Reports to a Single Usable Management Dash Board



The contract works on analysis of the Separable Portions is marginally behind schedule (-10 calendar days) with delays mainly due to ground conditions in construction Zone 8 and (-7 calendar days) and delay in Separable Portion 4. Acceleration measures are underway to lift Production and bring the schedule back on track within the Next report period. Overall Forecast Completion remains 1-Dec-2015.

Acceleration measures include additional dewatering pumps, carry haul scrapers, additional dozers, vibrating rollers and dump trucks lifting productivity from 4,000 mx2 per day to 20,000 mx2 per day.

Activity	Start	End	Cumulative Report		Cumulative Report Period Cost Indicators					
			EV	PV	SV(E)	SPI	EV%	PV%	SPV%	
ALL SEPARABLE PORTIONS	21-Nov-2013	28-Nov-2015	\$200,060	\$202,755	-\$2,695	0.99	27.02%	27.38%	1.33%	
CONSTRUCTION ZONE C8	21-Nov-2013	21-Aug-2015	\$1,750,872	\$1,750,872	\$0	1.00	23.04%	23.04%	0.00%	
ON COSTS	21-Nov-2013	2-Jul-2014	\$1,382,832	\$1,382,832	\$0	1.00	100.00%	100.00%	0.00%	
SEPARABLE PORTION 1	21-Nov-2013	28-Nov-2015	\$1,689,408	\$2,426,651	-\$737,243	0.70	24.95%	35.84%	30.38%	
SEPARABLE PORTION 2	29-Jan-2014	19-Dec-2014	\$434,675	\$420,107	\$14,568	1.03	65.06%	62.88%	-3.47%	
SEPARABLE PORTION 3	4-Feb-2014	28-Nov-2015	\$37,644	\$37,644	\$0	1.00	0.24%	0.24%	0.00%	
SEPARABLE PORTION 4	29-Apr-2015	17-Jul-2015	\$0	\$0	\$0	1.00	0.00%	0.00%	0.00%	
SEPARABLE PORTION 5	29-Jan-2014	28-Nov-2015	\$11,373,919	\$11,085,098	\$288,820	1.03	21.83%	21.27%	-2.61%	
Totals	21-Nov-2013	28-Nov-2015	\$16,869,409	\$17,305,960	-\$436,551	0.97	19.73%	20.25%	2.52%	

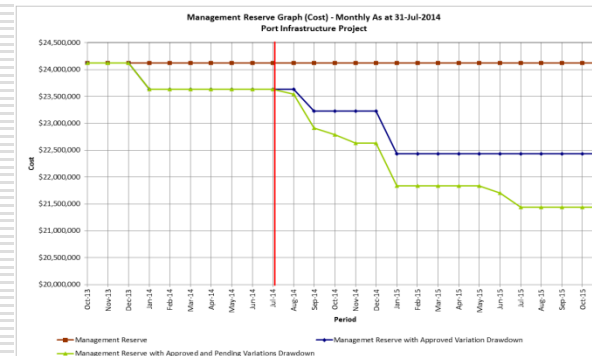
Schedule Variance Report by CA - Monthly As at 31-Jul-2014

Project: RD
Filter: No Filter

Legend: Early (Green), On Time (Blue), Late (Red)

Project	WBS	CA	ES	EF	BS	BF	BLSV (E)	Status	BLFV (E) Status	Float
RD	N/A	ALL SEPARABLE PORTIONS	21-Nov-2013	28-Nov-2015	21-Nov-2013	1-Dec-2015	0	On Time	3	0
RD	N/A	CONSTRUCTION ZONE C8	21-Nov-2013	21-Aug-2015	21-Nov-2013	11-Aug-2015	0	Late	-10	35
RD	N/A	ON COSTS	21-Nov-2013	2-Jul-2014	21-Nov-2013	2-Jul-2014	0	On Time	0	0
RD	N/A	SEPARABLE PORTION 1	21-Nov-2013	28-Nov-2015	21-Nov-2013	1-Dec-2015	0	On Time	3	0
RD	N/A	SEPARABLE PORTION 2	29-Jan-2014	19-Dec-2014	29-Jan-2014	20-Dec-2014	0	On Time	1	301
RD	N/A	SEPARABLE PORTION 3	4-Feb-2014	28-Nov-2015	4-Feb-2014	1-Dec-2015	0	On Time	3	0
RD	N/A	SEPARABLE PORTION 4	29-Apr-2015	17-Jul-2015	1-May-2015	10-Jul-2015	2	Late	-7	90
RD	N/A	SEPARABLE PORTION 5	29-Jan-2014	28-Nov-2015	29-Jan-2014	1-Dec-2015	0	On Time	3	0

Activity	CA	Start	End	Cost Variation	Qty Variation
Approved					
Variation Allow for locating and proving existing services	SEPARABLE PORTION 5	29-Jan-2014	24-Nov-2014	\$30,000	1.00
301 dia PE100 Class PN16 pipework laid in trench and backfill after completion, inclusive of all bends, tees and angles	SEPARABLE PORTION 5	29-Jan-2014	24-Nov-2014	\$400,000	1,466.68
Variation Break in and install valve to existing water mains for connection of new pipework / existing pipework joints	SEPARABLE PORTION 5	29-Jan-2014	24-Nov-2014	\$60,000	31.00
Variation Supply and install coloured concrete pavement as detailed and specified	SEPARABLE PORTION 1	19-Sep-2014	14-Oct-2014	\$400,000	2,200.00
Supply and install low timber boardwalk including all necessary support, framing, joint, fittings and fixture as specified	SEPARABLE PORTION 5	24-Jan-2015	5-Mar-2015	\$800,000	2,000.00
Total: Approved		25-Jan-2014	5-Mar-2015	\$1,690,000	5,698.68
Not Approved					
Variation 900 wide x 900 long junction pit exceeding 3m but not exceeding 4m deep, with side entry cover	SEPARABLE PORTION 5	26-Sep-2014	3-Oct-2014	\$100,000	19.00
Variation 450 dia concrete pipe - in trench exceeding 1m but not exceeding 2m deep	SEPARABLE PORTION 5	26-Sep-2014	3-Oct-2014	\$45,000	450.00
Supply and install 12.5 m mounting height high pedestals including push buttons	SEPARABLE PORTION 5	18-Nov-2014	20-Nov-2014	\$100,000	34.00
Variation Supply and install L Lantern including 4.5 m outreach arm	SEPARABLE PORTION 5	18-Nov-2014	20-Nov-2014	\$20,000	3.00
Variation Supply and install R Lantern including 4.5 m outreach arm	SEPARABLE PORTION 5	18-Nov-2014	20-Nov-2014	\$30,000	2.00
Supply and install coloured concrete pavement as detailed and specified	SEPARABLE PORTION 5	17-Jul-2015	30-Jul-2015	\$400,000	3,500.00
Supply and install medium shrub mix including garden bed and mulch as specified	SEPARABLE PORTION 5	13-Aug-2014	17-Oct-2014	\$300,000	4,000.00
Total: Not Approved		13-Aug-2014	30-Jul-2015	\$925,000	8,008.00
Totals		21-Nov-2013	28-Nov-2015	\$2,615,000	13,706.68



Variations
Rigorous control is being exercised to monitor contractor scope creep and variations attributable to out of contract works. Current Outstanding variations amount to \$995,000 related to must design changes to accommodate operational requirements. A study is initiated to look at expected cost trends based on firming up provisional sums amounting to \$10,000,000 of work.

Case Histories

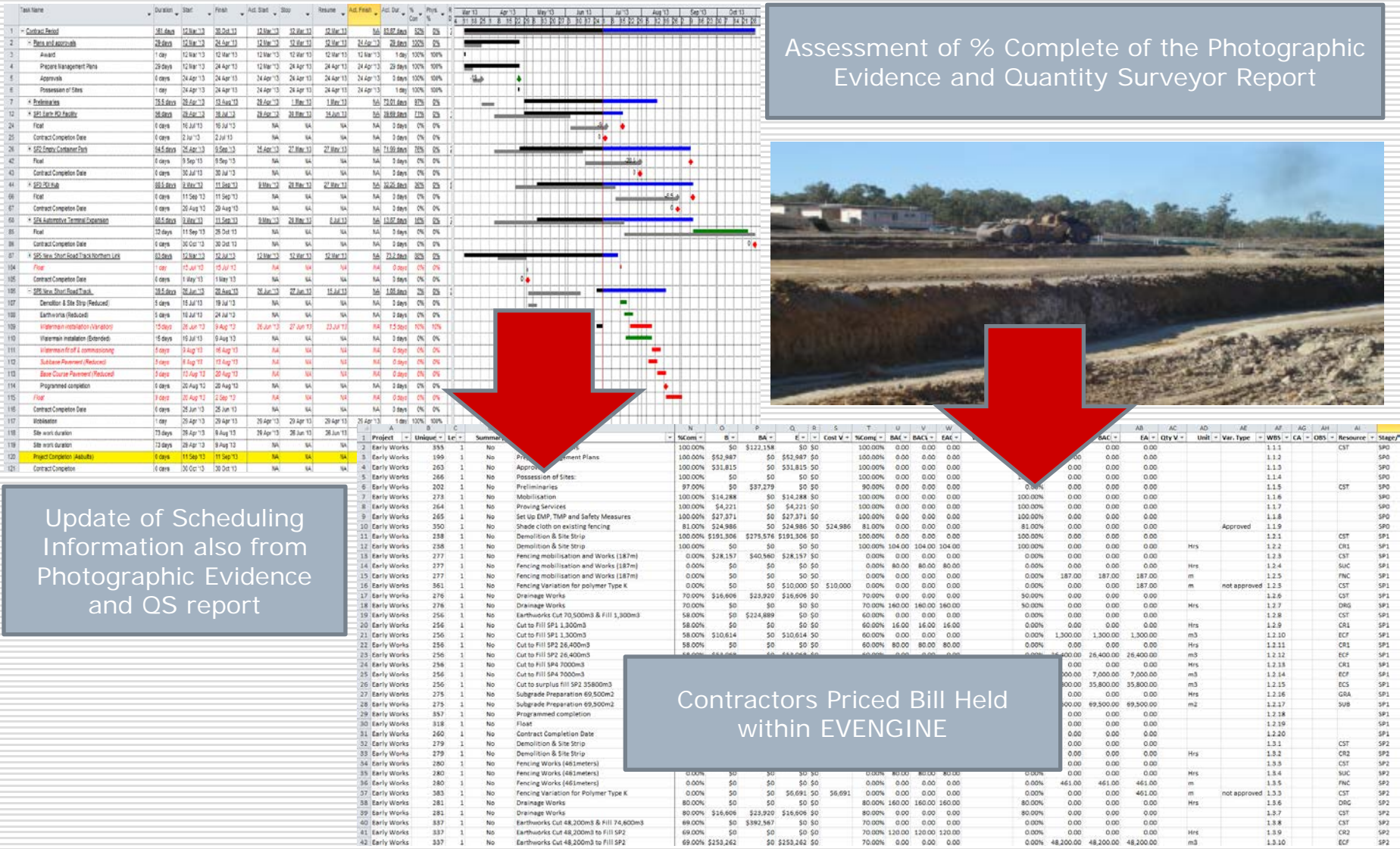
Case Histories – Civil Construction Works

Civil Construction Works – Production Analysis of Key Trade Elements (Commodities)



Case Histories – Civil Construction Works

Civil Construction Works – Production Analysis of Key Trade Elements (Commodities)



Assessment of % Complete of the Photographic Evidence and Quantity Surveyor Report



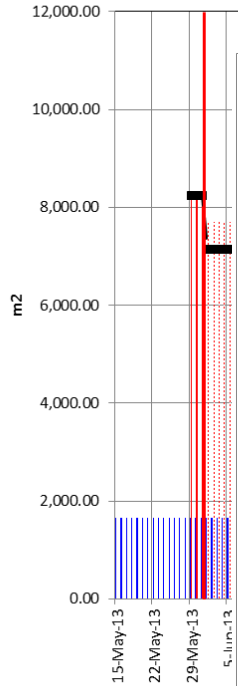
Update of Scheduling Information also from Photographic Evidence and QS report

Contractors Priced Bill Held within EVENGINE

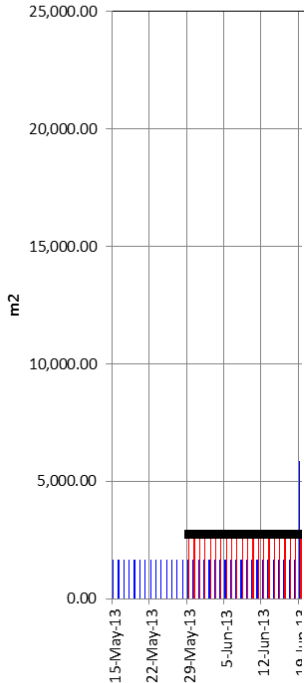
Case Histories – Civil Construction Works

Civil Construction Works – Production Analysis of Key Trade Elements (Commodities)

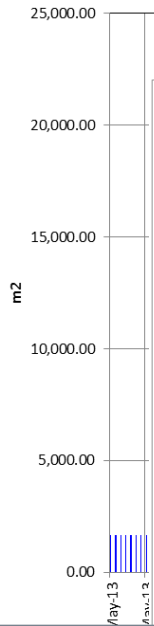
Histogram (m2) - Daily As at 31-May-2013
Civil Construction Works Pavement - Subgrade



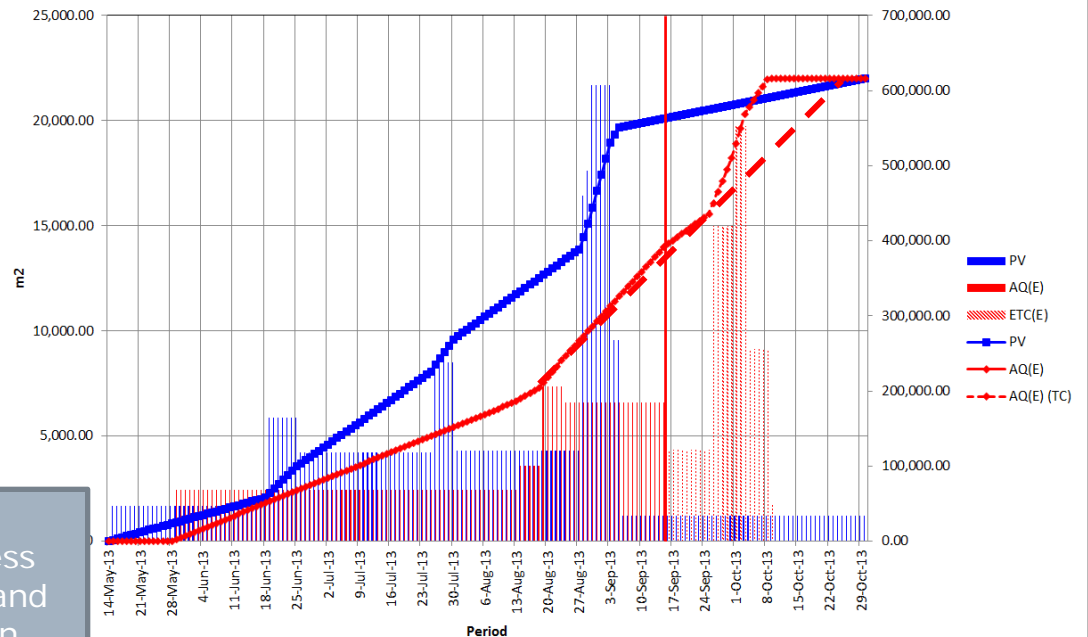
Histogram (m2) - Daily As at 15-Aug-2013
Civil Construction Works Pavement - Subgrade



Histogram (m2) - Daily As at 15-Sep-2013
Civil Construction Works Pavement - Subgrade



S-Curve and Histogram (m2) - Daily As at 15-Sep-2013
Civil Construction Works Pavement - Subgrade



Actual Versus Planned Metrics used to assess Pavement Subgrade Placement Production and assess Contractor's Forecast for Completion.

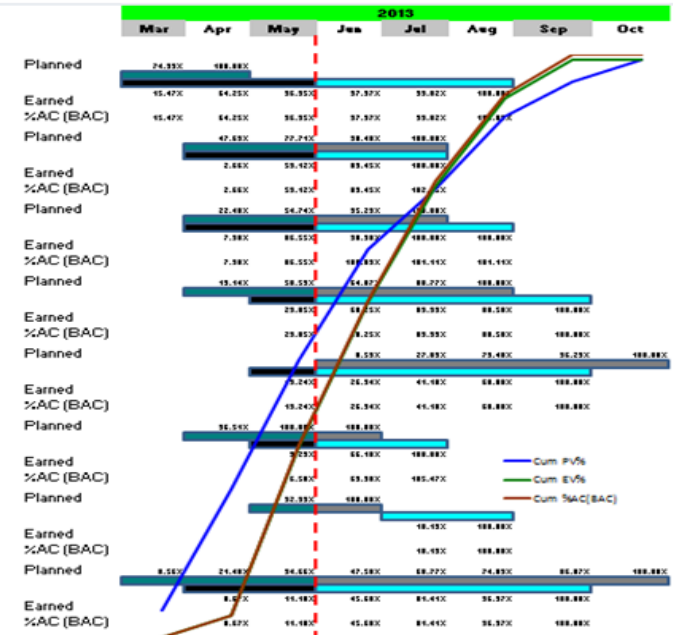
Case Histories – Civil Construction Works

Civil Construction Works – Dash Board Example (P1)



EARLY WORKS CONTRACT – CONTRACTOR CONSTRUCTION PERFORMANCE ANALYSIS

Stage/Phase	Description	BAC	EAC	BAC Wgt	EAC Wgt	PY%	EV%	%AC(BAC)
SP0	Preliminaries	\$155,668	\$155,668	4.32%	4.23%	100.00%	96.35%	96.95%
SP1	Separable portion 1	\$392,187	\$402,187	10.83%	11.03%	77.71%	59.12%	59.12%
SP2	Separable portion 2	\$600,508	\$607,279	16.66%	16.74%	54.74%	86.55%	86.55%
SP3	Separable portion 3	\$587,262	\$587,262	16.31%	16.13%	58.53%	23.85%	23.85%
SP4	Separable portion 4	\$454,078	\$454,078	12.61%	12.52%	0.00%	13.24%	13.24%
SP5	Separable portion 5	\$197,375	\$208,169	5.48%	5.74%	100.00%	3.23%	6.58%
SP6	Separable portion 6	\$305,019	\$305,019	8.47%	8.41%	32.33%	0.00%	0.00%
SP7	Provisional sum items	\$907,373	\$907,373	25.22%	25.03%	34.66%	11.10%	11.10%
Project Totals		\$3,600,150	\$3,627,635			48.45%	33.61%	33.79%

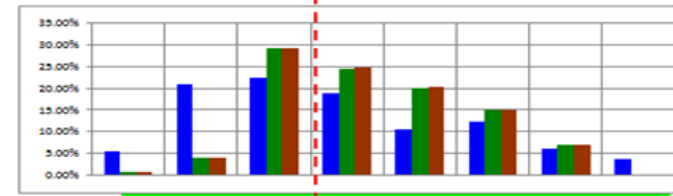


Work remains significantly behind that with possible additional delay due to weather to date and expected inclement weather during the remaining June period and the months of July and August where statistically as much as 10 days per calendar months can be lost.

A comparison between the Planned Value (PV%) and Earned Value (%EV) curves to completion forecasts a contractor recovery by mid-July with a completion of all works during September. At the present production rate it is unlikely this will be achieved with the Contract completion date of October 2013 more likely.

A review of the forecast monthly production rate of over 20% is an ambitious target versus the planned average 15% to 20%. A recovery strategy should be initiated for all works scheduled for a staged handover to minimize disruption to the commencement of the main redevelopment works. Additional plant for recovery is an option but expensive to the contractor given the expected standby time due to weather. Any acceleration measure as an option should be considered during the months of August and September where weather effects could be reduced. The CPI of 0.99 represents the processing of contractor variations and claims this is lagging behind that expected.

PV%
EV%
%AC(BAC)



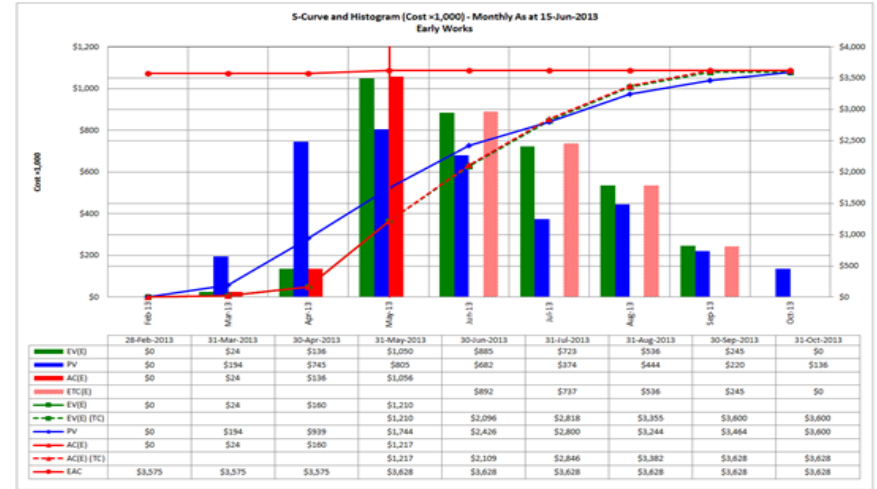
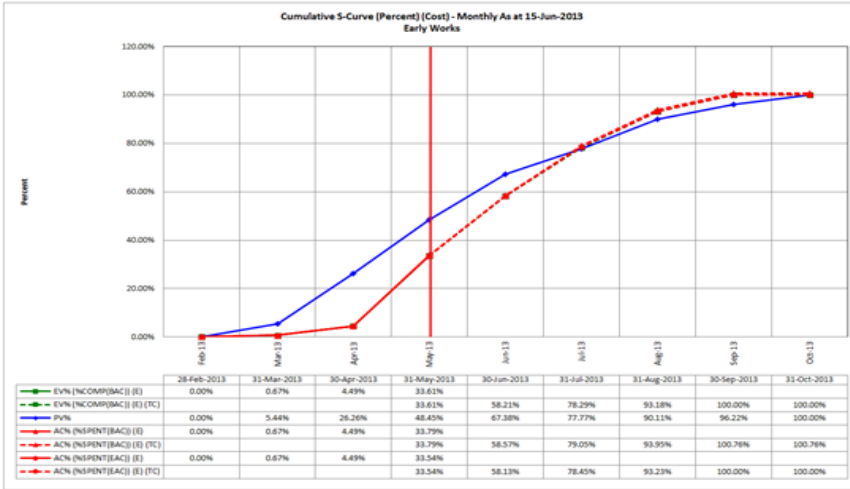
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Period PV%	5.44%	20.83%	22.37%	18.93%	10.39%	12.33%	6.11%	3.78%
Period EV%	0.67%	3.81%	29.16%	24.60%	20.08%	14.90%	6.82%	0.00%
Period %AC(BAC)	0.67%	3.81%	29.34%	24.78%	20.48%	14.90%	6.82%	0.00%
Cum PV%	5.44%	26.26%	48.45%	67.38%	77.77%	90.11%	96.22%	100.00%
Cum EV%	0.67%	4.43%	33.61%	58.21%	78.29%	93.18%	100.00%	100.00%
Cum %AC(BAC)	0.67%	4.43%	33.79%	58.57%	79.05%	93.95%	100.76%	100.76%
CPI	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99
SFI	0.12	0.17	0.69	0.86	1.01	1.03	1.04	1.00

Case Histories – Civil Construction Works

Civil Construction Works – Dash Board Example (P2)



EARLY WORKS CONTRACT – CONTRACTOR CONSTRUCTION PERFORMANCE ANALYSIS



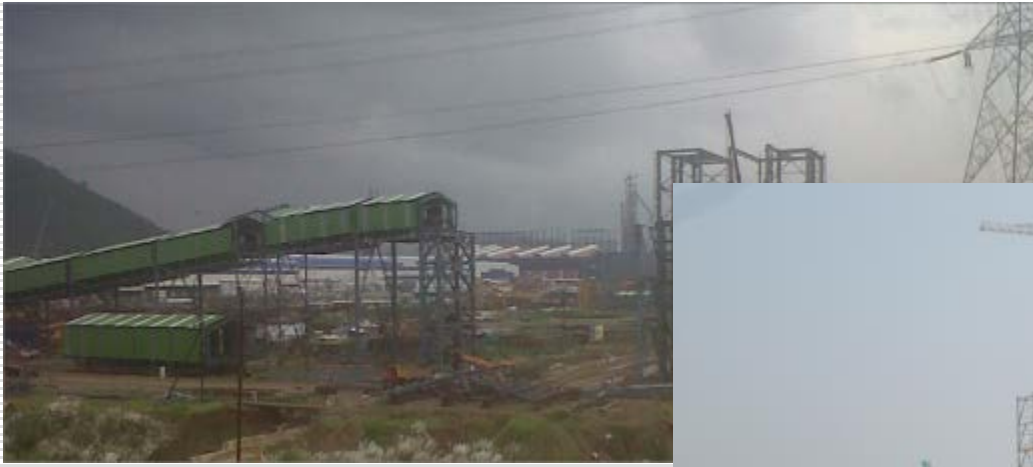
Project	Activity	Stage	Start	End	At Completion Cost		At Completion		Cumulative Report Period Cost Metrics				Cumulative Report Period Cost Indicators								
					BAC	EAC	VAC	VAC%	EV(E)	PV	AC(E)	Mgmt Res. Remaining	SV(E)	CV(E)	SPI(E)	CPI(E)	EV%(E)	AC%(BAC)	PV%		
Early Works	Preliminaries	SP0	12-Mar-2013	29-Aug-2013	\$155,668	\$155,668	\$0	0.00%	\$150,921	\$155,668	\$150,921	-\$24,986	-\$4,747	\$0	0.97	1.00	96.95%	96.95%	100.00%		
Early Works	Separable portion 1	SP1	29-Apr-2013	31-Jul-2013	\$392,187	\$402,187	-\$10,000	-2.55%	\$231,861	\$304,787	\$231,861	\$0	-\$72,926	\$0	0.76	1.00	59.12%	59.12%	77.71%		
Early Works	Separable portion 2	SP2	25-Apr-2013	1-Aug-2013	\$600,588	\$607,279	-\$6,691	-1.11%	\$519,831	\$328,774	\$519,831	\$0	\$191,057	\$0	1.58	1.00	86.55%	86.55%	54.74%		
Early Works	Separable portion 3	SP3	9-May-2013	12-Sep-2013	\$587,262	\$587,262	\$0	0.00%	\$140,089	\$344,100	\$140,089	\$0	-\$204,011	\$0	0.41	1.00	23.85%	23.85%	58.59%		
Early Works	Separable portion 4	SP4	9-May-2013	13-Sep-2013	\$454,078	\$454,078	\$0	0.00%	\$60,132	\$0	\$60,132	\$0	\$60,132	\$0	1.00	1.00	13.24%	13.24%	0.00%		
Early Works	Separable portion 5	SP5	13-May-2013	16-Jul-2013	\$197,375	\$208,169	-\$10,794	-5.47%	\$6,489	\$197,375	\$12,978	-\$6,489	-\$190,886	-\$6,489	0.03	0.50	3.29%	6.58%	100.00%		
Early Works	Separable portion 6	SP6	17-Jul-2013	26-Aug-2013	\$305,019	\$305,019	\$0	0.00%	\$0	\$98,802	\$0	\$0	-\$98,802	\$0	1.00	1.00	0.00%	0.00%	32.39%		
Early Works	Provisional sum items	SP7	29-Apr-2013	16-Sep-2013	\$907,973	\$907,973	\$0	0.00%	\$100,765	\$314,735	\$100,765	\$0	-\$213,970	\$0	0.32	1.00	11.10%	11.10%	34.66%		
Totals																					
Totals					12-Mar-2013	16-Sep-2013	\$3,600,150	\$3,627,635	-\$27,485	-0.76%	\$1,210,087	\$1,744,241	\$1,216,576	\$1,893,361	-\$534,153	-\$6,489	0.69	0.99	33.61%	33.79%	48.45%

Activity	Stage	Start	End	Cost Variation
Approved				
Shade cloth on existing fencing	SP0	18-May-2013	29-Aug-2013	\$24,986
Total: Approved		18-May-2013	29-Aug-2013	\$24,986
Not Approved				
Fencing Variation for polymer Type K	SP1	16-Jul-2013	16-Jul-2013	\$10,000
Fencing Variation for Polymer Type K	SP2	11-Jun-2013	24-Jun-2013	\$6,691
Total: Not Approved		11-Jun-2013	16-Jul-2013	\$16,691
Totals		12-Mar-2013	16-Sep-2013	\$41,677

Stage/Phase	Task Description	ES	EF	BS	BF	BLSV (E)	Status	BLFV (E)	Status	Float
SP0	Preliminaries	12-Mar-2013	29-Aug-2013	12-Mar-2013	29-Apr-2013	0	●	-122	▼	1
SP1	Separable portion 1	29-Apr-2013	31-Jul-2013	5-Apr-2013	2-Jul-2013	-24	▼	-29	▼	91
SP2	Separable portion 2	25-Apr-2013	1-Aug-2013	5-Apr-2013	30-Jul-2013	-20	▼	-2	▼	90
SP3	Separable portion 3	9-May-2013	12-Sep-2013	22-Apr-2013	29-Aug-2013	-17	▼	-14	▼	48
SP4	Separable portion 4	9-May-2013	13-Sep-2013	24-Jun-2013	30-Oct-2013	46	▲	47	▲	3
SP5	Separable portion 5	13-May-2013	16-Jul-2013	12-Apr-2013	6-Jun-2013	-31	▼	-40	▼	-47
SP6	Separable portion 6	17-Jul-2013	26-Aug-2013	2-May-2013	25-Jun-2013	-76	▼	-62	▼	-75
SP7	Provisional sum items	29-Apr-2013	16-Sep-2013	12-Mar-2013	30-Oct-2013	-48	▼	44	▲	44

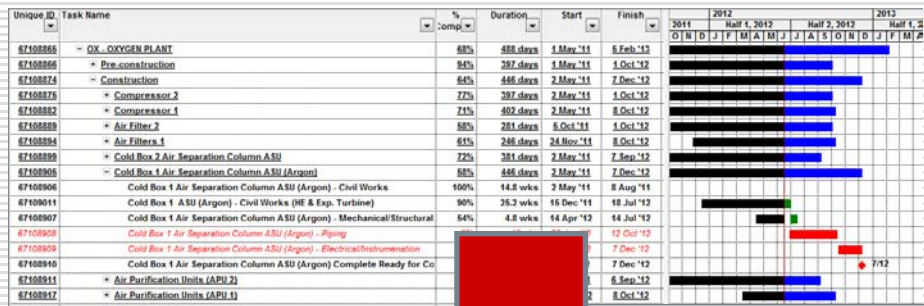
Case Histories – Industrial Project

**Heavy Industrial Project = 1.5 MTA
India**



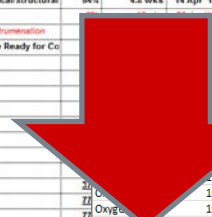
Case Histories – Industrial Project

The Master Schedule > Project Control Software Link



Primary key used is the Project and Activity Unique ID
Microsoft Project maintains all of the scheduling information: Current and Baseline
EVENGINE refreshes by report period current and baseline schedule data

Assessment of % Complete by Photographic Evidence and Measurement By Project Control's Team Quantity Surveyor



Update of Scheduling Information also from Photographic Evidence and QS report

Unique ID	Task Name	% Comp	Duration	Start	Finish	2011	2012	2013	Name	%Comp	BACC	BACO	EACC	Qty Unit	WB	CA	OB	Resource	Stage/Ph	Area/Facil	User Defined 1	User Define
67400866	OX - OXYGEN PLANT	88%	488 days	1 May '11	8 Feb '13				Compressor 2 - Civil - ASU Compressor	100.00%	1,300.00	1,300.00	1,300.00	mx3	3.2.1.1	18100-350	OKP	CON-MT-CN	1	18100	OMP-Compressor 2	RKD
67400866	Pre-construction	84%	297 days	1 May '11	1 Oct '12				Compressor 2 - Mechanical - ASU Compressor & Ancil Equipment	100.00%	197.00	197.00	200.00	T	3.2.1.2	18100-150	OKP	MEC-MT-TI	1	18100	OMP-Compressor 2	ALEI
67400874	Construction	64%	448 days	2 May '11	7 Dec '12				Compressor 2 - Electrical - ASU Compressor	80.00%	4,000.00	4,000.00	3,000.00	ILM	3.2.1.3	18100-150	OKP	PIP-MT-IP	1	18100	OMP-Compressor 2	ALEI
67400875	Compressor 2	77%	297 days	2 May '11	1 Oct '12				Compressor 2 - Instrumentation - ASU Compressor	0.00%	7,500.00	7,500.00	7,500.00	ILM	3.2.1.4	18100-150	OKP	ELE-MT-CB	1	18100	OMP-Compressor 2	ALEI
67400882	Compressor 1	71%	402 days	2 May '11	8 Oct '12				Compressor 1 - Instrumentation - ASU Compressor	0.00%	1.00	1.00	1.00	No	3.2.1.5	18100-150	OKP	INS-MT-TF	1	18100	OMP-Compressor 2	ALEI
67400889	Air Filter 2	88%	281 days	8 Oct '11	1 Oct '12				Air Filter 2 - Civil Works	100.00%	950.00	950.00	950.00	mx3	3.2.5.1	18100-350	OKP	CON-MT-CN	1	18100	OMP-Cold Box 2	RKD
67400894	Air Filter 1	81%	248 days	24 Nov '11	8 Oct '12				Air Filter 2 - Mechanical	100.00%	340.00	340.00	340.00	mx3	3.2.5.2	18100-300	OKP	CON-MT-CN	1	18100	OMP-Cold Box 2	PETRON
67400899	Cold Box 2 Air Separation Column ASU	72%	381 days	2 May '11	7 Sep '12				Air Filter 1 - Civil Works	100.00%	350.00	350.00	350.00	T	3.2.5.3	18100-150	OKP	MEC-MT-TI	1	18100	OMP-Cold Box 2	ALEI
67400899	Cold Box 2 Air Separation Column ASU - Piping	26.52%	31,500 days	2 May '11	7 Sep '12				Air Filter 1 - Mechanical	26.52%	31,500.00	31,500.00	30,000.00	ILM	3.2.5.4	18100-150	OKP	PIP-MT-IP	1	18100	OMP-Cold Box 2	ALEI
67400901	Cold Box 1 Air Separation Column ASU (Argon)	88%	488 days	2 May '11	7 Dec '12				Air Filter 1 - Electrical/Instrumentation	0.00%	7,500.00	7,500.00	7,500.00	ILM	3.2.5.5	18100-150	OKP	ELE-MT-CB	1	18100	OMP-Cold Box 2	ALEI
67400906	Cold Box 1 Air Separation Column ASU (Argon) - Civil Works	100%	44.8 wks	2 May '11	8 Aug '11				Air Filter 1 - Civil Works	100.00%	950.00	950.00	950.00	mx3	3.2.6.1	18100-350	OKP	CON-MT-CN	1	18100	OMP-Cold Box 2	RKD
67400911	Cold Box 1 ASU (Argon) - Civil Works (HE & Exp. Turbine)	100%	26.3 wks	18 Dec '11	18 Jul '12				Cold Box 2 Air Separation Column ASU - Civil Works	100.00%	340.00	340.00	340.00	mx3	3.2.5.2	18100-300	OKP	CON-MT-CN	1	18100	OMP-Cold Box 2	PETRON
67400907	Cold Box 1 Air Separation Column ASU (Argon) - Mechanical/Structural	84%	4.8 wks	14 Apr '12	14 Jul '12				Cold Box 2 Air Separation Column ASU - Mechanical/Structural	100.00%	350.00	350.00	350.00	T	3.2.5.3	18100-150	OKP	MEC-MT-TI	1	18100	OMP-Cold Box 2	ALEI
67400908	Cold Box 1 Air Separation Column ASU (Argon) - Piping	13 Oct '12							Cold Box 2 Air Separation Column ASU - Piping	26.52%	31,500.00	31,500.00	30,000.00	ILM	3.2.5.4	18100-150	OKP	PIP-MT-IP	1	18100	OMP-Cold Box 2	ALEI
67400909	Cold Box 1 Air Separation Column ASU (Argon) - Electrical/Instrumentation	7 Dec '12							Cold Box 2 Air Separation Column ASU - Electrical/Instrumentation	0.00%	7,500.00	7,500.00	7,500.00	ILM	3.2.5.5	18100-150	OKP	ELE-MT-CB	1	18100	OMP-Cold Box 2	ALEI
67400910	Cold Box 1 Air Separation Column ASU (Argon) Complete Ready for Co	7 Dec '12							Cold Box 1 Air Separation Column ASU - Civil Works	100.00%	950.00	950.00	950.00	mx3	3.2.5.1	18100-350	OKP	CON-MT-CN	1	18100	OMP-Cold Box 2	RKD
67400915	Air Purification Units (APU 2)	8 Sep '12							Cold Box 1 Air Separation Column ASU (Argon) - Civil Works	85.00%	300.00	300.00	300.00	mx3	3.2.6.2	18100-300	OKP	CON-MT-CN	1	18100	OMP-Cold Box 1	PETRON
67400917	Air Purification Units (APU 1)	8 Oct '12							Cold Box 1 Air Separation Column ASU (Argon) - Mechanical/Structural	67.43%	350.00	350.00	350.00	T	3.2.6.3	18100-150	OKP	MEC-MT-TI	1	18100	OMP-Cold Box 1	ALEI
67400923	Cooling Towers								Cold Box 1 Air Separation Column ASU (Argon) - Piping	0.00%	30,500.00	30,500.00	31,500.00	ILM	3.2.6.4	18100-150	OKP	PIP-MT-IP	1	18100	OMP-Cold Box 1	ALEI
67400930	Cooling Water (CW) Pump House								Cold Box 1 Air Separation Column ASU (Argon) - Electrical/Instrumentation	0.00%	7,500.00	7,500.00	7,500.00	ILM	3.2.6.5	18100-150	OKP	ELE-MT-CB	1	18100	OMP-Cold Box 1	ALEI
67400937	Compressor Building	No							Air Purification Units (APU 2) - Civil Works	100.00%	160.00	160.00	160.00	mx3	3.2.7.1	18100-300	OKP	CON-MT-CN	1	18100	OMP-APU 2	PETRON
67400942	Substation 2	No							Air Purification Units (APU 2) - Mechanical	100.00%	150.00	150.00	200.00	T	3.2.7.2	18100-150	OKP	MEC-MT-TI	1	18100	OMP-APU 2	ALEI
67400945	Substation 1	No							Air Purification Units (APU 2) - Piping	80.00%	3,000.00	3,000.00	3,000.00	ILM	3.2.7.3	18100-150	OKP	PIP-MT-IP	1	18100	OMP-APU 2	ALEI
67400946	Control Room	No							Air Purification Units (APU 1) - Civil Works	100.00%	160.00	160.00	160.00	mx3	3.2.8.1	18100-300	OKP	CON-MT-CN	1	18100	OMP-APU 1	PETRON
67400950	Oxygen Buffer Vessels	No							Air Purification Units (APU 1) - Mechanical	0.00%	150.00	150.00	200.00	T	3.2.8.2	18100-150	OKP	MEC-MT-TI	1	18100	OMP-APU 1	ALEI
67400956	LOX Tank	No							Air Purification Units (APU 1) - Piping	0.00%	2,000.00	2,000.00	2,000.00	ILM	3.2.8.3	18100-150	OKP	PIP-MT-IP	1	18100	OMP-APU 1	ALEI
67400962	LNH Tank	No							Air Purification Units (APU 1) - Electrical/Instrumentation	0.00%	1,000.00	1,000.00	1,000.00	ILM	3.2.8.4	18100-150	OKP	ELE-MT-CB	1	18100	OMP-APU 1	ALEI
67400968	Pipe Rack Train 2	No							Cooling Tower	18100										18100	OMP-Cooling Towers	PETRON
67400972	Pipe Rack Train 1	No							Cooling Tower	18100										18100	OMP-Cooling Towers	PETRON
67400976	Common Pipe Rack	No							Cooling Tower	18100										18100	OMP-Cooling Towers	GACTEL
67400982	Common Pipe Rack - Extension Till Utilities Battery Limit	No							Cooling Tower	18100										18100	OMP-Cooling Towers	GACTEL
67400983	Chilled Water Tower - Unit 2	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400984	Chilled Water Tower - Unit 1	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400985	Refrigeration Unit	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400988	Roads & drains	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400990	Services Available for Div & Vessel Commissioning	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400991	Div commissioning	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400991	Vessel Commissioning	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400994	Utilities Available From Oxygen Plant	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400996	Oxygen	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400996	Oxygen	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400996	Oxygen	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400996	Oxygen	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400996	Oxygen	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
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67400996	Oxygen	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
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67400996	Oxygen	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400996	Oxygen	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400996	Oxygen	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400996	Oxygen	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400996	Oxygen	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400996	Oxygen	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400996	Oxygen	No							Cooling Water	18100										18100	OMP-Cooling Towers	GACTEL
67400996	Oxygen	No																				

Case Histories – Industrial Project

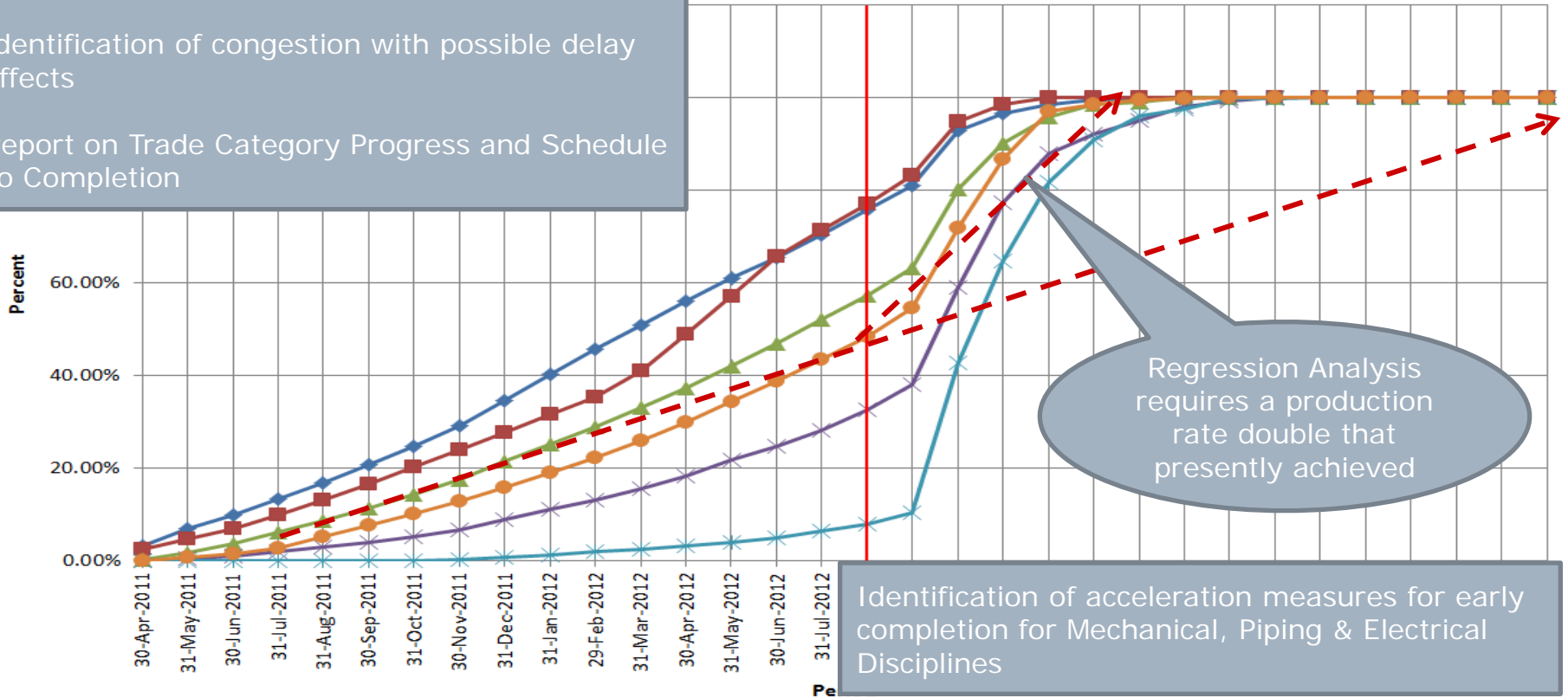
Project Wide Commodity Specific Time Displacement Specific % S-Curves

Commodity Time displacement Curves allows analysis of trade separation

Identification of congestion with possible delay effects

Report on Trade Category Progress and Schedule To Completion

Curve - Monthly As at 31-Aug-2012
All Projects

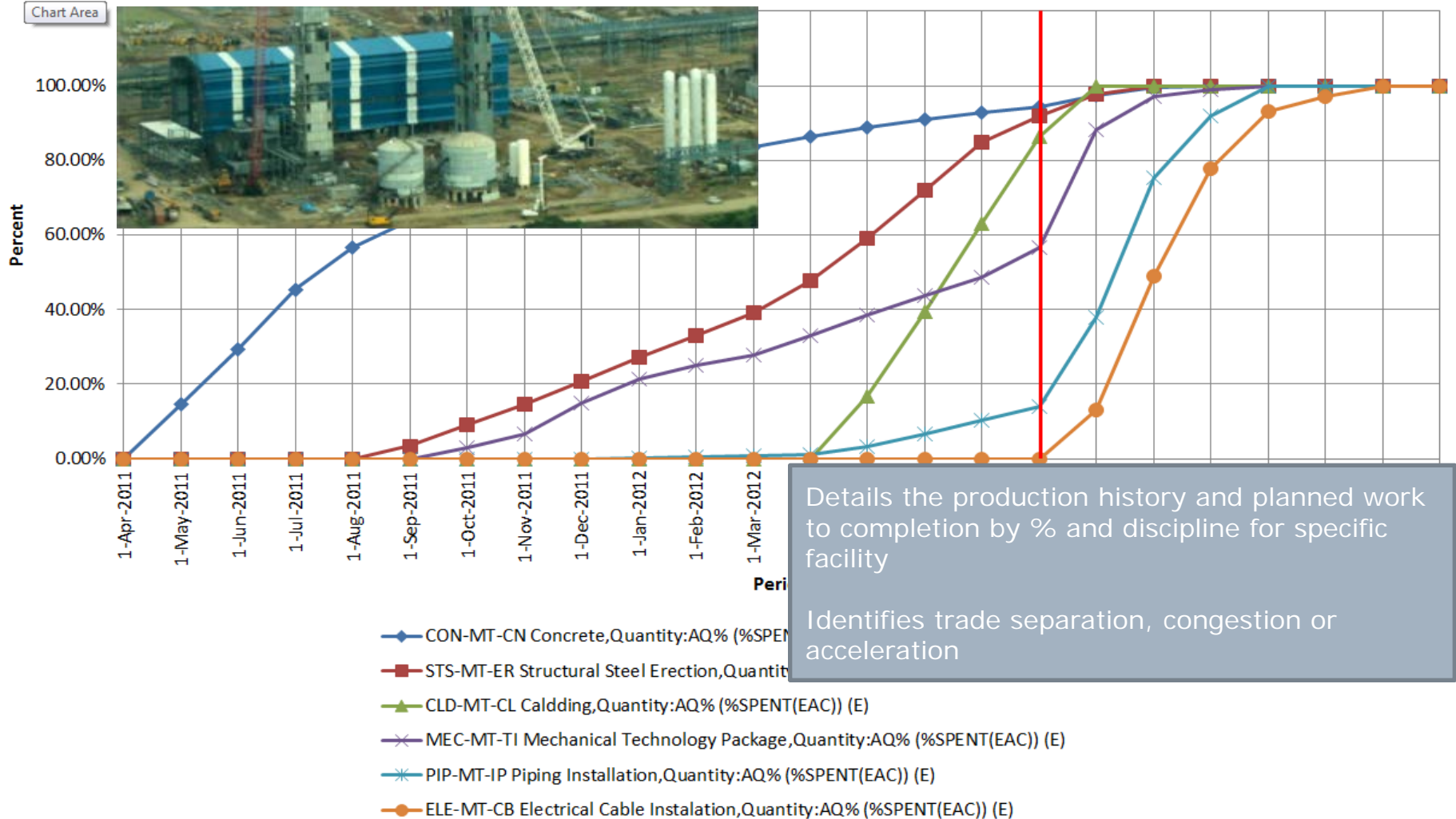


Identification of acceleration measures for early completion for Mechanical, Piping & Electrical Disciplines

Case Histories – Industrial Project

Using EVENGINE Filters for Facility Specific – Time Displacement Specific % S-Curves

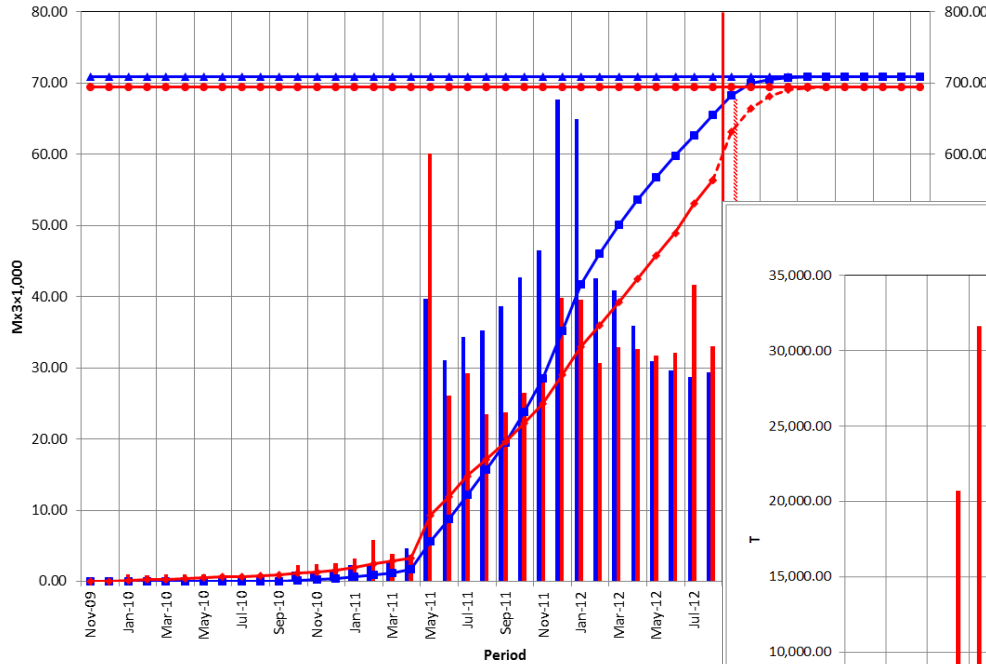
Time Displacement Curve - Monthly As at 31-Aug-2012
Oxygen Plant



Case Histories – Industrial Project

Project Wide Commodity Specific – Concrete & Steel Productivity S-Curves & Histograms

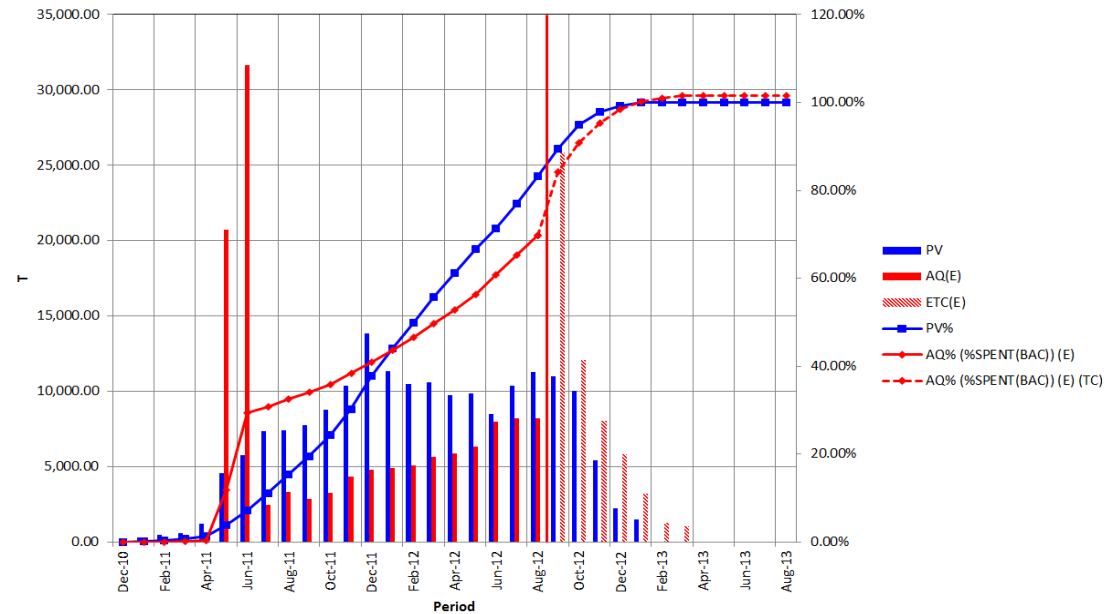
S-Curve and Histogram (Quantity ×1,000) - Monthly As at 31-Aug-2012
All Projects Resource Equals CON-MT-CN - Concrete



Commodity Concrete Placement - Actual Versus Planned

Commodity Steel Erection with S-curve in % Completion - Actual Versus Planned

S-Curve and Histogram (Quantity) - Monthly As at 31-Aug-2012
All Projects Resource Equals STS-MT-ER - Structural Steel Erection



Other commodity curves would be related to: Plate-work, Platforms, Hand Rail, Mechanical Installation, Piping Installation, Electrical Cable Tray, Cable, Terminations, Instrument Installation

Used to assess period performance and feasibility of production rates to completion

Case Histories – Industrial Project

Facility Specific – Production Reports

Contractor allocation of budgeted work for key commodity groupings

Time phased Actual and Forecast to Completion Quantities against baseline or target period quantities for commodity based contracts

Data is used to set and track period actuals against targets.

Metrics Report - BAC (Quantity) - Monthly As at 31-Aug-2012							
Project: Oxygen Plant							
Filter: No Filter							
User Defined 2	Resource						
	CON-MT-CN - Concrete	ELE-MT-CB - Electrical Cable Instalation	INS-MT-TF - Instrumentation	MEC-MT-TI - Mechanical Technology Package	PIP-MT-IP - Piping Installation	STS-MT-ER - Structural Steel Erection	CLD-MT-CL - Caldding
AGRIGOLD	1,950.00						
ALEI		65,000.00	100.00	2,050.00	106,000.00	260.00	
GACTEL		12,000.00		70.00	14,000.00		
Jagannath Cracker						1,152.00	
LP ENGG.				70.00			
Petron	8,080.00						
RKD	7,950.00						
Spire Project							10,000.00
TBA		26,001.00		2.00			
Total	17,980.00	103,001.00	100.00	2,192.00	120,000.00	1,412.00	10,000.00
Total	mx3	LM	No	T	IN-LM	T	Mx2

Performance Report Detailed Period by User Defined 2 (Quantity) - Monthly As at 31-Aug-2012																	
Using BAC2 as BAC																	
Project: Oxygen Plant																	
Filter: No Filter																	
Project	WBS	Activity	User Defined 2	Start	End	Field	To Status	To Complete	Total	31-Aug-2012	30-Sep-2012	31-Oct-2012	30-Nov-2012	31-Dec-2012	31-Jan-2013	28-Feb-2013	31-Mar-2013
All Projects	N/A		AGRIGOLD	BS	2-May-2011	BF	24-Jul-2012	PV	1,950.00	0.00	1,950.00	0.00	0.00	0.00	0.00	0.00	0.00
				ES	2-May-2011	EF	9-Nov-2012	AQ(E)	2,450.00	220.00	2,670.00	0.00	0.00	143.85	76.15	0.00	0.00
All Projects	N/A		ALEI	BS	10-Oct-2011	BF	4-Sep-2012	PV	173,246.78	65.22	173,312.00	2,601.22	65.22	0.00	0.00	0.00	0.00
				ES	7-Aug-2011	EF	21-Feb-2013	AQ(E)	17,651.00	151,791.00	169,442.00	4,450.57	30,349.73	57,814.89	35,770.87	20,891.22	4,151.79
All Projects	N/A		GACTEL	BS	4-Dec-2011	BF	16-Jul-2012	PV	26,070.00	0.00	26,070.00	0.00	0.00	0.00	0.00	0.00	0.00
				ES	7-Sep-2012	EF	1-Jan-2013	AQ(E)	0.00	26,200.00	26,200.00	0.00	1,573.56	10,437.78	9,534.38	4,568.57	85.71
All Projects	N/A		Jagannath Cracker	BS	12-Sep-2011	BF	26-Jun-2012	PV	1,152.00	0.00	1,152.00	0.00	0.00	0.00	0.00	0.00	0.00
				ES	12-Sep-2011	EF	20-Aug-2012	AQ(E)	1,152.00	0.00	1,152.00	86.81	0.00	0.00	0.00	0.00	0.00
All Projects	N/A		LP ENGG.	BS	4-Dec-2011	BF	19-Apr-2012	PV	70.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
				ES	14-Apr-2012	EF	14-Jul-2012	AQ(E)	70.00	0.00	70.00	0.00	0.00	0.00	0.00	0.00	0.00
All Projects	N/A		Petron	BS	2-May-2011	BF	18-Jun-2012	PV	8,080.00	0.00	8,080.00	0.00	0.00	0.00	0.00	0.00	0.00
				ES	2-May-2011	EF	23-Oct-2012	AQ(E)	7,546.00	834.00	8,380.00	286.27	597.24	236.76	0.00	0.00	0.00
All Projects	N/A		RKD	BS	2-May-2011	BF	24-Dec-2011	PV	7,950.00	0.00	7,950.00	0.00	0.00	0.00	0.00	0.00	0.00
				ES	2-May-2011	EF	24-Dec-2011	AQ(E)	7,950.00	0.00	7,950.00	0.00	0.00	0.00	0.00	0.00	0.00
All Projects	N/A		Spire Project	BS	21-Mar-2012	BF	25-May-2012	PV	10,000.00	0.00	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00
				ES	10-May-2012	EF	15-Sep-2012	AQ(E)	7,000.00	1,090.00	8,090.00	1,903.51	1,090.00	0.00	0.00	0.00	0.00
All Projects	N/A		TBA	BS	4-Dec-2011	BF	31-Aug-2012	PV	26,003.00	0.00	26,003.00	1.20	0.00	0.00	0.00	0.00	0.00
				ES	3-Sep-2012	EF	29-Nov-2012	AQ(E)	0.00	26,101.00	26,101.00	0.00	10,367.78	12,257.38	3,475.84	0.00	0.00

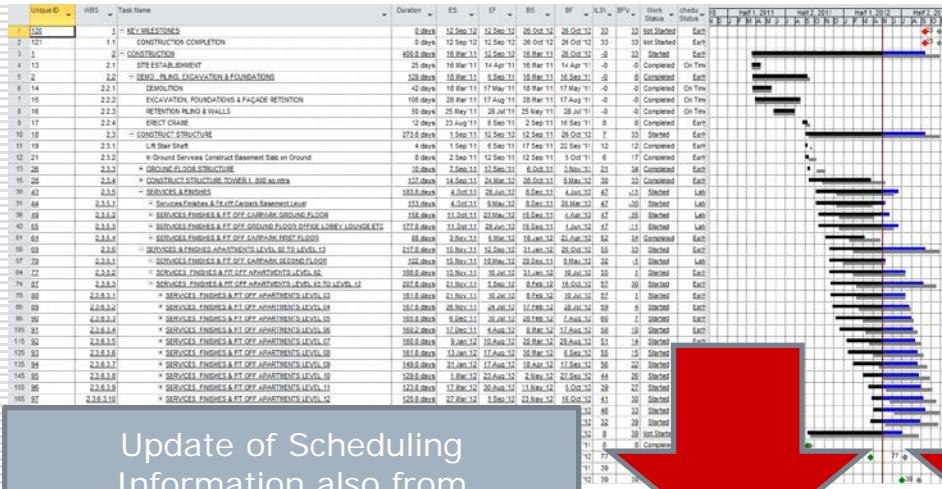
Case Histories – High Rise Construction

13 Floor High Rise Apartment Construction – Metrics



Case Histories – High Rise Construction

High Rise Construction – Metrics



Assessment of % Complete of the Photographic Evidence

Update of Scheduling Information also from Photographic Evidence

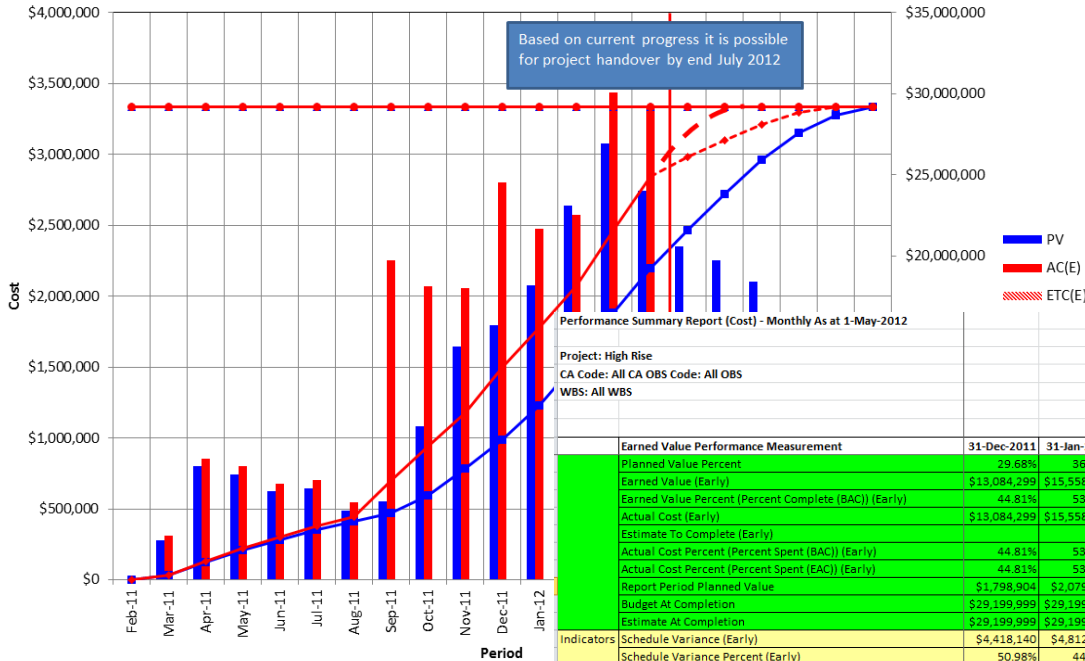
	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
	Early Start	Early Finish	Baseline Start	Baseline Finish	Baseline2 Start	Baseline2 Finish	%Comp	BAC	BAC2	EAC	SP	%CompW	BACW	BACW2	EACW	%CompQ	BACQ	BACQ2	EACQ	Unit	AB	W	
2 High Rise	16-Mar-2011	27-Sep-2012	16-Mar-2011	26-Oct-2012	16-Mar-2011	26-Oct-2012	83.00%	\$5,759,600	\$5,759,600	\$5,759,600	50	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 High Rise	14	1	No	CONSTRUCTION																			
4 High Rise	18-Mar-2011	17-Aug-2011	18-Mar-2011	17-May-2011	18-Mar-2011	17-May-2011	100.00	\$353,000	\$353,000	\$353,000	50	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.2.1
5 High Rise	19	1	No	EXCAVATION, FOUNDATIONS & FAÇADE RETENTION																			
6 High Rise	21	1	No	Lift Stair Shaft																			
7 High Rise	26	1	No	In Ground Services Construct Basement Slab on Ground																			
8 High Rise	27	1	No	GROUND FLOOR STRUCTURE																			
9 High Rise	28	1	No	CONSTRUCT GROUND FLOOR STRUCTURE																			
10 High Rise	29	1	No	CONSTRUCT TOWER LEVEL 01 Suspended Structure																			
11 High Rise	30	1	No	Construct Tower Level 02 2 pours																			
12 High Rise	31	1	No	Construct Tower Level 03 2 pours																			
13 High Rise	32	1	No	Construct Tower Level 04 2 pours																			
14 High Rise	33	1	No	Construct Tower Level 05 2 pours																			
15 High Rise	34	1	No	Construct Tower Level 06 2 pours																			
16 High Rise	36	1	No	Construct Tower Level 07 2 pours																			
17 High Rise	37	1	No	Construct Tower Level 08 2 pours																			
18 High Rise	38	1	No	Construct Tower Level 09 2 pours																			
19 High Rise	38	1	No	Construct Tower Level 10 2 pours																			
20 High Rise	39	1	No	Construct Tower Level 11 2 pours																			
21 High Rise	40	1	No	Construct Tower Level 12 2 pours																			
22 High Rise	41	1	No	Construct Tower Level 13 2 pours																			
23 High Rise	42	1	No	Construct Tower Level 14 2 pours																			
24 High Rise	44	1	No	Services Finishes & Fit Off Carpark Basement Level																			
25 High Rise	49	1	No	SERVICES FINISHES & FIT OFF CARPARK GROUND FLOOR																			
26 High Rise	55	1	No	SERVICES FINISHES & FIT OFF GROUND FLOOR OFFICE LOBBY LOUNGE E																			
27 High Rise	64	1	No	SERVICES FINISHES & FIT OFF CARPARK FIRST FLOOR																			
28 High Rise	70	1	No	SERVICES FINISHES & FIT OFF CARPARK SECOND FLOOR																			
29 High Rise	77	1	No	SERVICES FINISHES & FIT OFF APARTMENTS LEVEL 02																			
30 High Rise	88	1	No	SERVICES FINISHES & FIT OFF APARTMENTS LEVEL 03																			
31 High Rise	89	1	No	SERVICES FINISHES & FIT OFF APARTMENTS LEVEL 04																			
32 High Rise	90	1	No	SERVICES FINISHES & FIT OFF APARTMENTS LEVEL 05																			
33 High Rise	91	1	No	SERVICES FINISHES & FIT OFF APARTMENTS LEVEL 06																			
34 High Rise	92	1	No	SERVICES FINISHES & FIT OFF APARTMENTS LEVEL 07																			
35 High Rise	93	1	No	SERVICES FINISHES & FIT OFF APARTMENTS LEVEL 08																			
36 High Rise	94	1	No	SERVICES FINISHES & FIT OFF APARTMENTS LEVEL 09																			
37 High Rise	95	1	No	SERVICES FINISHES & FIT OFF APARTMENTS LEVEL 10																			
38 High Rise	96	1	No	SERVICES FINISHES & FIT OFF APARTMENTS LEVEL 11																			
39 High Rise	97	1	No	SERVICES FINISHES & FIT OFF APARTMENTS LEVEL 12																			
40 High Rise	98	1	No	SERVICES FINISHES & FIT OFF APARTMENTS LEVEL 13																			
41 High Rise	112	1	No	Lift Installation																			

Contractors Priced Bill Held within EVENGINE

Case Histories – High Rise Construction

High Rise Construction– Metrics, Indicators and Predictors

S-Curve and Histogram (Cost) - Monthly As at 1-May-2012
High Rise Construction



Performance Graphs AC versus PV used to FORECAST Expected Completion and Progress

Performance Summary Report (Cost) - Monthly As at 1-May-2012

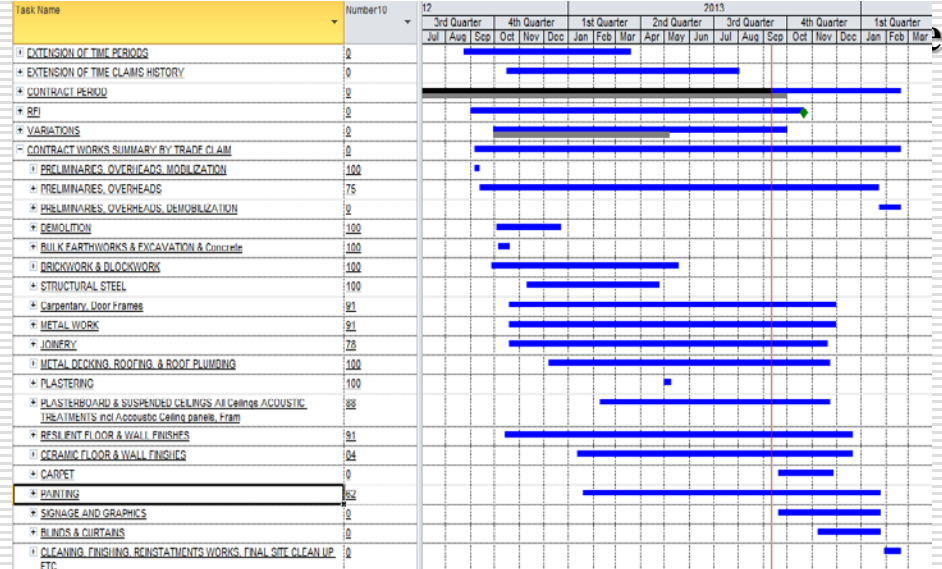
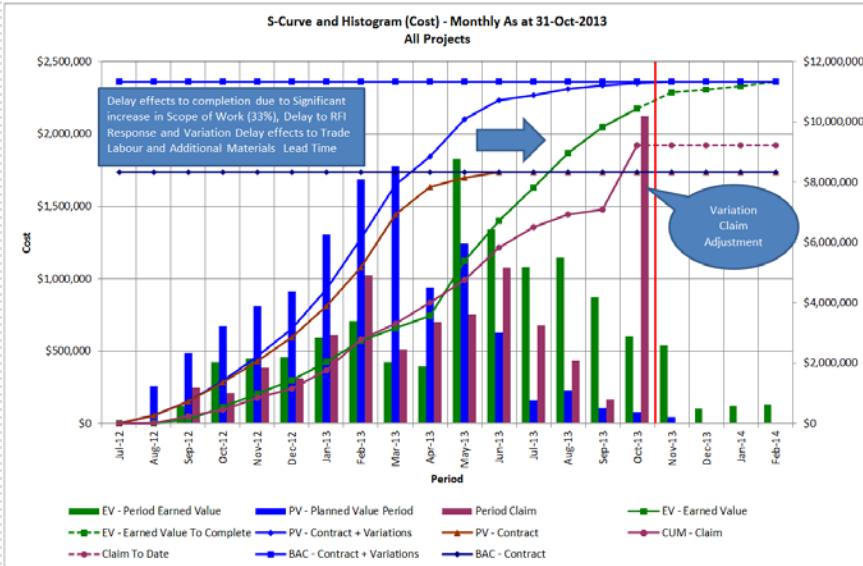
Project: High Rise
CA Code: All CA OBS Code: All OBS
WBS: All WBS

Claimed \$ 24,906,807
Variance -\$8,719

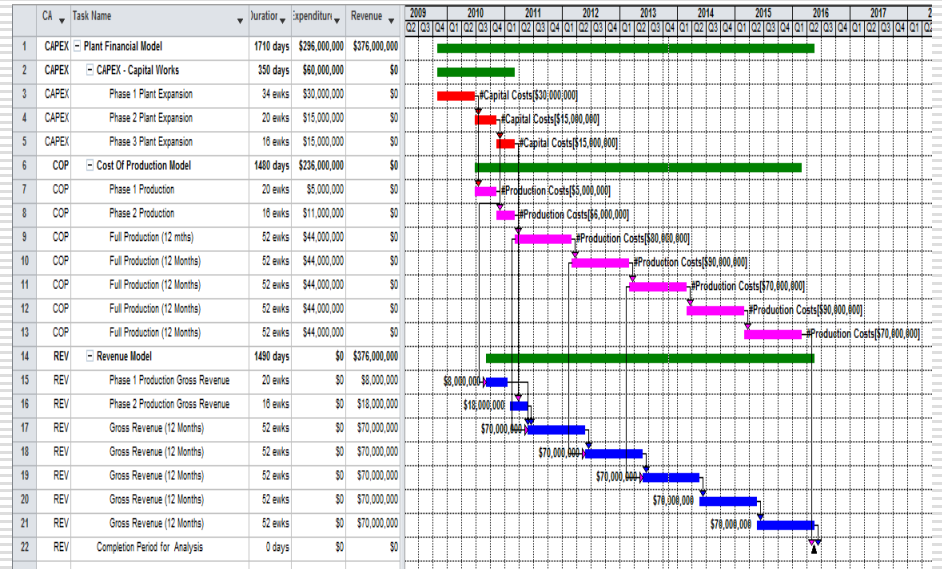
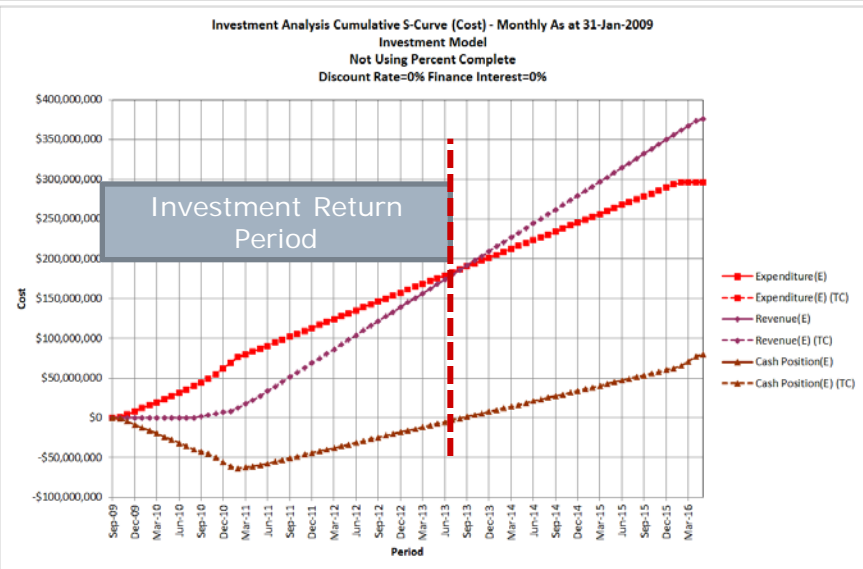
	31-Dec-2011	31-Jan-2012	29-Feb-2012	31-Mar-2012	30-Apr-2012	31-May-2012	30-Jun-2012	31-Jul-2012	31-Aug-2012	30-Sep-2012	31-Oct-2012
Earned Value Performance Measurement											
Planned Value Percent	29.68%	36.80%	45.84%	56.38%	65.78%	73.84%	81.56%	88.75%	94.41%	98.23%	100.00%
Earned Value (Early)	\$13,084,299	\$15,558,141	\$18,132,164	\$21,571,629	\$24,915,526	\$26,107,738	\$27,111,148	\$28,094,471	\$28,865,723	\$29,199,999	\$29,199,999
Earned Value Percent (Percent Complete (BAC)) (Early)	44.81%	53.28%	62.10%	73.88%	85.33%	89.41%	92.85%	96.21%	98.86%	100.00%	100.00%
Actual Cost (Early)	\$13,084,299	\$15,558,141	\$18,132,164	\$21,571,629	\$24,915,526						
Estimate To Complete (Early)						\$26,107,738	\$27,111,148	\$28,094,471	\$28,865,723	\$29,199,999	\$29,199,999
Actual Cost Percent (Percent Spent (BAC)) (Early)	44.81%	53.28%	62.10%	73.88%	85.33%	89.41%	92.85%	96.21%	98.86%	100.00%	100.00%
Actual Cost Percent (Percent Spent (EAC)) (Early)	44.81%	53.28%	62.10%	73.88%	85.33%	89.41%	92.85%	96.21%	98.86%	100.00%	100.00%
Report Period Planned Value	\$1,798,904	\$2,079,000	\$2,641,377	\$3,075,645	\$2,745,197	\$3,353,357	\$2,253,597	\$2,101,602	\$1,651,079	\$1,115,116	\$517,870
Budget At Completion	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999
Estimate At Completion	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999
Indicators											
Schedule Variance (Early)	\$4,418,140	\$4,812,982	\$4,745,629	\$5,109,448	\$5,708,148	\$4,547,003	\$3,296,816	\$2,178,537	\$1,298,710	\$517,870	\$0
Schedule Variance Percent (Early)	50.98%	44.79%	35.45%	31.04%	29.72%	21.09%	13.84%	8.41%	4.71%	1.81%	0.00%
Cost Variance (Early)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cost Variance Percent (Early)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Spending Variance (Early)	-\$4,418,140	-\$4,812,982	-\$4,745,629	-\$5,109,448	-\$5,708,148	-\$4,547,003	-\$3,296,816	-\$2,178,537	-\$1,298,710	-\$517,870	\$0
Spending Variance Percent (Early)	-50.98%	-44.79%	-35.45%	-31.04%	-29.72%	-21.09%	-13.84%	-8.41%	-4.71%	-1.81%	0.00%
Variance At Completion	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Variance At Completion Percent	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cost Performance Index (Early)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Schedule Performance Index (Early)	1.51	1.45	1.35	1.31	1.30	1.21	1.14	1.08	1.05	1.02	1.00
Spending Rate Index (Early)	0.66	0.69	0.74	0.76	0.77	0.83	0.88	0.92	0.96	0.98	1.00
To Complete Performance Index (BAC) (Early)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
To Complete Performance Index (EAC) (Early)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Schedule Conversion (Early)	2.46	2.32	1.80	1.66	2.08	1.93	1.46	1.04	0.79	0.46	1.00
Predictors											
Independent Estimate At Completion (CPI) (Early)	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999
Independent Estimate At Completion (0.8CPI + 0.2SPI) (Early)	\$27,708,837	\$28,078,383	\$28,467,227	\$28,754,144	\$28,959,629	\$29,074,850	\$29,143,722	\$29,181,720	\$29,196,879	\$29,199,999	\$29,199,999
Independent Estimate At Completion (CPI Average) (Early)	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999
Independent Estimate At Completion (CPI * SPI) (Early)	\$23,758,254	\$24,979,828	\$26,303,277	\$27,393,146	\$28,218,426	\$28,661,441	\$28,945,987	\$29,114,273	\$29,184,959	\$29,199,999	\$29,199,999
Independent Estimate At Completion (SPI) (Early)	\$23,758,254	\$24,979,828	\$26,303,277	\$27,393,146	\$28,218,426	\$28,661,441	\$28,945,987	\$29,114,273	\$29,184,959	\$29,199,999	\$29,199,999
Independent Estimate At Completion (SPI Average) (Early)	\$23,633,312	\$24,744,011	\$25,831,985	\$27,135,987	\$28,159,645	\$28,537,199	\$28,829,652	\$29,060,450	\$29,172,435	\$29,199,999	\$29,199,999
Mathematical Estimate At Completion (Early)	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999	\$29,199,999
Independent Estimate At Completion (Date) (Early)	7-Aug-2012	11-Aug-2012	19-Aug-2012	22-Aug-2012	23-Aug-2012	1-Sep-2012	8-Sep-2012	15-Sep-2012	20-Sep-2012	24-Sep-2012	27-Sep-2012

EVENGINE Project Summary Report used to verify QS Certification for Payment.

Case Histories – Other Specialist Application

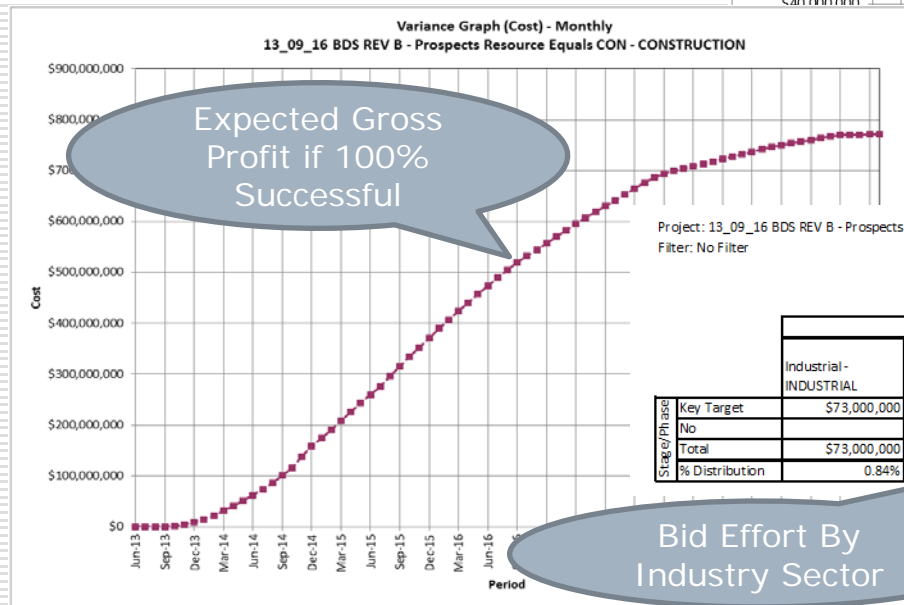
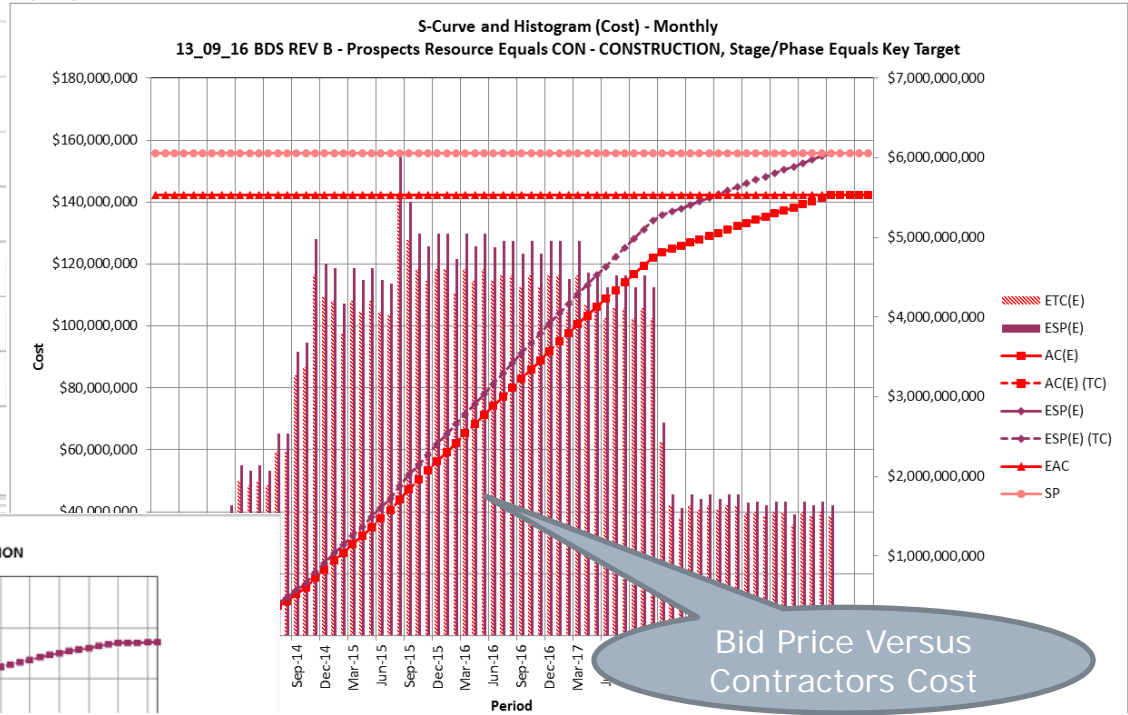
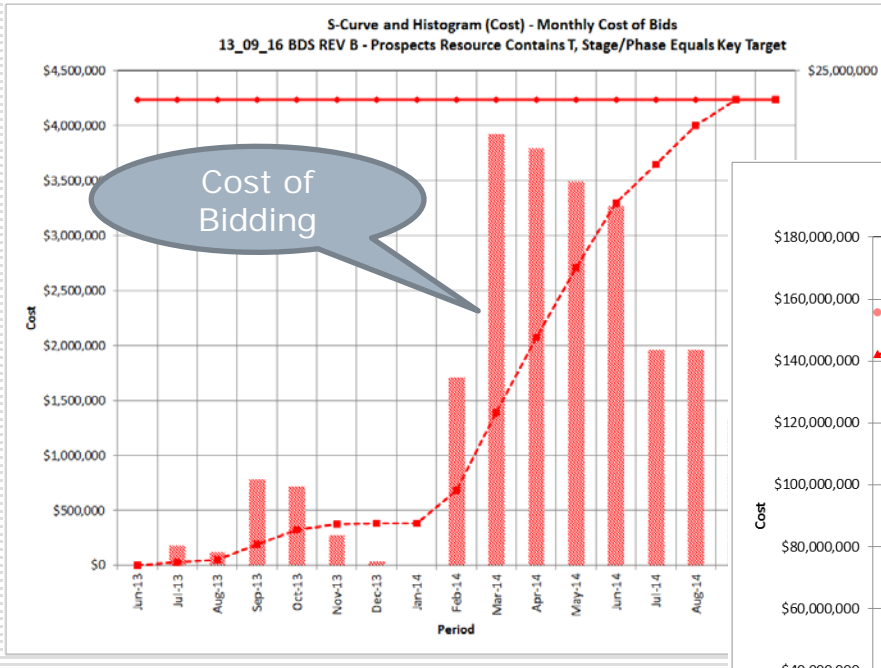


Financial Modelling Using Discounted Cash Flow



Case Histories – Other Specialist Application

Business Intelligence System



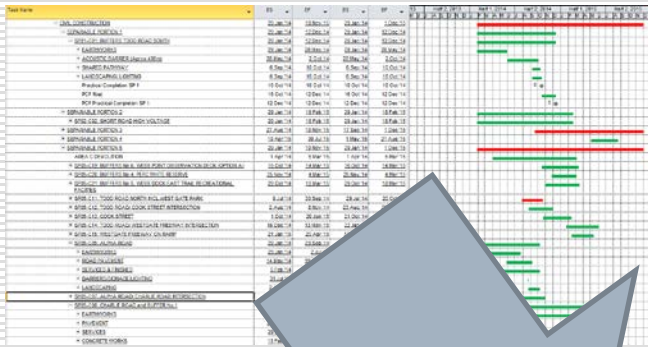
Stage/Phase	Area/Facility							Total	% Distribution
	Industrial - INDUSTRIAL	Marine & Ports - MARINE & PORTS	Mine Infrastructure - MINE INFRASTRUCTURE	Oil & Gas - OIL & GAS	Rail - RAIL	Roads - ROADS	Airport - AIRPORT		
Key Target	\$73,000,000	\$60,000,000	\$350,000,000	\$7,000,000	\$71,000,000	\$5,500,000,000	\$6,061,000,000	69.56%	
No			\$50,000,000	\$1,659,500,000	\$222,000,000	\$678,000,000	\$43,000,000	\$2,652,500,000	30.44%
Total	\$73,000,000	\$60,000,000	\$400,000,000	\$1,666,500,000	\$293,000,000	\$6,178,000,000	\$8,713,500,000	100.00%	
% Distribution	0.84%	0.69%	4.59%	19.13%	3.36%	70.90%	0.49%	100.00%	

Bid Effort By Industry Sector

The Earned Value Project Control Cycle Summary

Earned Value & Schedule Project Report Cycle Summary

System Using EVENGINE can be simple and cost effective

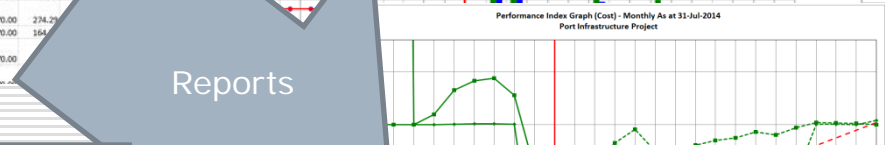
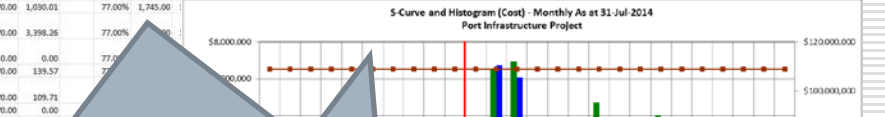


Schedule

Subcontract	Name	SAC	SNOW	SACD	Units	WBS	CA	OSB	Resource	Exp/Phen	Area/Type
11-1-47	300 dia PE100 Class PN16 pipework laid in trench and backfill after completion, inclusive of all bends, tees and angles	\$470,300	237,678.40	1,745.00 m			SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-48	Dicto - between existing mains to service property connection	\$19,548	9,770.31	55.00 m			SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-49	Break in and reconnect new 300 dia PE100 pipework to existing mains	\$13,880	1,689.00	2.00 NO.			SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-7	Allow for maintenance during defects liability period as specified	50	0.00	1.00 item			SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-70	Dicto - to pipework between existing mains and service property (connection pipework)	\$38,432	19,200.00	5.00 NO.			SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-71	Water authority meter	\$22,047	11,520.00	2.00 NO.			SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-72	Service property connection at end of new 300 dia PE100 class PN16 pipework	\$2,505	1,152.00	6.00 NO.			SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-73	Dicto - to pipework between existing mains and service property	\$5,501	480.00	5.00 NO.			SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-74	Dicto - to pipework between existing mains and service property	\$44,942	22,484.00	13.00 NO.			SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-75	Install valve controlled hydrant feed to new pipework	444	6,720.00	7.00 NO.			SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-77	Install valve to new water mains	1,152.00	2.00 NO.				SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-78	Initial valve to water mains installed during early works package	200.00	20.00 NO.				SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-79	Allow for water rates as specified	1.00	1.00 item				SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-80	Allow for bedding and graving existing services	1.00	1.00 item				SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-81	Break out and construct sewer main into cover existing sewer	1.00	1.00 item				SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-82	Trenching for sewer pipework	1.00	1.00 item				SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-83	300 dia PE100 Class PN16 pipework laid in trench and backfill after completion, inclusive of all bends, tees and angles						SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-84	300 dia dicto						SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-85	300 dia dicto						SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-86	300 dia dicto						SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-87	Sewer man hole						SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-89	Sewer pump						SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3
11-1-9	Allow for grant						SEPARABLE PORTION 5		HYDRAULIC SERVICES	SEPARABLE PORTION 5	CONSTRUCTION ZONE C3

Cost & %Complete

Project ID	SAC	SP	Cost Var.	%Comp	BACWV	BACW2	EA
RD 850	\$30,000	\$30,000	\$0	0.00%	0.00	70.00	0
RD 9270	50	50	0	0.00%	0.00	70.00	54.86
RD 9270	70.00	70.00	0.00	0.00%	0.00	70.00	54.86
RD 9270	70.00	70.00	0.00	0.00%	0.00	70.00	27.43
RD 9270	70.00	70.00	0.00	0.00%	0.00	70.00	54.86
RD 9270	70.00	70.00	0.00	0.00%	0.00	70.00	1.00
RD 9270	70.00	70.00	0.00	0.00%	0.00	70.00	3,998.26
RD 9270	70.00	70.00	0.00	0.00%	0.00	70.00	0.00
RD 9270	70.00	70.00	0.00	0.00%	0.00	70.00	1,935.77
RD 9270	70.00	70.00	0.00	0.00%	0.00	70.00	109.71
RD 9270	70.00	70.00	0.00	0.00%	0.00	70.00	0.00
RD 9270	70.00	70.00	0.00	0.00%	0.00	70.00	274.23
RD 9270	70.00	70.00	0.00	0.00%	0.00	70.00	164.00
RD 9270	70.00	70.00	0.00	0.00%	0.00	70.00	0.00



Month	Actual Cost	Planned Cost	PI
Oct 13	0	0	0
Nov 13	100,000	100,000	1.0
Dec 13	200,000	200,000	1.0
Jan 14	300,000	300,000	1.0
Feb 14	400,000	400,000	1.0
Mar 14	500,000	500,000	1.0
Apr 14	600,000	600,000	1.0
May 14	700,000	700,000	1.0
Jun 14	800,000	800,000	1.0
Jul 14	900,000	1,000,000	0.9

Interpretation Decision & Action

Reports

Shift from 80% of Time in Data and Report Preparation to 20% Data Preparation and 80% Interpretation and Decision Making



Implementation Challenges

EVENGINE Project Control Software Demonstration

Earned Value & Schedule Project Report Cycle Summary

Using EVENGINE can be simple and cost effective

Rare Earths Industrial Pant – Estimate Import



Step 1

EVEngine

- Project Data
 - Create Empty Project
 - Import Project Data File
 - Import Project Estimate Data File
 - Import Actual Data
- Reports and Graphs
- Certificates of Payment
- Edit CA Details
- Edit Profiles
- Enter Licence Number
- About EVE

SelectImportType

Select Sheet: EVE Estimate Data

Select import type: Import/Replace Project Data

OK

Project	Unique	Name	BAC	SP	BACW	BACV	Qty. U.	WBS	CA	Of	Resour	Stage/Pha	Area/Facil	User Define	User Define	Profi
Heavy Industrial	108	Process Design	\$230,400	\$0	\$1,920,000	0.00	0.00	1.1.1	100	LENG	EM	LENG	2	2350	A	B
Heavy Industrial	109	Mechanical	\$768,000	\$414,720	\$6,400,000	0.00	0.00	1.1.2	100	LENG	EM	LENG	2	2350	A	B
Heavy Industrial	110	Piping	\$288,000	\$0	\$2,400,000	0.00	0.00	1.1.3	100	LENG	EM	LENG	2	2350	A	B
Heavy Industrial	101	Structural	\$515,200	\$207,360	\$660,000	0.00	0.00	1.1.8	100	LENG	EM	LENG	2	2350	A	B
Heavy Industrial	102	Site Works, Foundation & Concrete	\$288,000	\$0	\$2,400,000	0.00	0.00	1.1.9	100	LENG	EM	LENG	2	2350	A	B
Heavy Industrial	111	Electrical	\$440,800	\$0	\$3,840,000	0.00	0.00	1.1.10	100	LENG	EM	LENG	2	2350	A	B
Heavy Industrial	112	Instrumentation	\$240,000	\$0	\$2,000,000	0.00	0.00	1.1.11	100	LENG	EM	LENG	2	2350	A	B
Heavy Industrial	113	Architectural	\$176,000	\$0	\$1,472,000	0.00	0.00	1.1.12	100	LENG	EM	LENG	2	2350	A	B
Heavy Industrial	114	Engineering Support During Procurement	\$288,000	\$0	\$2,400,000	0.00	0.00	1.1.13	100	LENG	EM	LENG	2	2350	A	B
Heavy Industrial	115	Engineering Support During Construction	\$440,800	\$0	\$3,840,000	0.00	0.00	1.1.14	100	LENG	EM	LENG	2	2350	A	B
Heavy Industrial	116	Engineering Support During Commissioning	\$240,000	\$0	\$2,000,000	0.00	0.00	1.1.15	100	LENG	EM	LENG	2	2350	A	B
Heavy Industrial	104	Site Works Tender, Award, Mobilization	\$24,000	\$0	\$200,000	0.00	0.00	1.2.1.1	210	LPROC	PM	LPROC	2	2350	A	B
Heavy Industrial	105	Shop Drawings, Fabrication & Supply	\$15,000	\$0	\$125,000	0.00	0.00	1.2.1.2	210	LPROC	PM	LPROC	2	2350	A	B

485 Estimate / PRICED ITEM TASKS

Step 2

EVEngine

- Project Data
 - Create Empty Project
 - Import Project Data File
 - Import Project Estimate Data File
 - Import Actual Data
- Reports and Graphs
- Certificates of Payment
- Edit CA Details

Please Select Workbook: Book4

OK Cancel

ID	CA	OBS	Task Name	Duration	ES	EF	BS	BF	LS	LF	Work Status	Original Status	BLV
1	1.1		Industrial project	130.6 wks	21 Apr '10	14 Mar '11	21 Apr '10	16 Apr '11	0	23	Started	Late	
13	1.2		Procurement	60.3 wks	11 Aug '09	24 Oct '09	24 Oct '09	5 Jul '10	-45.5	20	Started	Late	
14	1.2.1		Build Structure	24 wks	25 Dec '09	22 Feb '10	24 Oct '09	22 Feb '10	-58	20	Started	Late	
24	1.2.3		Architectural	32.5 wks	21 Jan '10	12 Jul '10	4 Dec '09	15 May '10	-58	20	Not Started	Late	
37	1.2.4		Mechanical	85.5 wks	2 Dec '09	18 Jul '10	24 Oct '09	22 Mar '10	-49.5	20	Started	Late	
76	1.2.4		Electrical	92.4 wks	18 Jan '09	20 Jun '10	17 Dec '09	23 May '10	-23.5	20	Started	Late	

Project	Unique ID	Level	Summary	Name	Early Start	Early Finish	Baseline Start	Baseline Finish	Baseline 2 Start	Baseline 2 Finish	Late Start	Late Finish	%Comp	BAC	BAC2	EAC	SP	Cost Var	%Comp W	BACW	BACW2	EACW
Heavy Industrial	108	1	No	Process Design	21-Apr-2008	4-Jul-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	4-Jul-2008	100.00%	\$230,400	\$230,400	\$230,400	\$0	\$0	100.00%	\$1,920,000	\$1,920,000	\$1,920,000
Heavy Industrial	109	1	No	Mechanical	21-Apr-2008	4-Jul-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	4-Jul-2008	100.00%	\$768,000	\$768,000	\$768,000	\$0	\$414,720	100.00%	\$6,400,000	\$6,400,000	\$6,400,000
Heavy Industrial	110	1	No	Piping	21-Apr-2008	4-Jul-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	4-Jul-2008	100.00%	\$288,000	\$288,000	\$288,000	\$0	\$0	100.00%	\$2,400,000	\$2,400,000	\$2,400,000
Heavy Industrial	101	1	No	Structural	21-Apr-2008	4-Jul-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	4-Jul-2008	100.00%	\$515,200	\$515,200	\$515,200	\$0	\$207,360	100.00%	\$660,000	\$660,000	\$660,000
Heavy Industrial	102	1	No	Site Works, Foundation & Concrete	21-Apr-2008	4-Jul-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	4-Jul-2008	100.00%	\$288,000	\$288,000	\$288,000	\$0	\$0	100.00%	\$2,400,000	\$2,400,000	\$2,400,000
Heavy Industrial	111	1	No	Electrical	21-Apr-2008	4-Jul-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	4-Jul-2008	100.00%	\$440,800	\$440,800	\$440,800	\$0	\$0	100.00%	\$3,840,000	\$3,840,000	\$3,840,000
Heavy Industrial	112	1	No	Instrumentation	21-Apr-2008	4-Jul-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	4-Jul-2008	100.00%	\$240,000	\$240,000	\$240,000	\$0	\$0	100.00%	\$2,000,000	\$2,000,000	\$2,000,000
Heavy Industrial	113	1	No	Architectural	21-Apr-2008	4-Jul-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	4-Jul-2008	100.00%	\$176,000	\$176,000	\$176,000	\$0	\$0	100.00%	\$1,472,000	\$1,472,000	\$1,472,000
Heavy Industrial	114	1	No	Engineering Support During Procurement	21-Apr-2008	4-Jul-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	4-Jul-2008	100.00%	\$288,000	\$288,000	\$288,000	\$0	\$0	100.00%	\$2,400,000	\$2,400,000	\$2,400,000
Heavy Industrial	115	1	No	Engineering Support During Construction	21-Apr-2008	4-Jul-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	4-Jul-2008	100.00%	\$440,800	\$440,800	\$440,800	\$0	\$0	100.00%	\$3,840,000	\$3,840,000	\$3,840,000
Heavy Industrial	116	1	No	Engineering Support During Commissioning	21-Apr-2008	4-Jul-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	4-Jul-2008	100.00%	\$240,000	\$240,000	\$240,000	\$0	\$0	100.00%	\$2,000,000	\$2,000,000	\$2,000,000
Heavy Industrial	104	1	No	Site Works Tender, Award, Mobilization	21-Apr-2008	4-Jul-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	4-Jul-2008	100.00%	\$24,000	\$24,000	\$24,000	\$0	\$0	100.00%	\$200,000	\$200,000	\$200,000
Heavy Industrial	105	1	No	Shop Drawings, Fabrication & Supply	21-Apr-2008	4-Jul-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	21-Apr-2008	4-Jul-2008	100.00%	\$15,000	\$15,000	\$15,000	\$0	\$0	100.00%	\$125,000	\$125,000	\$125,000

Project import options

Import Type: Additional Project Data

Update Project Data

CA Field: Text10

OBS Field: Text11

Profile Field: Text9

SP Field: Cost1

Stage Field: Text6

Area Field: Text7

Custom 1: Text20

Custom 2: Text21

Percent Complete: Percent Complete

Percent Complete (Cost): Percent Complete

Percent Complete (Work): Percent Complete

Percent Complete (Quantity): Percent Complete

OK

Earned Value & Schedule Project Report Cycle Summary

System Using EVENGINE can be simple and cost effective Port Infrastructure – Basic Reports

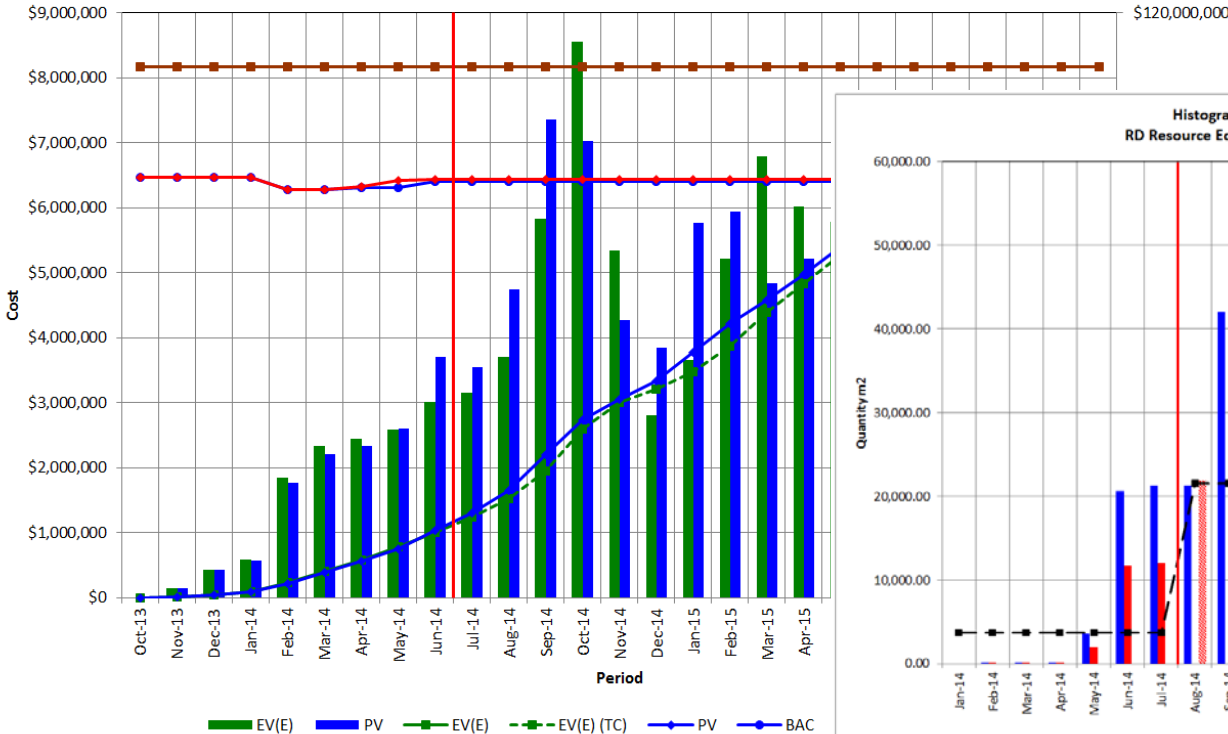


th	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
	Late Start	Late Finish	%CompC	BAC	BAC2	EAC	SP	Cost Var.	%CompW	BACW	BACW2	EACW	Work Var.	%CompQ	BACQ	BACQ2	EACQ	Qty Var.
14	21-Nov-2013	28-Feb-2014	100.00%	\$0	\$0	\$0	\$0	\$0										1.00
14	21-Nov-2013	28-Feb-2014	100.00%	\$0	\$0	\$0	\$0	\$0										1.00
14	21-Nov-2013	28-Feb-2014	100.00%	\$0	\$0	\$0	\$0	\$0										1.00
14	21-Nov-2013	28-Feb-2014	100.00%	\$0	\$0	\$0	\$0	\$0										1.00
14	21-Nov-2013	28-Feb-2014	100.00%	\$0	\$0	\$0	\$0	\$0										1.00
14	21-Nov-2013	28-Feb-2014	100.00%	\$0	\$0	\$0	\$0	\$0	100.00%	0.00	70.00	0.00		100.00%	1.00	1.00	1.00	
14	26-Jun-2014	20-May-2015	34.00%	\$0	\$0	\$0	\$0	\$0	34.00%	0.00	70.00	0.00		34.00%	1.00	1.00	1.00	
14	26-Jun-2014	20-May-2015	34.00%	\$0	\$0	\$0	\$0	\$0	34.00%	0.00	70.00	0.00		34.00%	1.00	1.00	1.00	

1365 Estimate / PRICED ITEM TASKS

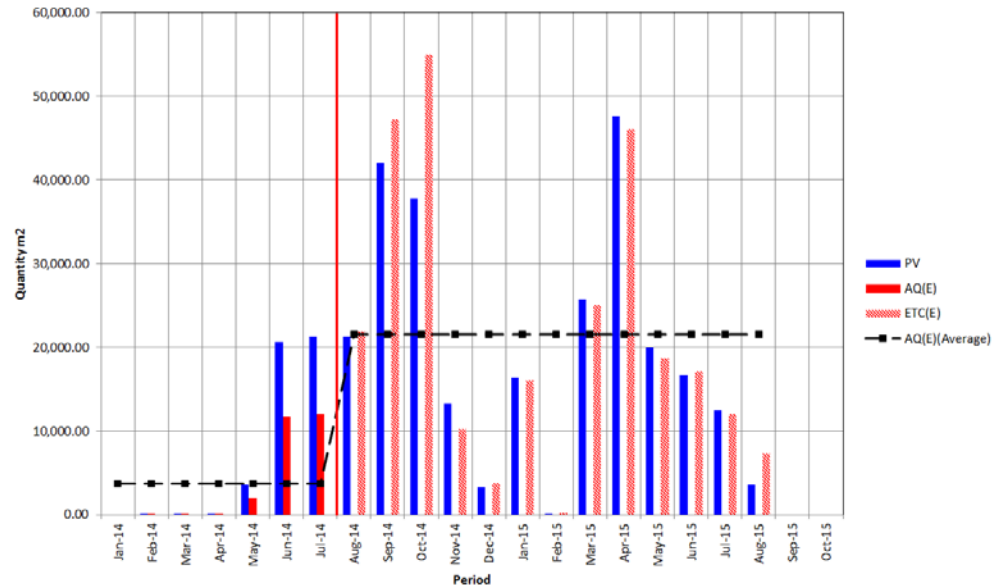
9 RD 8638 1 No the works and for cleaning off on completion
All exposed panels are to be coated with anti-graffiti coatings as

S-Curve and Histogram (Cost) - Monthly As at 30-Jun-2014
Port Infrastructure Project



Cost Variance Percent (Early)	Spending Variance (Early)	Spending Variance Percent (Early)	Variance At Completion	Variance At Completion Percent	Cost Performance Index (CPI)	Schedule Performance Index (SPI)	Spending Rate Index (SRI)	Complete Performance Index (BAC)	Complete Performance Index (EAC)	Schedule Conversion (EAC)
W(E)	SPV(E)	SPV%(E)	VAC	VAC%	CPI(E)	SP(E)	SRI(E)	TCPI(BAC)	TCPI(EAC)	SC(E)
0.00%	\$0	0.00%	\$0	0.00%	1.00	1.00	1.00	1.00	1.00	1.00
0.00%	\$0	0.00%	\$0	0.00%	1.00	1.00	1.00	1.00	1.00	1.00
0.00%	-\$11,050	-0.97%	\$0	0.00%	1.00	1.01	0.99	1.00	1.00	0.02

Histogram (Quantity) - Monthly As at 31-Jul-2014
RD Resource Equals CIVIL ROAD WORKS, OBS Equals Pavement



EVENGINE Project Control Software Options & Pricing

EVENGINE SOFTWARE OPTIONS AND PRICING



EVENGINE™ STANDARD

Entry level project performance reporting system designed for those organizations wishing to trial and evaluate the benefits gained from the introduction of an Earned Value based project control and reporting system. **Annual Subscription £320 plus VAT**

Features include:

- Standard project Metrics, Indicators and Predictors expanded to include Revenue to undertake profit analysis to industry guidelines and best practice.
- Extend Earned Value reporting to units of work and material usage with all graphs/charts and report tables saved to a Microsoft Excel workbook as sheets.
- As your analysis and reporting requirements grow to a full project, program and portfolio management reporting, seamlessly migrate your data to the more capable **EVENGINE™ PREMIUM** and **EVENGINE™ PROJECT CONTROL**.

EVENGINE SOFTWARE OPTIONS AND PRICING



EVENGINE™ PREMIUM

This is a world-class project control system developed for financial and technical project management professionals that builds on Earned Value basics to track, influence and deliver their projects on time and budget. **Annual Subscription £980 plus VAT**

Features additional to STANDARD include:

- External estimate import and planning data integration.
- Job Cost Accounting System Accrued Actual data import.
- Progressive capture of historical data for budget tracking.
- Expanded report types, code fields, advanced filtering and roll-up options.
- Track performance by Stage/Phase, Area/Facility, User Defined Code Fields 1 & 2.
- Productivity analysis by combined cost, work and material usage units.
- Advanced schedule tracking and forecasting features.
- Government Agency reports including CPR/Formants 1, 2,3, 4 & 5 is supported.

EVENGINE SOFTWARE OPTIONS AND PRICING



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Developed for Project Controllers, Cost Engineers, Project Managers engaged in Engineering, Procurement, Construction Contract Management (EPCM) Environment. **Annual Subscription £1,950 plus VAT**

Features additional to PREMIUM include:

- Advanced Task Tracking and Forecasting of cost, work and material usage to completion.
- Contract Administration using Certificates of Claim and Payment.
- Visualize project cash flow and profit based on the negotiated payment conditions.
- Track contracts and purchase orders by awarded and not awarded status.
- Track Approved and Not-approved Variations, and drawdown on Management Reserve.
- Track commitments against planned to maintain the contract schedule.
- Supports a range of Cost Management Reports based on selected metrics and code groupings.
- Undertake Investment Analysis, using discounted cash flow, to rank a portfolio of projects for their best return on investment.

EVENGINE EXPO SPECIAL OFFER

EVENGINE SOFTWARE OPTIONS AND PRICING



EVENGINE™ STANDARD

Become fully familiar with **EVENGINE Standard** project control software and deliver reports and graphs to Project Management Institute (PMI) and APM Earned Value Management Guidelines.

One Year's Subscription of EVENGINE Standard including a Half Day Training Worksop Price: £384 including VAT

Time	Subject Matter
12:30	Coffee and Registration
13:00	Orientation - A overview of EVENGINE features & navigation menus.
13:15	Earned Value Basics - Metrics, Indicators and Predictors
13:45	Extending Earned Value to Financial Performance
14:00	Earned Schedule Basics - Metrics and Indicators
14:15	Data Sources - Independent Data Entry (Hands On)
14:30	Data Sources - Importing data from Microsoft Project (Hands On)
14:45	Data Sources - Importing data from Primavera P6 (Hands On)
15:00	Profiles, Control Accounts, Validate Data, Status Date (Hands On)
15:15	Tea/Coffee Break
15:30	Reports & Graphs - Reporting Options, Filters (Hands On)
15:45	Reports & Graphs - Report Types (Hands On)
16:15	Analytics - Report Interpretation
16:45	Upgrading to EVENGINE Premium & Project Controls
17:00	Close

Venue: The Oakwood Centre, Headley Road, Woodley Berks RG5 4JZ

Date: Friday 22 November 2013 (1:00 PM)

Contact: James Sykes 07815875606



SUPERTECH EVENGINE PROJECT CONTROL SOFTWARE FOR FINANCIAL AND TECHNICAL PROJECT MANAGEMENT PROFESSIONALS

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<http://www.evengine.net/>

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