



Schedule Cracker

User Manual

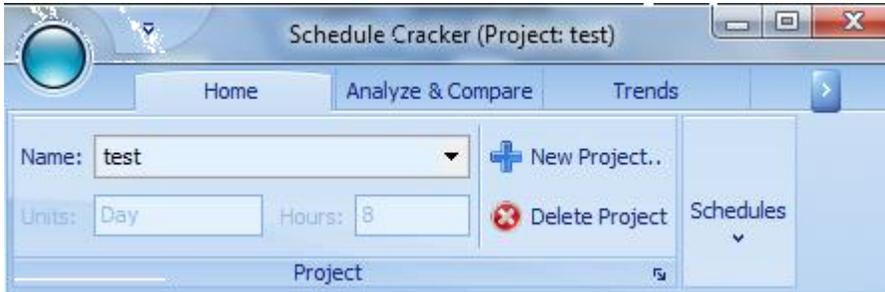
Version 2.1

Property of EyeDeal Tech Inc.

1. Adding Data Files Into Schedule Cracker

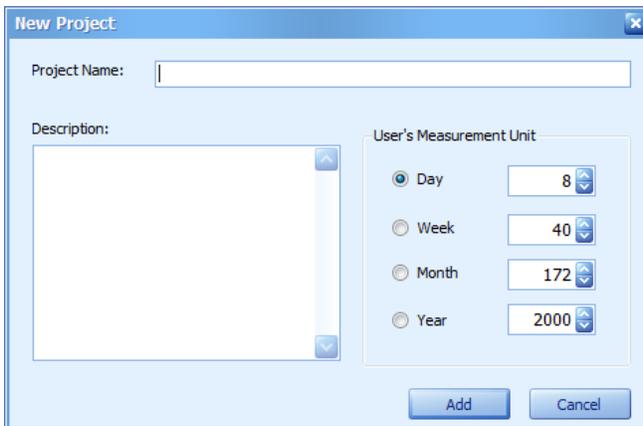
1.1 Adding New Projects

Home – New Project



Fields to Fill:

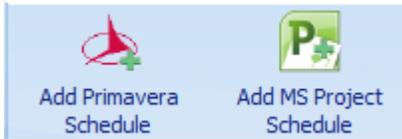
- Project Name
- Project description
- Project Unit of Measurement



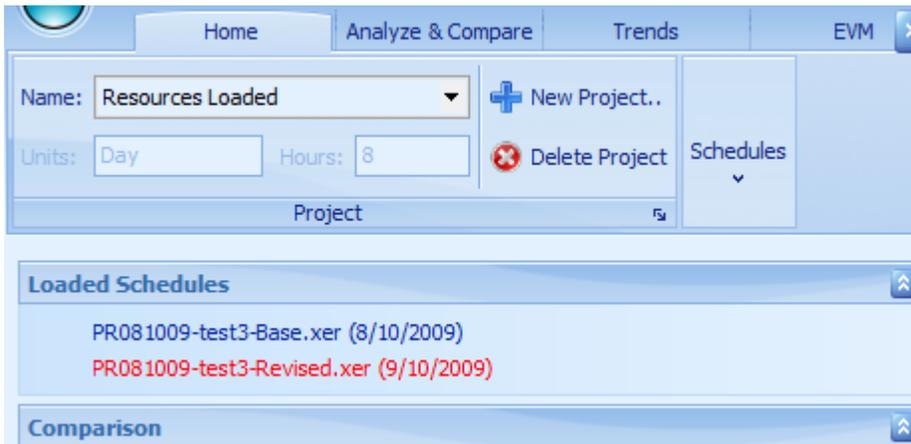
Fill out and hit O.k. Note: Once unit of measurement for a project has been chosen, all analytical calculations for all schedules will be based on those measurements.

1.2 Adding New Schedules to project

Home -- Add



Select Primavera P5,P6, MS Project 2003,2007, or 2010 schedule to load. Single Schedule Analysis will initiate which may last for a few moments based on the size of your project and machine specifications. Once the analysis for the single schedule completes, it will be available in the schedule pane as one of the schedules that can be analyzed through a single click to switch it into focus:



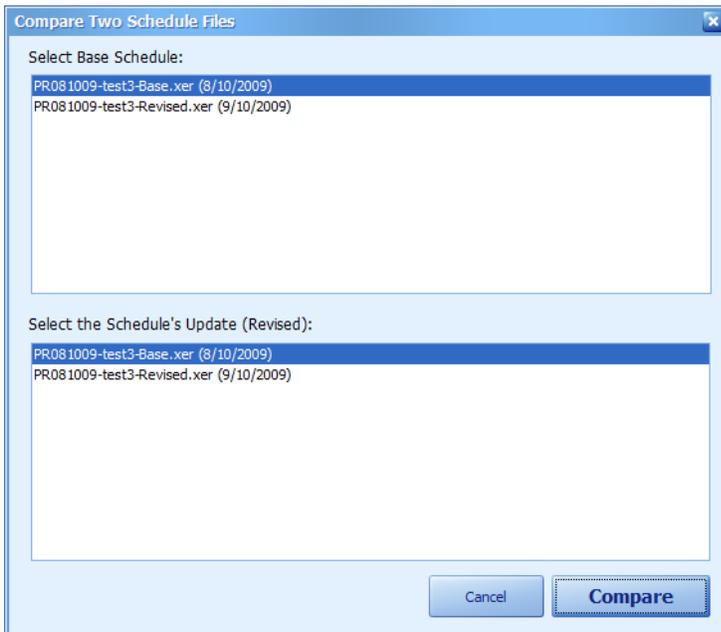
1.3 Comparing Schedules

Home – Compare

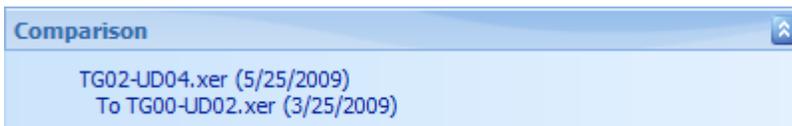


Fields to Fill:

- Base Schedule
- Revised Schedule



Once base and revised schedules have been selected, hit the compare button. Schedule comparative Analysis will initiate which may last for a few moments based on the size of your project and machine specifications. Once it completes, all results of the comparison may be access through a click on the compare pair in the comparison pane below the schedule pane:



2. Switching Analytical Frameworks

Schedule Cracker has Contextual Analytical views as described below:

2.1 Project Explorer



Select Single Schedule (if different from current) - Analyze & Compare – Project Explorer

Used for analysis, charting of single and dual schedule analysis

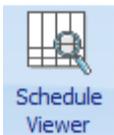
2.2 Trend



Trends – Trend

Used for trending multiple project performance (It is recommended to load at least 3 schedule revision before invoking this option).

2.3 Schedule Viewer



Select Single Schedule (if different from current) - Schedule Viewer – Schedule Viewer (button)

Used for browsing a single schedule's contents with the ability to filter and group activities based on user specified criteria.

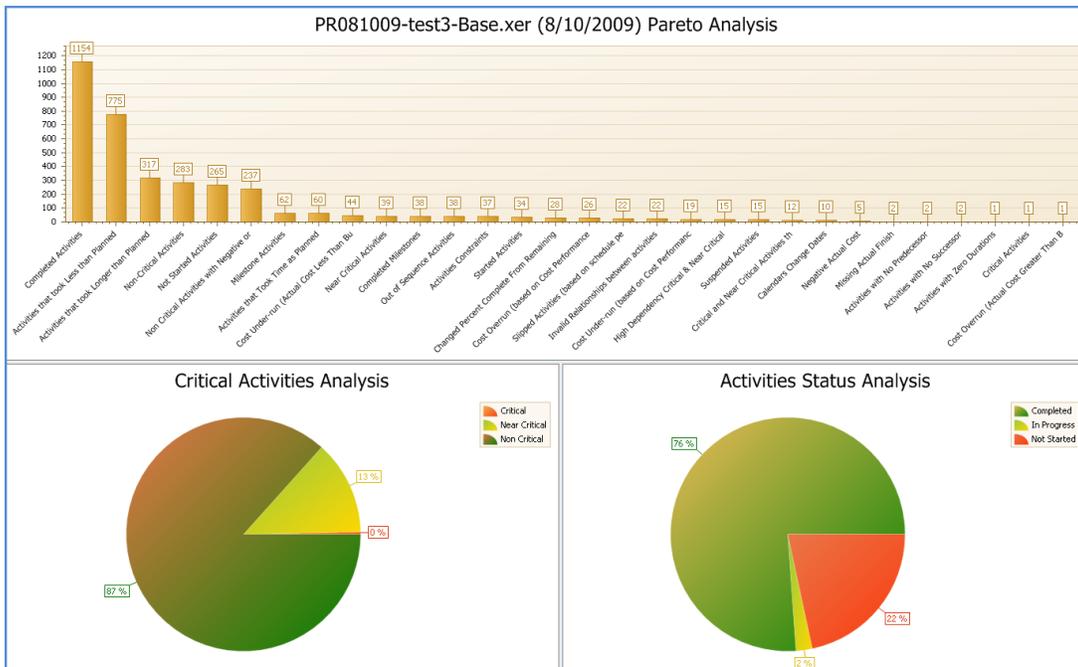
3. Analyzing Single Schedules

Once a project schedule has been loaded, Schedule cracker conducts full computation of all metrics available to a single project revision. Once completed all applicable metrics and visualization options become available for user browsing. All loaded schedules will be available for browsing in the left side pane. Please note that when assigning schedules to specific projects, only schedules for the selected project will be displayed. The currently analyzed schedule will be highlighted in red in the loaded schedule pane.

3.1 Single Schedule Dashboard



Select Single Schedule (if different from current)- Analyze & Compare – Dashboard



3.1.1 Pareto Analysis

The Pareto chart displays a summary level view of all issues/observations determined for a particular schedule revision and orders them by most to least count. Clicking on any single bar within the Pareto chart will drill down to display the detailed activity list and information for that rule. Clicking on 'Back to Pareto Analysis' will bring back the Pareto Chart view.

3.1.2 Pie Charts

Pie Charts display a summary level view of two essential project assessment metrics: Criticality, and Status for a particular schedule revision. Clicking on any a pie 'slice' will drill down to display the detailed activity list and information for that activity categorization. Clicking on 'Back to Pie Chart' will bring back the Pie Chart view.

3.2 Characteristics

Select Single Schedule (if different from current) - Analyze & Compare – Characteristics

Rule ID	Rule Name	Results	Value
1	Project ID		PROB1009-test3
4	Project Start Date		7/11/2007
6	FF Relationships Percentage		5.66 %
7	SS Relationship Percentage		11.74 %
8	Critical Path Type		Free Float
9	No. of Activities		1,516
10	Data Date		8/10/2009
11	Lowest total Float		
29	Project's Percent Complete		88.84 %
53	FS Relationship Percentage		82.60 %
64	Number of Relationships		2,260
90	Project's Total Budget Cost (PV)		\$37,834,524.00
94	Project's Total Earned Value (EV)		\$31,550,467.43
98	Project's Total Actual Cost (AC)		\$31,710,724.01
103	Project's Cost Variance (CV)		(\$160,256.59)
104	Project's Cost Performance index (CPI)		99.49 %
105	Project's Schedule Variance (SV)		(\$6,284,056.58)
106	Project's Schedule Performance Index (SPI)		83.39 %
107	Project's Estimate at Completion (EAC)(CPI Method)		\$38,026,699.65
108	Project's Estimate to Complete (ETC)		\$6,315,975.64
109	Project's Variance at Completion (VAC)		(\$192,175.65)
121	SF Relationship Percentage		0.00 %
122	Calculated Finish Date		4/2/2010
123	Project's Mandatory Finish Date		4/26/2010
157	Baseline Execution Index (BEI)		1.02
158	Critical Path Length Index (CPLI)		1.12
159	Leads Check		0.00 %
160	Lags Check		0.62 %
161	Logic Check		0.00 %
162	Relationships Check		FS=82.60%, SS=11.74%, FF=5.66%, SF=0.00%
163	Constraints Check		0.00 %
164	Long Durations Check		5.02 %
165	High Float Check		39.80 %
166	Negative Float Check		0.00 %
167	Resources Check		22.41 %
168	Missed Tasks Check		8.70 %

3.3 Criticality

Select Single Schedule (if different from current) - Analyze & Compare – Criticality

Rule ID	Rule Name	Results	Value
57	Critical Activities		1
58	Near Critical Activities		39
181	Critical and Near Critical Activities that have a Potential for Delay		12
182	High Dependency Critical & Near Critical Activities		15

Rule 57: Critical Activities - Critical activities in the project's schedule

Activity ID	Activity Name	Total Float	Activity % Complete
SUBSTANTIALMF	SUBSTANTIAL (02-26-2010) Mandatory FIN	0	0.00

3.4 Status

Select Single Schedule (if different from current) - Analyze & Compare – Status

Rule ID	Rule Name	Results	Value
5	Calendars Change Dates	10	
49	Suspended Activities	15	
57	Critical Activities	1	
58	Near Critical Activities	39	
60	Non Critical Activities with Negative or Zero Free Float	237	
80	Activities Constraints	37	
171	Milestone Activities	62	
172	Completed Milestones	38	
179	Activities that Took Time as Planned	60	
184	Completed Activities	1154	
185	Started Activities	34	
186	Not Started Activities	265	

Calendar Name	Date Last Changed
Standard 5 Day Workweek	4/26/2000
Standard 5 Day Workweek w/ Basic Holidays	4/13/2007

3.5 Risk

Select Single Schedule (if different from current) - Analyze & Compare – Risk

Rule ID	Rule Name	Results	Value
181	Critical and Near Critical Activities that have a Potential for Delay	178	
182	High Dependency Critical & Near Critical Activities	138	

Activity ID	Activity Name	Total Float
CONT0830	F/R SOG - Cont. Influent Conduit Primary Area 16, 18, 20	-17
CONT0930	Place - Wall Cont. Influent Conduit Secondary Area 15, 17, 19	-17
CONT0950	F/R & FLDR SOG - Contactor Primary 1	-76

3.6 Ahead

Select Single Schedule (if different from current) - Analyze & Compare – Ahead

The screenshot shows a software interface with a top navigation bar containing icons for Characteristics, Criticality, Changes, Status, Risk, Ahead, Slippage, DCMA, GAO, Resources, Activities, Project, and Observations. Below the navigation bar, the 'Ahead' section is active. It displays a table with the following data:

Rule ID	Rule Name	Results	Value
178	Activities that took Less than Planned		184

Below this table, a yellow highlighted text reads: "Rule 178: Activities that took Less than Planned - Completed activities with actual duration less than their p".

A second table provides a detailed view of activities:

Activity ID	Activity Name	Actual Duration	Planned Duration
CONT0080	Place SOG - Influent Channel	0	1
CONT0090	Pour Back - SOG Influent Channel	4	7

3.7 Slippage

Select Single Schedule (if different from current) - Analyze & Compare – Slippage

The screenshot shows the same software interface as above, but with the 'Slippage' section active. It displays a table with the following data:

Rule ID	Rule Name	Results	Value
177	Activities that took Longer than Planned		135

Below this table, a yellow highlighted text reads: "Rule 177: Activities that took Longer than Planned - Completed activities with actual duration exceeding their planned".

A second table provides a detailed view of activities:

Activity ID	Activity Name	Actual Duration	Planned Duration
CONT0070	F/R SOG - Influent Channel	9	5
CONT0490	F/R SOG - Cont. Effluent Conduit Primary Area 7,9,11	31	10

3.8 DCMA

Select Single Schedule (if different from current) - Analyze & Compare – DCMA

Rule#	Rule Name	Value		Threshold
157	Baseline Execution Index (BEI)	1.37		DCMA Requires >=0.95
163	Constraints Check	.54%		DCMA Requires <= 5%
158	Critical Path Length Index (CPLI)	.86		DCMA Requires >= 1.0
53	FS Relationship Percentage	98.35%		DCMA Requires >=90%
165	High Float Check	43.67%		DCMA Requires <= 5%
170	Invalid Dates Check	71		DCMA Requires 0 Count
160	Lags Check	.80%		DCMA Requires <= 5%
159	Leads Check	.05%		DCMA Requires = 0%
161	Logic Check	.00%		DCMA Requires <= 5%
164	Long Durations Check	3.78%		DCMA Requires <= 5%
168	Missed Tasks Check	1.13%		DCMA Requires <= 5%
166	Negative Float Check	40.68%		DCMA Requires <= 5%
167	Resources Check	100.00%		DCMA Requires = 0%
121	SF Relationship Percentage	.00%		DCMA Requires = 0%
169	Critical Path Test	Please Chang...	.	

3.9 GAO

Select Single Schedule (if different from current) - Analyze & Compare – GAO

The screenshot shows a software interface with a top navigation bar containing tabs for 'Analyze & Compare', 'Trends', 'EVM', 'Schedule Viewer', and 'Rep'. Below the tabs are several icons representing different analysis categories: Characteristics, Criticality, Changes, Status, Risk, Ahead, Slippage, DCMA, GAO, Resources, and Activity Cost. A secondary bar includes 'Overview', 'Drill-Down', 'Compliance', and 'Cost & Resour'. The main content area is titled 'GAO' and displays a table of rule categories.

Rule Category			
Rule ID	Rule Name	Results	Value
6	FF Relationships Percentage		0.84 %
7	SS Relationship Percentage		0.81 %
53	FS Relationship Percentage		98.35 %
57	Critical Activities	851	
60	Non Critical Activities with Negative ...	768	
73	Activities with No Successor	1	
74	Activities with No Predecessor	1	
121	SF Relationship Percentage		0.00 %
151	Out of Sequence Activities	183	
157	Baseline Execution Index (BEI)		1.37
158	Critical Path Length Index (CPLI)		.86
159	Leads Check		0.05 %
160	Lags Check		0.80 %
161	Logic Check		0.00 %
163	Constraints Check		0.54 %
164	Long Durations Check		3.78 %
165	High Float Check		43.67 %
166	Negative Float Check		40.68 %
167	Resources Check		100.00 %
168	Missed Tasks Check		1.13 %
169	Critical Path Test		Please Change Early Finish Date...
170	Invalid Dates Check		71
181	Critical and Near Critical Activities th...	178	
182	High Dependency Critical & Near Crit...	138	
183	Activities with Zero Durations	2	

3.10 Lean Six Sigma

Select Single Schedule (if different from current) - Analyze & Compare – Lean Six Sigma



Rule Category			
Rule ID	Rule Name	Results	Value
204	Float Buffer%		7.08 %

3.11 Project Cost

Select Single Schedule (if different from current) - Analyze & Compare – Project Cost

Rule ID	Rule Name	Results	Value
90	Project's Total Budget Cost (PV)		\$41,830,524.00
94	Project's Total Earned Value (EV)		\$31,550,467.43
98	Project's Total Actual Cost (AC)		\$31,717,336.01

3.12 Observations

Select Single Schedule (if different from current) - Analyze & Compare – Observations

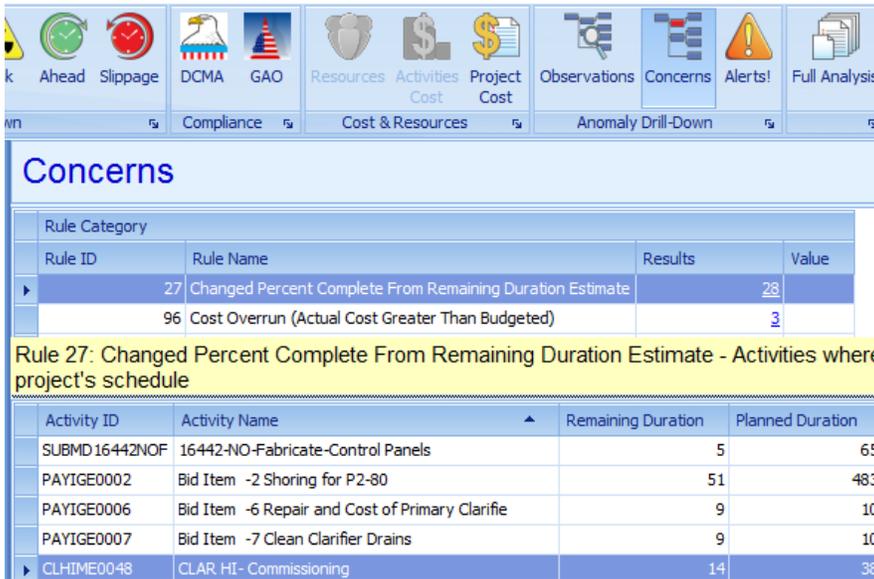
Rule ID	Rule Name	Results	Value
13	Missing Actual Finish	2	
72	Invalid Relationships between activities	22	
73	Activities with No Successor	2	
74	Activities with No Predecessor	2	
95	Negative Actual Cost	5	
144	Non-Critical Activities	143	
151	Out of Sequence Activities	38	
177	Activities that took Longer than Planned	317	
178	Activities that took Less than Planned	775	
181	Critical and Near Critical Activities that have a Potential for Delay	26	
182	High Dependency Critical & Near Critical Activities	26	
183	Activities with Zero Durations	1	

Rule 13: Missing Actual Finish - Completed activities with missing actual finish date in the p

Activity ID	Activity Name	Activity % Complete	Actual Finish
CLHIIN0107	CLAR HI- Instrumentation Commission	100.00	
CLHIIN0108	CLAR HI- Instrumentation Check Out	100.00	

3.13 Concerns

Select Single Schedule (if different from current) - Analyze & Compare – Concerns



3.14 Alerts



Select Single Schedule (if different from current) - Analyze & Compare – Alerts

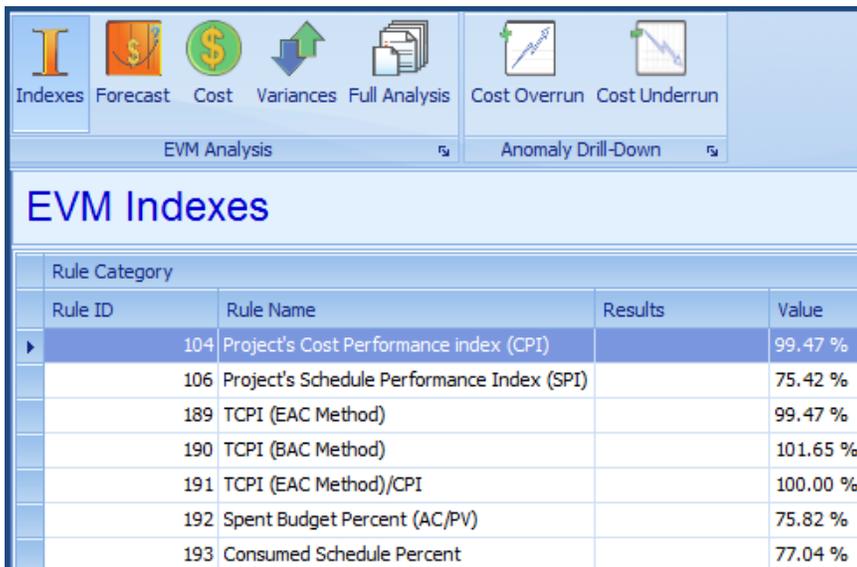


Single Load Alerts use a severity score computed for each activity. The computation is based on the number of rules any particular activity violated in the schedule and the category of the violated rule. Based on the score, activities requiring the most attention are surface to the top of the stack. Clicking on any activity displays the activity details and the rules violated.

3.15 Earned Value

3.15.1 Indexes

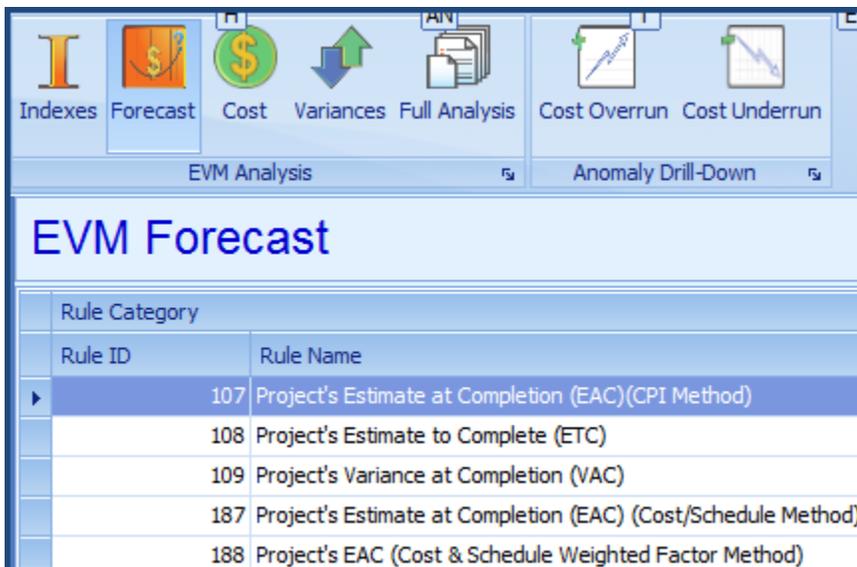
Select Single Schedule (if different from current) - EVM – Indexes



Rule ID	Rule Name	Results	Value
104	Project's Cost Performance index (CPI)		99.47 %
106	Project's Schedule Performance Index (SPI)		75.42 %
189	TCPI (EAC Method)		99.47 %
190	TCPI (BAC Method)		101.65 %
191	TCPI (EAC Method)/CPI		100.00 %
192	Spent Budget Percent (AC/PV)		75.82 %
193	Consumed Schedule Percent		77.04 %

3.15.2 Forecast

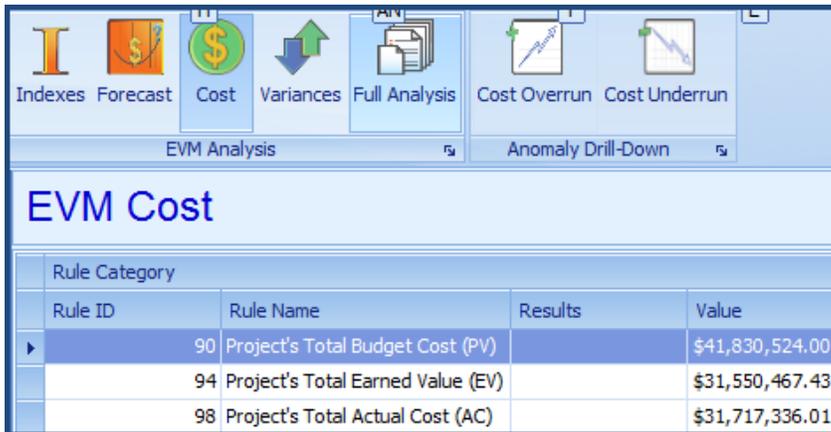
Select Single Schedule (if different from current) - EVM – Forecast



Rule ID	Rule Name
107	Project's Estimate at Completion (EAC)(CPI Method)
108	Project's Estimate to Complete (ETC)
109	Project's Variance at Completion (VAC)
187	Project's Estimate at Completion (EAC) (Cost/Schedule Method)
188	Project's EAC (Cost & Schedule Weighted Factor Method)

3.15.3 Cost

Select Single Schedule (if different from current) - EVM – Cost

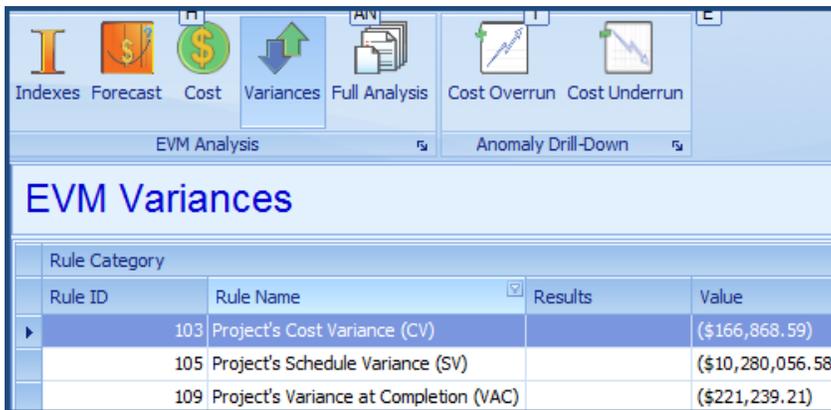


The screenshot shows the 'EVM Cost' analysis interface. At the top, there is a navigation bar with icons for 'Indexes', 'Forecast', 'Cost', 'Variances', 'Full Analysis', 'Cost Overrun', and 'Cost Underrun'. Below this is a sub-menu with 'EVM Analysis' and 'Anomaly Drill-Down'. The main title is 'EVM Cost'. Below the title is a table with the following data:

Rule Category			
Rule ID	Rule Name	Results	Value
90	Project's Total Budget Cost (PV)		\$41,830,524.00
94	Project's Total Earned Value (EV)		\$31,550,467.43
98	Project's Total Actual Cost (AC)		\$31,717,336.01

3.15.4 Variances

Select Single Schedule (if different from current) - EVM – Variances



The screenshot shows the 'EVM Variances' analysis interface. At the top, there is a navigation bar with icons for 'Indexes', 'Forecast', 'Cost', 'Variances', 'Full Analysis', 'Cost Overrun', and 'Cost Underrun'. Below this is a sub-menu with 'EVM Analysis' and 'Anomaly Drill-Down'. The main title is 'EVM Variances'. Below the title is a table with the following data:

Rule Category			
Rule ID	Rule Name	Results	Value
103	Project's Cost Variance (CV)		(\$166,868.59)
105	Project's Schedule Variance (SV)		(\$10,280,056.58)
109	Project's Variance at Completion (VAC)		(\$221,239.21)

3.15.5 Cost Overrun

Select Single Schedule (if different from current) - EVM – Cost Overrun

Rule ID	Rule Name	Results
96	Cost Overrun (Actual Cost Greater Than Budgeted)	3
99	Cost Overrun (based on Cost Performance Index)	28
102	Slipped Activities (based on schedule performance index)	22

3.15.6 Cost Under-run

Select Single Schedule (if different from current) - EVM - Cost Under-run

Rule ID	Rule Name	Results
201	Cost Under-run (Actual Cost Less Than Budgeted)	44
202	Cost Under-run (based on Cost Performance Index)	19

Rule 201: Cost Under-run (Actual Cost Less Than Budgeted)
- Activities with cost saving (budget cost exceeds actual cost) in the project

Activity ID	Activity Name	Original % Complete
CLDEME1000	CLAR DE- Pre-Commissioning Mech & Elec	100.00
CLDEME1010	CLAR DE- Phase 1 Commissioning	100.00

3.15.7 EVM Full Analysis

Select Single Schedule (if different from current) - EVM - Full Analysis

The screenshot displays the 'EVM Full Analysis' window. At the top, there is a ribbon with tabs for 'Indexes', 'Forecast', 'Cost', 'Variances', 'Full Analysis', 'Cost Overrun', and 'Cost Underrun'. Below the ribbon, there are two sub-tabs: 'EVM Analysis' and 'Anomaly Drill-Down'. The main area contains a table with the following data:

Rule Category			
Rule ID	Rule Name	Value	
90	Project's Total Budget Cost (PV)	\$41,830,524.00	
94	Project's Total Earned Value (EV)	\$31,550,467.43	
98	Project's Total Actual Cost (AC)	\$31,717,336.01	
103	Project's Cost Variance (CV)	(\$166,868.59)	
104	Project's Cost Performance index (CPI)	99.47 %	
105	Project's Schedule Variance (SV)	(\$10,280,056.58)	
106	Project's Schedule Performance Index (SPI)	75.42 %	
107	Project's Estimate at Completion (EAC)(CPI Method)	\$42,051,763.21	
108	Project's Estimate to Complete (ETC)	\$10,334,427.20	
109	Project's Variance at Completion (VAC)	(\$221,239.21)	
187	Project's Estimate at Completion (EAC) (Cost/Schedule Method)	\$45,419,017.62	
188	Project's EAC (Cost & Schedule Weighted Factor Method)	\$42,576,854.30	
189	TCPI (EAC Method)	99.47 %	
190	TCPI (BAC Method)	101.65 %	
191	TCPI (EAC Method)/CPI	100.00 %	
192	Spent Budget Percent (AC/PV)	75.82 %	
193	Consumed Schedule Percent	77.04 %	

3.16 Full Analysis

3.16.1 Full Analysis Lists

Select Single Schedule (if different from current) - Analyze & Compare – Full Analysis

Rule ID	Rule Name	Results	Value
Rule Category: Concerns (6)			
27	Changed Percent Complete From Remaining Duration Estimate	28	
96	Cost Overrun (Actual Cost Greater Than Budgeted)	3	
99	Cost Overrun (based on Cost Performance Index)	28	
102	Slipped Activities (based on schedule performance index)	11	
212	Delayed Activities	142	
215	No. of Missed Critical Dates		24
Rule Category: Observations (15)			
Rule Category: Status (12)			
Rule Category: Characteristics (38)			
Rule Category: No Result List (24)			
12	Missing Actual Start	0	
23	Fractional Days Scheduled	0	
40	Started Activities with Zero Percent Complete	0	
46	Activities with Suspended Date After Data Date	0	
47	Activities with Resumed Date After Data Date	0	
103	Project's Cost Variance (CV)		NA

Rule 99: Cost Overrun (based on Cost Performance Index) - Activities with cost overrun (cost performance index is less than 1.0) in the project's schedule

Activity ID	Activity Name	CPI
CLHIN0107	CLAR HI- Instrumentation Commission	0.967
CLHIN0108	CLAR HI- Instrumentation Check Out	0.893
CLHIME0048	CLAR HI- Commissioning	0.667
CLAP00100	CLAR HI- Test & Dress	0.000

This displays a comprehensive listing of all analysis executed for a single schedule, organized in color coded categories. Clicking the + sign next to any category name expands the list to show all the applicable rules.

3.16.2 Search

Select Single Schedule (if different from current) - Analyze & Compare – Full Analysis – Search Box

Search Result in: Full Analysis Cancel Search

Search: Delay

Rule ID	Rule Name	Results	Value
Rule Category: Concerns (1)			
212	Delayed Activities	142	
Rule Category: Observations (1)			
181	Critical and Near Critical Activities that have a Potential for Delay	26	
Rule Category: Characteristics (1)			
213	% of Delayed Tasks		47.49 %

By typing a rule Id or portion of its name, the search function is a quick method to display all rules that satisfy a certain criteria.

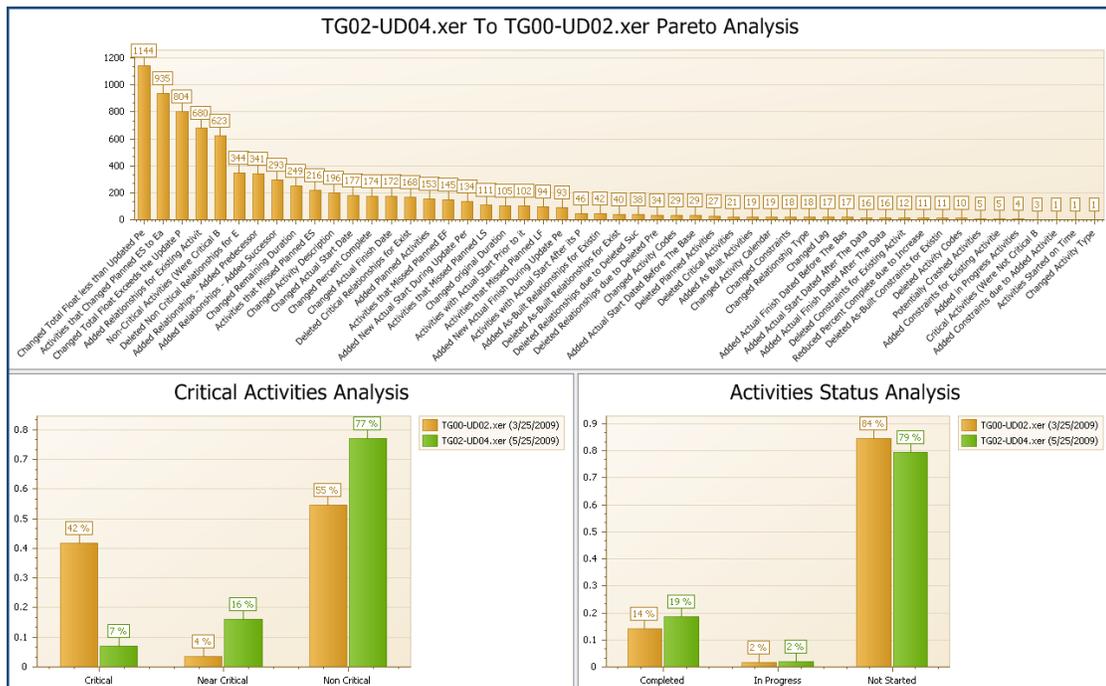
4. Comparing Two Schedules

Once a project schedule has been loaded, Schedule cracker conducts full computation of all metrics available to a single project revision. Once completed all applicable metrics and visualization options become available for user browsing. All loaded schedules will be available for browsing in the left side pane. Please note that when assigning schedules to specific projects, only schedules for the selected project will be displayed. The currently analyzed schedule will be highlighted in red in the loaded schedule pane.

4.1 Schedule Comparison Dashboard



Select Compared Pair (if different from current) – Analyze & Compare – Dashboard



4.1.2 Pareto Analysis

The Pareto chart displays a summary level view of all issues/observations determined for the differences between the selected base and revised schedule comparison and orders them by most to least count. Clicking on any single bar within the Pareto chart will drill down to display the detailed activity list and information for that rule. Clicking on 'Back to Pareto Analysis' will bring back the Pareto Chart view.

4.1.3 Base to Revised Comparison Chart

Critical activities and Activity status are displayed side by side for the compared base and revised schedules.

4.2 Characteristics

Select Compared Pair (if different from current) - Analyze & Compare – Characteristics

Rule Category				
Rule ID	Rule Name	Results	Original Value	New Value
2	Changed Project ID		TG00 - UD-2B	TG02 - UD-4
126	Changed Calculated Finish Date		9/6/2012	6/4/2012
127	Changed Number of Activities		2,440	2,585
129	Changed Lowest total Float		-112	-2
130	Changed No. of Relationships		4,228	4,910
141	Changed Project's Percent Complete		22.95 %	27.35 %

4.3 Criticality

Select Compared Pair (if different from current) - Analyze & Compare – Criticality

Rule Category				
Rule ID	Rule Name	Results	Original Value	New Value
59	Deleted Critical Activities	21		
68	Deleted Critical Relationships for Existing Activities	168		

Rule 59: Deleted Critical Activities - Critical activities that were deleted in the project's schedule when

Activity ID	Activity Name	Total Float	Activity % Complete
SBSCF0130	Prepare & Submit SCF: Ozone Building Lift 04 Lift Drawings	-76	0.00
SBSCF0150	Prepare & Submit SCF: Ozone Contactors Lift 04 Lift Drawings	-76	0.00

4.4 Changes

Select Compared Pair (if different from current) - Analyze & Compare – Changes

Project Explorer	Dashboard	Characteristics	Criticality	Changes	Status	Risk	Ahead	Slippage	DCMA	GAO	Resources
Overview				Drill-Down				Compliance		Cost &	
Changes											
Rule Category											
Rule ID	Rule Name	Results	Original Value	New Value							
22	Changed Remaining Duration	249									
28	Changed Percent Complete	174									
36	Added New Actual Start During Update Period	134									
37	Added New Actual Finish During Update Period	93									
116	Deleted Relationships due to Deleted Predecessor	34									
143	Changed Total Float less than Updated Period	1144									
176	Activities Started on Time	1									
Rule 22: Changed Remaining Duration - Activities with altered remaining duration in the project's											
Activity ID	Activity Name	Original Remaining Duration	Remaining Duration								
CONT0100	F/R Walls - Influent Channel	15	0								
CONT0110	Place Walls - Influent Channel	1	0								

4.5 Ahead

Select Compared Pair (if different from current) - Analyze & Compare – Ahead

Project Explorer	Dashboard	Characteristics	Criticality	Changes	Status	Risk	Ahead	Slippage	DCMA	GAO	Resources	Activities Cost
Overview				Drill-Down				Compliance		Cost & Resource		
Ahead												
Rule Category												
Rule ID	Rule Name	Results	Original Value	New Value								
173	Activities that Changed Planned ES to Earlier Date	935										
174	Activities with Actual Start Prior to its Planned ES	102										
180	Potentially Crashed Activities	5										
Rule 173: Activities that Changed Planned ES to Earlier Date - Activities with early start that changed to												
Activity ID	Activity Name	Planned Duration	Activity % Complete	Original Early Start	New Early Start							
CONT0370	F/R SOG - West Floor Dra...	2	0.00	7/28/2009	7/2/2009							
CONT0380	Place SOG - West Floor D...	1	0.00	7/30/2009	7/7/2009							

4.6 Slippage

Select Compared Pair (if different from current) - Analyze & Compare – Slippage

Rule ID	Rule Name	Results	Original Value	New Value
145	Activities that Missed Planned ES	216		
146	Activities that Missed Planned LS	111		
147	Activities that Missed Planned EF	145		
148	Activities that Missed Planned LF	94		
175	Activities with Actual Start After its Planned ES	46		

Rule 145: Activities that Missed Planned ES - Activities with early start date scheduled to be before project's schedule

Activity ID	Activity Name	Activity % Complete	Original Early Start	Original Late Start	New Early Start
CONT0900	Place - Wall Cont. Influen...	0.00	4/21/2009	3/27/2009	6/16/2009
CONT0910	Pour Back - Wall Cont. I...	0.00	4/21/2009	3/30/2009	6/16/2009
CONT0920	F/R Wall - Cont. Influen...	0.00	4/22/2009	3/30/2009	6/17/2009

4.7 Resources

Select Compared Pair (if different from current) - Analyze & Compare – Resources

Rule ID	Rule Name	Results	Original Value
110	Added Resources	2	
111	Deleted Resources	2	
112	Changed Resource Budget	2	
113	Changed Remaining Resources' Percent Complete	2	

Rule 110: Added Resources - Activities with added resources in the project's schedule comparing it to the base project's schedule

Activity ID	Activity Name	Resource Name	Planned Units
VALTWASNT001	Valve Auto-Notification-Shut Down	Design Engineering Department	112.00

4.8 Activities Cost

Select Compared Pair (if different from current) - Analyze & Compare – Activities Cost

Rule ID	Rule Name	Results	Original Value	New Value
87	Activities with Deleted Budgeted Cost	2		
88	Activities with Added Budgeted Cost	2		
89	Activities with Changed Budgeted Cost	2		
97	Reduction of Actual Cost	2		
100	Changes in Actual Cost without Earned Value	4		
112	Changed Resource Budget	2		

Rule 89: Activities with Changed Budgeted Cost - Activities with altered budgeted cost in the project's schedule when comparing it to the base project's schedule

Activity ID	Activity Name	Original Planned Total Cost	New Planned Total Cost
VALVEL0025	Valve Auto- Primary Feed Valves (Ph 2A, (PQ)) 2ea	1000.00	2000000.00
VALVEL0035	Valve Auto- Primary Feed Valves (Ph 2B, (RS)) 2ea	1000.00	2000000.00

4.9 Observations

Select Compared Pair (if different from current) - Analyze & Compare – Observations

Rule ID	Rule Name	Results	Original Value	New Value
55	Critical Activities (Were Not Critical Before)	154		
87	Activities with Deleted Budgeted Cost	2		
88	Activities with Added Budgeted Cost	2		
89	Activities with Changed Budgeted Cost	2		
110	Added Resources	2		
111	Deleted Resources	2		
145	Activities that Missed Planned ES	64		
147	Activities that Missed Planned EF	68		

Rule 55: Critical Activities (Were Not Critical Before) - Activities that became critical in the project's schedule when comparing it to the base project's schedule

Activity ID	Activity Name	Original Total Float	Total Float
VALVEL0005	Valve Auto- Primary Feed Valves (Ph 1A, (EHLM)) 4ea	20	-2
VALVEL0010	Valve Auto- Primary Feed Valves (Ph 1B, (NO)) 2ea	20	-2

4.10 Concerns

Select Compared Pair (if different from current) - Analyze & Compare – Concerns

Rule ID	Rule Name	Results	Original Value	New Value
21	Changed original Duration	5		
97	Reduction of Actual Cost	2		
100	Changes in Actual Cost without Earned Value	4		
112	Changed Resource Budget	2		
146	Activities that Missed Planned LS	11		
148	Activities that Missed Planned LF	3		

Rule 148: Activities that Missed Planned LF - Activities with late finish date scheduled to be before the data date of the project's schedule given that it was not started when comparing it to the base project's

Activity ID	Activity Name	Activity % Complete	Original Early Finish	Original Late Finish	New Early Finish
NOSTART	Shutdown Clarifier NO-	0.00	8/10/2009	9/8/2009	9/10/2009
CLLMEL0042	CLAR LM- Elec Room Equipment	0.00	8/14/2009	8/31/2009	9/16/2009
SCTYSTAR	Scott Yard- Start	0.00	8/10/2009	9/8/2009	9/10/2009

4.11 Alerts

Select Compared Pair (if different from current) - Analyze & Compare – Alerts

PR081009-test3-Revised.xer To PR081009-test3-Base.xer Alerts!

Activity ID	Severity Score
CLLMEL0042	21
SCTYSTAR	18
NOSTART	18
CLHIME1025	16
CLNOED0003	16
CLLMEL0045	16
THCKPC0145	16
SCTYEX0020	16
CLLMEL0041	16

Activity ID	Activity Name	Activity Type	Total Float	Free Float	Activity Status	Activity % Complete	Percent Complete Type	Planned Start	Planned Finish	Actual Start	Actual Finish	Primary Constraint Date	Primary Constraint	Secondary Constraint Date	Secondary Constraint	Duration Type	Early Start	Early Finish	Late Start	Late Finish	phys_comp_pct	Activity Leveling Priority	Remaining Duration
CLLMEL0042	CLAR LM- Elec Room Equipment	Task Dependent	-12	0	Not Started	0.00	Physical	9/10/2009	9/16/2009							Fixed Duration & Units	9/10/2009	9/16/2009	8/24/2009	8/31/2009	0.00	PT_Normal	5

Rule ID	Rule Category	score	Rule Name	Rule Description
147	Observations	3	Activities that Missed Planned EF	Activities with early finish date scheduled to be before the data date of the project's schedule given that it was not started when comparing it to the base project's schedule
145	Observations	3	Activities that Missed Planned ES	Activities with early start date scheduled to be before the data date of the project's schedule given that it was not started when comparing it to the base project's schedule
146	Concerns	5	Activities that Missed Planned LS	Activities with late start date scheduled to be before the data date of the project's schedule given that it was not started when comparing it to the base project's schedule
55	Observations	3	Critical Activities (Were Not Critical Before)	Activities that became critical in the project's schedule when comparing it to the base project's schedule
148	Concerns	5	Activities that Missed Planned LF	Activities with late finish date scheduled to be before the data date of the project's schedule given that it was not started when comparing it to the base project's schedule

4.12 Earned Value

4.12.1 Indexes

Select Compared Pair (if different from current – EVM – Indexes)

EVM Analysis		Anomaly Drill-Down	
EVM Indexes			
Rule Category			
Rule ID	Rule Name	Original Value	New Value
135	Changed Project's Cost Perfor...	99.49 %	99.47 %
137	Changed Project's Schedule Pe...	83.39 %	75.42 %
196	Changed To-Complete Cost Pe...	99.49 %	99.47 %
197	Changed To-Complete Cost Pe...	102.62 %	101.65 %
198	Changed Project's To-Comple...	100.00 %	100.00 %
199	Changed Spent Budget Percen...	83.81 %	75.82 %
200	Changed Consumed Schedule ...	76.41 %	77.04 %

4.12.2 Forecast

Select Compared Pair (if different from current) – EVM - Forecast

EVM Analysis		Anomaly Drill-Down	
EVM Forecast			
Rule Category			
Rule ID	Rule Name	Original Value	New Value
138	Changed Project's Estimate at Completion (E...	\$38,026,699.65	\$42,051,763.21
139	Changed Project's Estimate to Complete (ETC)	\$6,315,975.64	\$10,334,427.20
140	Changed Variance at Completion (VAC)	(\$192,175.65)	(\$221,239.21)
194	Changed Project's Estimate at Completion (E...	\$39,284,687.08	\$45,419,017.62
195	Changed Project's Estimate at Completion (E...	\$38,237,998.58	\$42,576,854.30

4.12.3 Cost

Select Compared Pair (if different from current) – EVM - Cost

Rule ID	Rule Name	Original Value	New Value
131	Changed Project's Total Budget Cost (PV)	\$37,834,524.00	\$41,830,524.00
133	Changed Project's Total Actual Cost (AC)	\$31,710,724.01	\$31,717,336.01

4.12.4 Variances

Select Compared Pair (if different from current) – EVM – Variances

Rule ID	Rule Name	Original Value	New Value
134	Changed Project's Cost Variance (CV)	(\$160,256.59)	(\$166,868.59)
136	Changed Project's Schedule Variance (SV)	(\$6,284,056.58)	(\$10,280,056.58)
140	Changed Variance at Completion (VAC)	(\$192,175.65)	(\$221,239.21)

4.12.5 Cost Overrun

Select Compared Pair (if different from current) – EVM – Cost Overrun

Rule ID	Rule Name	Original Value	New Value	Results
100	Changes in Actual Cost without Earned Value			4

Rule 100: Changes in Actual Cost without Earned Value - Activities with altered actual cost in when comparing it to the base project's schedule

Activity ID	Activity Name	New Activity % Complete	Original Activity % Complete
CLHIIN0107	CLAR HI- Instrumentation Commission	100.00	100.00
CLHIIN0108	CLAR HI- Instrumentation Check Out	100.00	100.00

4.12.6 Cost Under-run

Select Compared Pair (if different from current) – EVM – Cost Under-run

Rule Category				
Rule ID	Rule Name	Original Value	New Value	Results

4.12.7 EVM Full Analysis

Select Compared Pair (if different from current) – EVM – Full Analysis

Rule Category			
Rule ID	Rule Name	Original Value	New Value
131	Changed Project's Total Budget Cost (PV)	\$37,834,524.00	\$41,830,524.00
133	Changed Project's Total Actual Cost (AC)	\$31,710,724.01	\$31,717,336.01
134	Changed Project's Cost Variance (CV)	(\$160,256.59)	(\$166,868.59)
135	Changed Project's Cost Performance index (CPI)	99.49 %	99.47 %
136	Changed Project's Schedule Variance (SV)	(\$6,284,056.58)	(\$10,280,056.58)
137	Changed Project's Schedule Performance index (SPI)	83.39 %	75.42 %
138	Changed Project's Estimate at Completion (EAC)	\$38,026,699.65	\$42,051,763.21
139	Changed Project's Estimate to Complete (ETC)	\$6,315,975.64	\$10,334,427.20
140	Changed Variance at Completion (VAC)	(\$192,175.65)	(\$221,239.21)
194	Changed Project's Estimate at Completion (EAC) (Cost/Schedule Method)	\$39,284,687.08	\$45,419,017.62
195	Changed Project's Estimate at Completion (EAC) (Cost & Schedule Weighted Factor Method)	\$38,237,998.58	\$42,576,854.30
196	Changed To-Complete Cost Performance Index based on Estimate at Completion TCPI (EAC)	99.49 %	99.47 %
197	Changed To-Complete Cost Performance Index based on Budget at Completion TCPI (BAC)	102.62 %	101.65 %
198	Changed Project's To-Complete Cost Performance Index to Cost Performance Index TCPI (EAC)/CPI	100.00 %	100.00 %
199	Changed Spent Budget Percent (AC/PV)	83.81 %	75.82 %
200	Changed Consumed Schedule Percent	76.41 %	77.04 %

4.14 Full Analysis

4.14.1 Full Analysis Lists

Select Compared Pair (if different from current) – Analyze & Compare – Full Analysis

The screenshot shows the 'Full Analysis' window in Schedule Cracker. The window title is 'Schedule Cracker (Project: Resources Loaded - Comparison: PR081009-test3-Revised.xer (9/10/2009) T...'. The interface includes a ribbon with tabs for Home, Analyze & Compare, Trends, EVM, Schedule Viewer, Reports, and Options. The 'Full Analysis' window is open, displaying a search bar and a table of results. The table has columns for Rule ID, Rule Name, Results, Original Value, and New Value. The results are organized into categories: Rule Category: Concerns (6), Rule Category: Observations (8), and Rule Category: Alerts (2). The 'Rule Category: Observations (8)' is expanded, showing a list of activities with their original and new total float values.

Rule ID	Rule Name	Results	Original Value	New Value
Rule Category: Concerns (6)				
Rule Category: Observations (8)				
55	Critical Activities (Were Not Critical Before)	15		
87	Activities with Deleted Budgeted Cost	2		
88	Activities with Added Budgeted Cost	1		
89	Activities with Changed Budgeted Cost	4		
110	Added Resources	2		

Below the table, there is a summary for Rule 55: Critical Activities (Were Not Critical Before) - Activities that became critical in the project's schedule when comparing it to the base project's schedule. This is followed by a detailed table of activities with columns for Activity ID, Activity Name, Original Total Float, New Total Float, and Activity % Complete.

Activity ID	Activity Name	Original Total Float	New Total Float	Activity % Complete
VALVEL0005	Valve Auto- Primary Feed Valves (Ph 1A, (EHLM)) 2ea	20	-2	(
VALVEL0010	Valve Auto- Primary Feed Valves (Ph 1B, (NO)) 2ea	20	-2	(
VALVEL0015	Valve Auto- Primary Feed Valves (Ph 1C, (CD)) 2ea	21	-2	(
VALVEL0020	Valve Auto- Primary Feed Valves (Ph 1D, (FGT)) 3ea	21	-2	(
VALVEL0025	Valve Auto- Primary Feed Valves (Ph 2A, (PQ)) 2ea	21	-2	(
VALVEL0035	Valve Auto- Primary Feed Valves (Ph 2B, (RS)) 2ea	22	-2	(
VALVEL000INF	Valve Auto-Notification-Shut Down	20	-2	(
VALVEL000SNF	Valve Auto-Notification-Shut Down	20	-2	(
VALVEL0010NF	Valve Auto-Notification-Shut Down	21	-2	(
VALVEL0015NF	Valve Auto-Notification-Shut Down	21	-2	(
VALVEL0025NF	Valve Auto-Notification-Shut Down	21	-2	(
VALVEL0035NF	Valve Auto-Notification-Shut Down	22	-2	(
VALVEL05ORT	Valve Auto- Primary Feed Valves (Ph 1A, (EHLM)) OCSD ORT 3	20	-2	(
VALVEL10ORT	Valve Auto- Primary Feed Valves (Ph 1B, (NO)) OCSD ORT 3	20	-2	(

This displays a comprehensive listing of all analysis executed for base to revised schedule compare, organized in color coded categories. Clicking the + sign next to any category name expands the list to show all the applicable rules.

4.14.2 Rule Search

Select Compared Pair (if different from current) - Analyze & Compare – Full Analysis – Search Box

The screenshot shows the 'Search Result in: Full Analysis' window in Schedule Cracker. The window title is 'Schedule Cracker (Project: Resources Loaded - Comparison: PR081009-test3-Revised.xer (9/10/2009) T...'. The interface includes a ribbon with tabs for Home, Analyze & Compare, Trends, EVM, Schedule Viewer, Reports, and Options. The 'Search Result in: Full Analysis' window is open, displaying a search bar with the value '110' and a 'Cancel Search' button. The results show a single rule: Rule 110: Added Resources. Below the rule, there is a detailed table of activities with columns for Activity ID, Resource Name, and Planned Units.

Rule ID	Rule Name	Results	Original Value	New Value
Rule Category: Observations (1)				
110	Added Resources	2		

Below the table, there is a summary for Rule 110: Added Resources - Activities with added resources in the project's schedule when comparing it to the base project's schedule. This is followed by a detailed table of activities with columns for Activity ID, Resource Name, and Planned Units.

Activity ID	Resource Name	Planned Units
VALTASNT001	Design Engineers	112.00
VALTASNT002	ST2JENM	140.00

By typing a rule Id or portion of its name, the search function is a quick method to display all rules that satisfy a certain criteria.

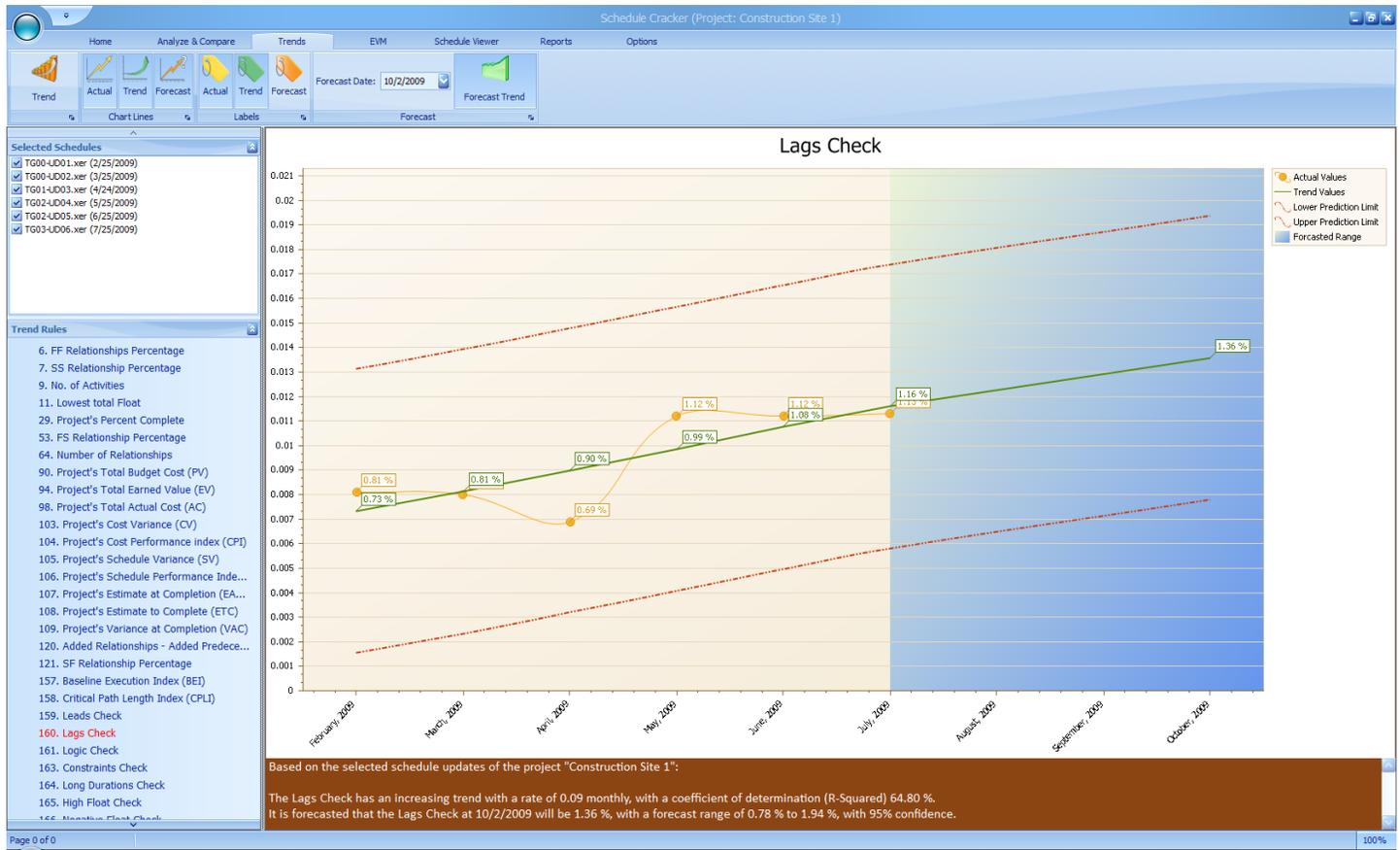
4.15 Lean Six Sigma

Select Compared Pair (if different from current) – Analyze & Compare – Lean Six Sigma

Lean Six Sigma				
Rule Category				
Rule ID	Rule Name	Results	Original Value	New Value
119	Hit%			93.96 %
145	Activities that Missed Planned ES	64		
146	Activities that Missed Planned LS	11		
147	Activities that Missed Planned EF	68		
148	Activities that Missed Planned LF	3		
149	Miss%			6.04 %
205	Sigma Value (6 Sigma Check)			3.05

5. Trends

Projects can be trended once a minimum of two revisions have been loaded into schedule cracker. The more data points are available, the more accurate the trend line will be and any subsequent forecast analysis using the fitted trend line. A library of metrics that can be trended is listed on the left hand side lower pane. Schedules that are included in the trend are displayed on the upper left hand side. If a particular schedule represents an outlier value, it can be excluded from the trend through a single click on the schedule entry. Forecast date can be set to specific date, to the end of the project, or turned off completely. If turned on, forecasted range will be marked in blue. While the non blue sections will represent actual data points.



The following options are available to control the trend display:

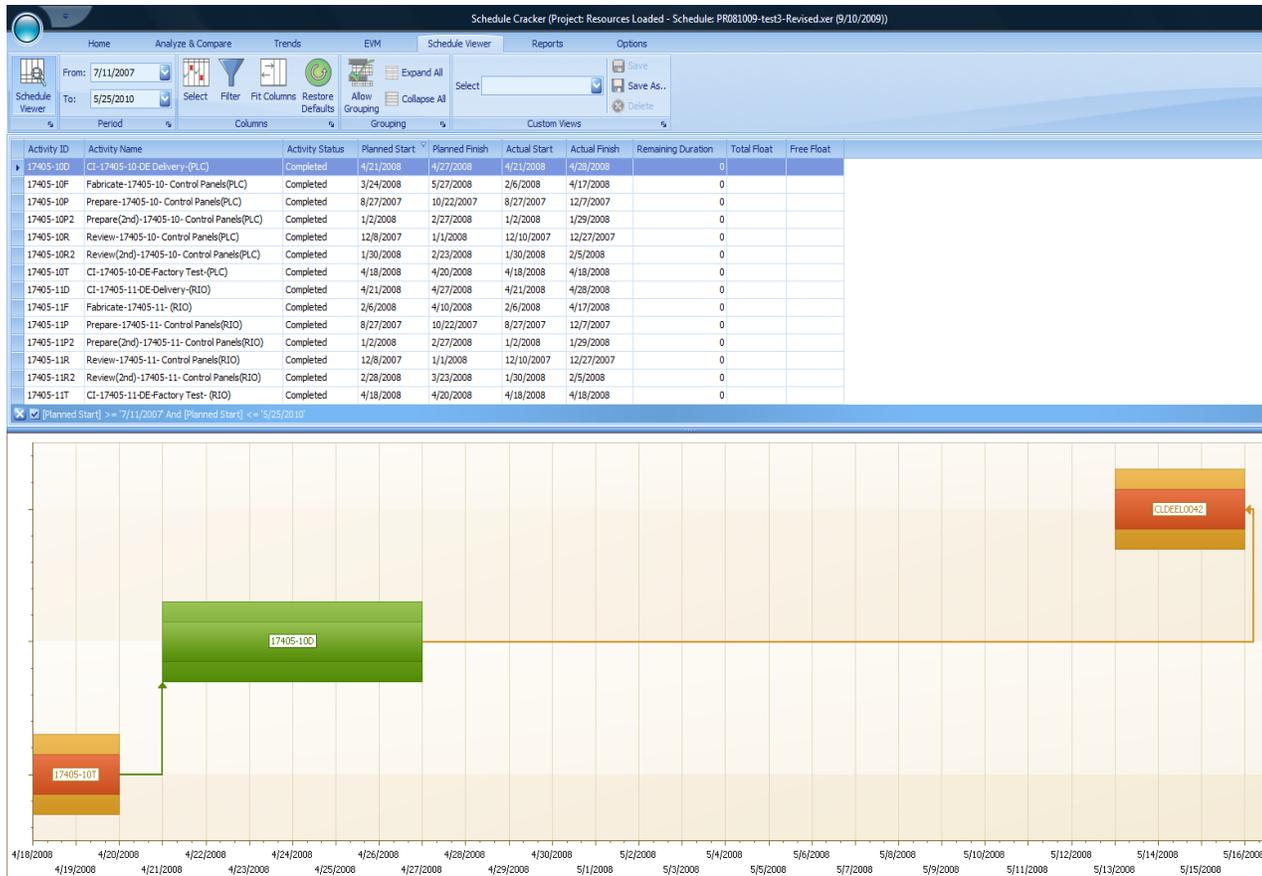
- Actual Plot Display (Ribbon Item)
- Trend Plot Display (Ribbon Item)
- Forecast Plot Display (Ribbon Item)
- Actual Label Display (Ribbon Item)
- Trend Label Display (Ribbon Item)
- Forecast Label Display (Ribbon Item)
- Trend Rule Selection (By selecting a rule in the lower left side rule list)
- Trend Schedule Inclusion/Exclusion (By selecting a schedule in the upper left side schedule list)
- Forecast Date Selection (Date Drop Down list)
- Forecast Option Selection (Ribbon Item)

6. Schedule Explorer

After a schedule is loaded, it can be navigated independent of the analysis rules by using the schedule explorer. This view provides a list of all activities in the project. Any highlighted activity will come in focus in the bottom pane as a green activity bar. Predecessor and successor activities will be displayed as orange bars. Bar lengths and are proportional to activity durations. Internal bars within an activity represent progress of the activity towards completion.

6.1 Primary Explorer View

Select Single Schedule (if different from current) - Schedule Explorer



By right clicking on the column list, the list of activity attributes can be customized



The following options are available to control the viewer display:

Date Range (Ribbon Item)

Column Selection (Ribbon Item)

Filter Creator (Ribbon Item)

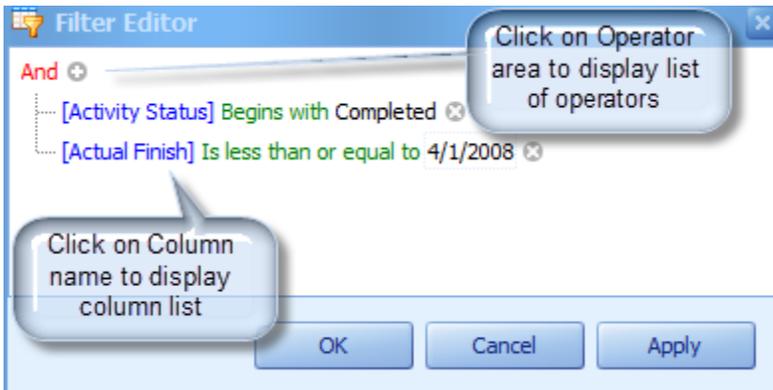
Column Best Fit (Ribbon Item)

Restore Defaults (Ribbon Item)

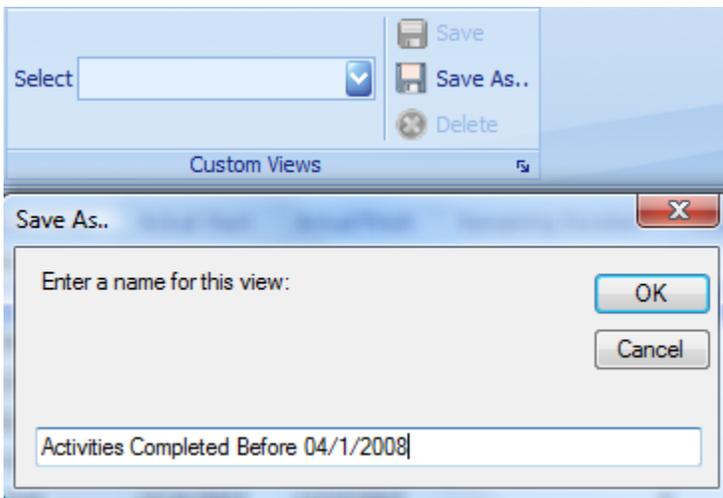
Grouping Allowance (Ribbon Item)

Expand/Collapse All (Ribbon Item)

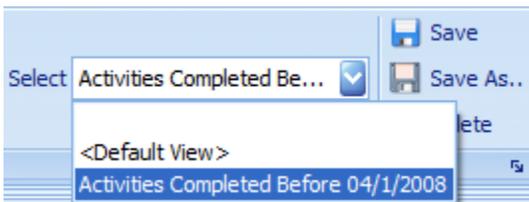
6.2 Building Filters: Through the explorer right click menu (or filter button), a filter editor that can use any attributes and any logical operators to build a custom activity filter:



Once a filter has been created, it can be saved as a view for later rapid retrieval through the 'Save As' option

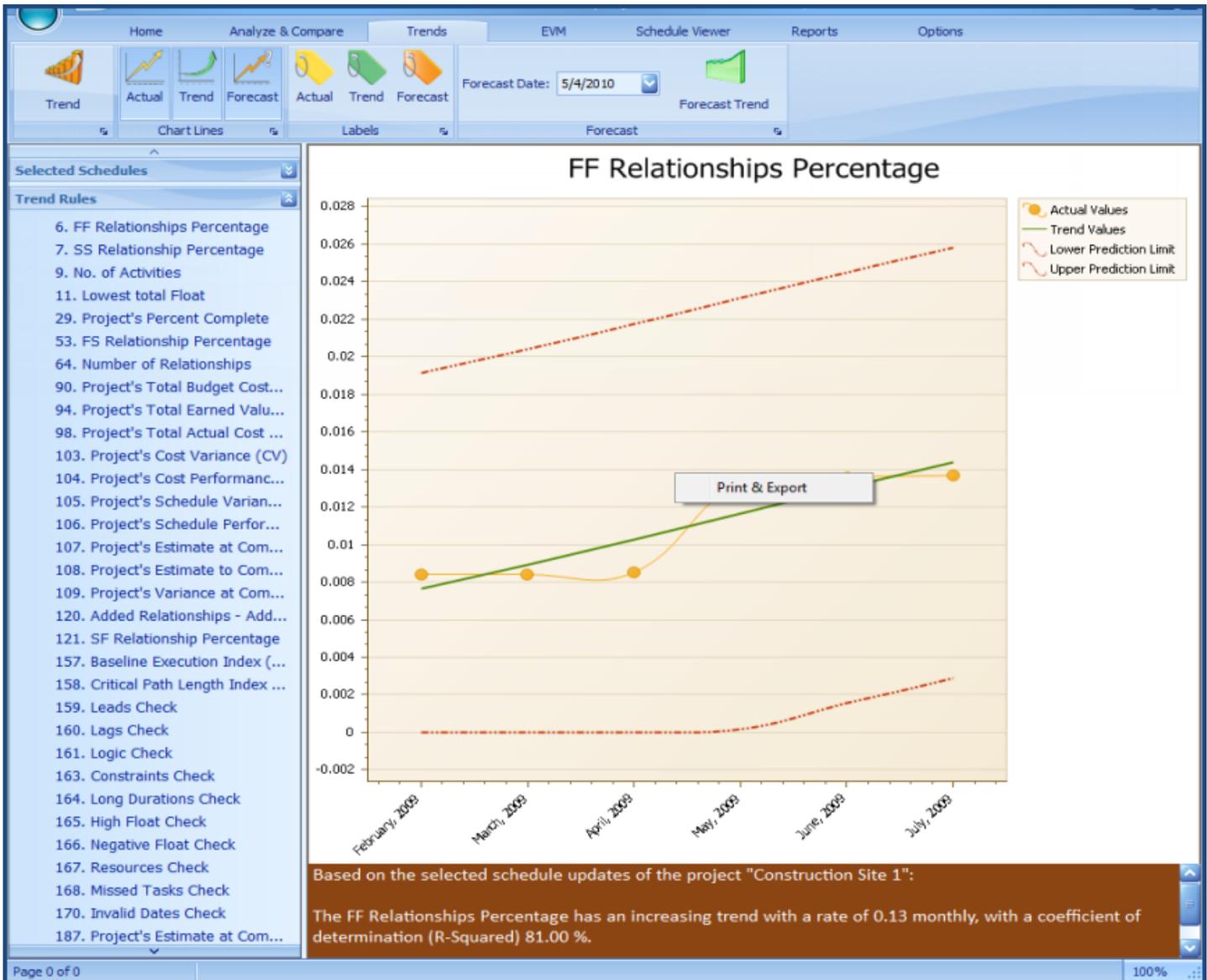


The filter definition will now be available in the filter selection drop down:



7. Reports

In general, reports can be printed through two methods in Schedule Cracker: 1. Within the context of the report, meaning that a reportable object is currently highlighted in the application. If it's a chart then to export to a report, right click and hit 'Print and Export'



Similarly, if hovering over a result list of activities that met a certain criteria, a single click will invoke a report:

Changed original Duration	105	Click on any count of activities to flow into a detailed report
Added Actual Start Dated Before The Base Data Date	29	
Added Actual Finish Dated Before The Base Data Date	17	
Added Actual Start Dated After The Data Date	16	
Added Actual Finish Dated After The Data Date	16	
Reduced Percent Complete due to Increased Remaining Duration	11	

The other option to generate reports is through the Report Hub tab: *Reports*.

The Following groupings of rules are available. Invoking any of them will generate a report for the rules within that category.

Changes

Concerns

Observations

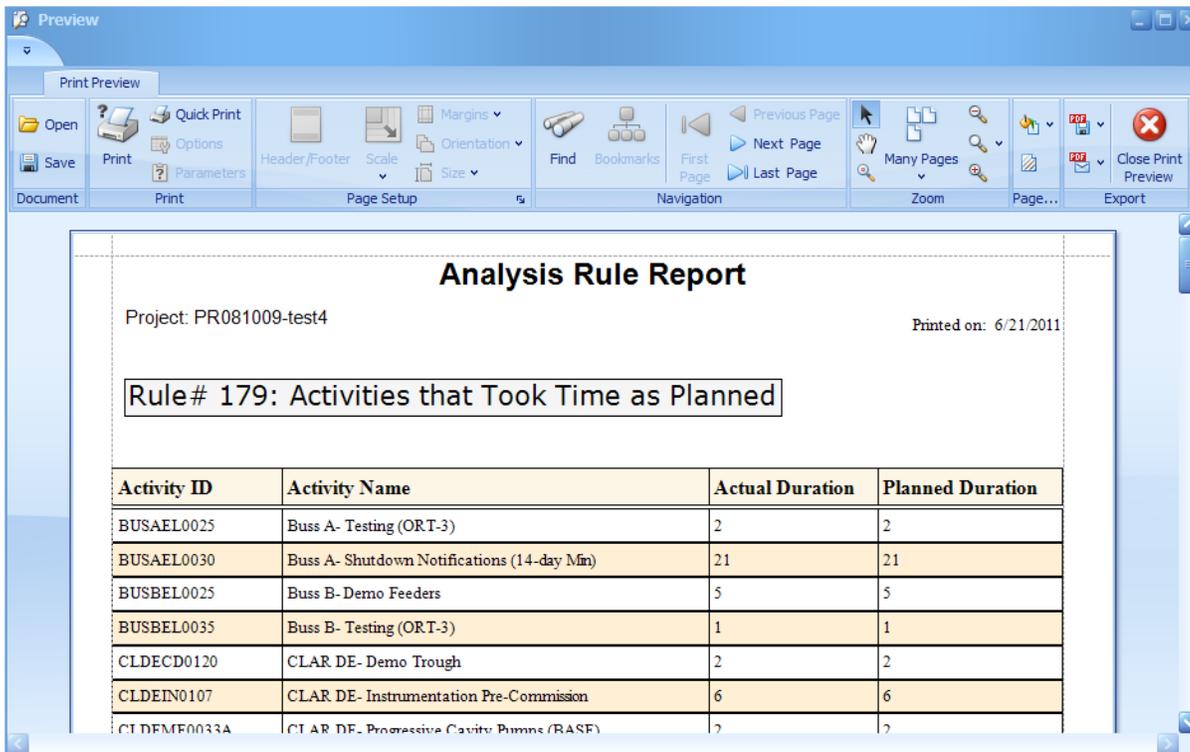
Full Analysis

Alert reporting level selection (Print out top n Activities based on severity score)

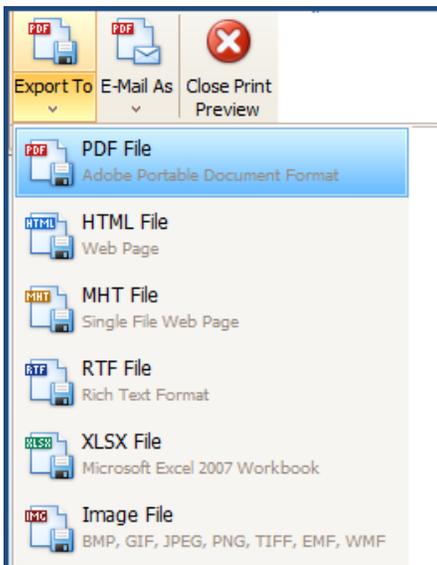
Activity Report (Will open for the activity that is currently selected in any of the analytical modules of Schedule Cracker)

Rule Report (Will open for the rule that is currently selected in any of the analytical modules of Schedule Cracker)

A report will appear in a special viewer.



From there, it can be exported or directly emailed to any of the following formats:



8. Favorites

The Favorites Menu allows the creation of a list of most commonly used rules based on the user preference. This is invoked by selecting the desired rule and performing the following flow:

8.1 Adding Favorites:

Select Single Schedule or Compared Pair– Analyze & Compare – Select Rule – Click the Add button.

Risk

Rule ID	Rule Name	Results	Value
96	Cost Overrun (Actual Cost Greater Than Budgeted)		3
99	Cost Overrun (based on Cost Performance Index)		28
181	Critical and Near Critical Activities that have a Potential for Delay		26
182	High Dependency Critical & Near Critical Activities		26
201	Cost Under-run (Actual Cost Less Than Budgeted)		44
202	Cost Under-run (based on Cost Performance Index)		19

Added to Favorites
Rule 181 "Critical and Near Critical Activities that have a Potential for Delay" was added to favorites

Confirmation of rule added to favorites is displayed

Rule 181: Critical and Near Critical Activities that have a Potential for Delay - Critical and Near critical Activities that can be delayed because of their predecessors

Activity ID	Activity Name	Total Float
SLBFEL0205	Sludge Blend Fac- Feeder Cable Terminations	6
SLBFEL0215	Sludge Blend Fac- Equipment Testing	-1
SLBFINO108	Sludge Blend Fac- Instrumentation Check Out	6
SLBFEL0225	Sludge Blend Fac- Pre-Commissioning (SBF FAT clean water) - renamed	-2
SLBFEL0255	Sludge Blend Fac- CommPhase 2 Rpt Review	-5

8.2 Viewing Favorites:

Select Single Schedule or Compared Pair– Analyze & Compare – Favorite Rules

Favorites

Rule ID	Rule Name	Results	Value
102	Slipped Activities (based on schedule performance index)		11
103	Project's Cost Variance (CV)		(\$166,868.59)
162	Relationships Check		FS=82.60%, SS=11.74%, FF=5.66%, SF=-.00%
181	Critical and Near Critical Activities that have a Potential for Delay		26

Rule 102: Slipped Activities (based on schedule performance index) - Activities that have slipped (their schedule performance index is less than 1.0) in the project's schedule

Activity ID	Activity Name	SPI
CLHIME0048	CLAR HI - Commissioning	0.950
CLLMPC0105	CLAR LM- Painting	0.933
PAYIGE0002	Bid Item -2 Shoring for P2-80	0.928
PAYIGE0006	Bid Item -6 Repair and Cost of Primary Clarifier	0.500

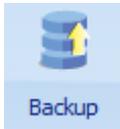
Click on Favorite Rules to display the saved favorites

Favorites can be deleted by selecting the un-needed rule and clicking the Remove button next to the favorite rules.

9 Options

9.1 Backup

Options - Backup



Schedule Cracker uses an internal database engine to store project files and analysis results for rapid access at any point in time. Even though these stored files can be rebuilt quickly, it is advisable to backup the existing repository so that restoration becomes a very expedient process should a file deletion occur.

9.2 Restore



Options – Restore

Restores the last backup and overwrites the current database (Be sure when using this option that restore is really desired since it will purge any file/analysis data loaded since the last backup)

9.3 Feedback



Options – Feedback

Contact the Schedule Cracker Team with a feedback message.

9.4 Support



Options Support

Contact the Schedule Cracker Team with a support request.

Appendix I: Drill Down

Dashboards in Schedule Cracker are highly interactive. With a click of a button on any bar chart, pie chart, or hyperlink, the context immediately shifts to a more detailed view of the selected metric. This allows the Schedule Cracker user to instantaneously navigate between high-level analyses of the project to deep inspection of any identified problem areas.

Appendix II: Rules and Their Descriptions

Rule_ID	Rule_Name	Rule_Description
1	Project ID	Project ID (given short name) of the project's schedule
2	Changed Project ID	Project ID (project's short name) was altered in the project's schedule when comparing it to the base project's schedule
4	Project Start Date	Starting date of the project's schedule
5	Calendars Change Dates	Date of latest change in any calendar in the project's schedule when comparing it to the base project's schedule
6	FF Relationships Percentage	Activities with Finish to Finish Relationships
7	SS Relationship Percentage	Activities with Start to Start Relationships
8	Critical Path Type	Critical path type in the project's schedule
9	No. of Activities	Number of activities in the project's schedule
10	Data Date	Data date of the project's schedule
11	Lowest total Float	Lowest value of the total float of activities in the project's schedule
12	Missing Actual Start	Started activities with missing actual start date in the project's schedule
13	Missing Actual Finish	Completed activities with missing actual finish date in the project's schedule
14	Added Planned Activities	Added activities that have not started yet in the project's schedule when comparing it to the base project's schedule
15	Added As Built Activities	Added activities that are stated as completed in the project's schedule when comparing it to the base project's schedule
16	Added in Progress Activities	Added activities that are stated as in-progress in the project's schedule when comparing it to the base project's schedule
17	Deleted Planned Activities	Deleted activities that were not started yet in the project's schedule when comparing it to the base project's schedule
18	Deleted As Built Activities	Deleted activities that were stated as completed in the project's schedule when comparing it to the base project's schedule
19	Deleted in Progress Activities	Deleted activities that were stated as in-progress in the project's schedule when comparing it to the base project's schedule
20	Changed Duration Type	Activities with altered duration types in the project's schedule when comparing it to the base project's schedule
21	Changed original Duration	Activities with altered original (planned) duration in the project's schedule when comparing it to the base project's schedule
22	Changed Remaining Duration	Activities with altered remaining duration in the project's schedule when comparing it to the base project's schedule
23	Fractional Days Scheduled	Activities with day fractions in the original (planned) duration in the project's schedule
24	Changed Activity Type	Activities with altered activity type in the project's schedule when comparing it to the base project's schedule
25	Changed Activity Calendar	Activities with altered activity calendar in the project's schedule when comparing it to the base project's schedule

26	Changed Percent Complete Type	Activities with altered percent complete type in the project's schedule when comparing it to the base project's schedule
27	Changed Percent Complete From Remaining Duration Estimate	Activities where the percent complete is different from the percent complete calculated based on the remaining duration in the project's schedule
28	Changed Percent Complete	Activities with altered percent complete in the project's schedule when comparing it to the base project's schedule
29	Project's Percent Complete	Calculated percent complete of the project based on the project schedule
30	Changed Total Float Exceeds the Update Period	Activities in the project's schedule where the total float is more than the period between the project's schedule and the base project's schedule
31	Changed Activity Description	Activities with altered description in the project's schedule when comparing it to the base project's schedule
32	Added Actual Start Dated Before The Base Data Date	Activities where the added actual start date in the project's schedule precedes the data date of the base project's schedule
33	Added Actual Finish Dated Before The Base Data Date	Activities where the added finish date in the project's schedule, precedes the data date of the base project's schedule
34	Added Actual Start Dated After The Data Date	Activities where the added actual start date in the project's schedule succeeds the data date of the project's schedule
35	Added Actual Finish Dated After The Data Date	Activities where the added finish start date in the project's schedule succeeds the data date of the project's schedule
36	Added New Actual Start During Update Period	Activities where the added actual start date in the project's schedule precedes the data date of the project's schedule and succeeds the data date of the base schedule
37	Added New Actual Finish During Update Period	Activities where the added actual finish date in the project's schedule precedes the data date of the project's schedule and succeeds the data date of the base schedule
38	Changed Actual Start Date	Activities with altered actual start date in the project's schedule when comparing it to the base project's schedule
39	Changed Actual Finish Date	Activities with altered actual finish date in the project's schedule when comparing it to the base project's schedule
40	Started Activities with Zero Percent Complete	Activities that are stated as in-progress but have a zero percent complete in the project's schedule
41	Reduced Percent Complete due to Increased Remaining Duration	Activities with reduced percent complete in the project's schedule based on increase in their remaining duration when comparing it to the base project's schedule
42	Changes in Suspended Activities' Status	Activities with altered suspension status (from/to suspended) in the project's schedule when comparing it to the base project's schedule

43	Changes in Resumed Activities' Status	Activities with altered resumed status (from/to resumed) in the project's schedule when comparing it to the base project's schedule
44	Changes in Suspended Activities' Date	Activities with altered suspension date in the project's schedule when comparing it to the base project's schedule
45	Changes in Resumed Activities' Date	Activities with altered resumed date in the project's schedule when comparing it to the base project's schedule
46	Activities with Suspended Date After Data Date	Activities with added suspension date that succeeds the data date of the project's schedule
47	Activities with Resumed Date After Data Date	Activities with Added resumed date that succeeds the data date of the project's schedule
48	Suspended Activities with Change in Percent Complete	Suspended Activities with altered percent complete in the project's schedule when comparing it to the base project's schedule
49	Suspended Activities	Suspended activities in the project's schedule
50	Deleted Activity Steps	Activities that have deleted steps in the project's schedule when comparing it to the base project's schedule
51	Added Activity Steps	Activities that have added steps in the project's schedule when comparing it to the base project's schedule
52	Changed Activity Step Weights	Activities with altered step weights in the project's schedule when comparing it to the base project's schedule
53	FS Relationship Percentage	Activities with Finish to Start Relationships
54	Changed Activity Step Percent Complete	Activities with altered step percent complete in the project's schedule when comparing it to the base project's schedule
55	Critical Activities (Were Not Critical Before)	Activities that became critical in the project's schedule when comparing it to the base project's schedule
56	Non-Critical Activities (Were Critical Before)	Activities that became non-critical in the project's schedule when comparing it to the base project's schedule
57	Critical Activities	Critical activities in the project's schedule
58	Near Critical Activities	Near critical activities in the project's schedule
59	Deleted Critical Activities	Critical activities that were deleted in the project's schedule when comparing it to the base project's schedule
60	Non Critical Activities with Negative or Zero Free Float	Non critical activities with zero or negative float in the project's schedule
61	Deleted Activity Codes	Activities with deleted activity codes in the project's schedule when comparing it to the base project's schedule
62	Added Activity Codes	Activities with added activity codes in the project's schedule when comparing it to the base project's schedule
64	Number of Relationships	Number of relationships in the project's schedule

65	Deleted Non Critical Relationships for Existing Activities	Activities with deleted relationships in the project's schedule given that their linked activities were not critical and still exist when comparing it to the base project's schedule
66	Deleted As-Built Relationships for Existing Activities	Activities with deleted relationships in the project's schedule given that their linked activities were completed and still exist when comparing it to the base project's schedule
67	Deleted Relationships due to Deleted Successor	Activities with deleted relationships in the project's schedule given that their linked successor activities are deleted when comparing it to the base project's schedule
68	Deleted Critical Relationships for Existing Activities	Activities with deleted relationships in the project's schedule given that their linked activities were critical and still exist when comparing it to the base project's schedule
69	Added Relationships for Existing Activities	Activities with added relationships in the project's schedule given that their linked activities were existing when comparing it to the base project's schedule
70	Added As-Built Relationships for Existing Activities	Activities with added relationships in the project's schedule given that their linked activities were completed and still exist when comparing it to the base project's schedule
71	Added Relationships - Added Successor	Activities with added relationships in the project's schedule given that their linked successor activities are added as well when comparing it to the base project's schedule
72	Invalid Relationships between activities	Activities that have more than one relationship type linking them in the project's schedule
73	Activities with No Successor	Activities that have no successors in the project's schedule
74	Activities with No Predecessor	Activities that have no predecessors in the project's schedule
75	Changed Relationship Type	Activities with altered relationships in the project's schedule when comparing it to the base project's schedule
76	Changed Lag	Activities with altered relationships' lag in the project's schedule when comparing it to the base project's schedule
77	Deleted Constraints for Existing Activities	Activities with deleted constraints in the project's schedule given that these activities are still existing when comparing it to the base project's schedule
78	Deleted As-Built Constraints for Existing Activities	Activities with deleted constraints in the project's schedule given that these activities were completed when comparing it to the base project's schedule
79	Deleted Constraints due to Deleted Activities	Activities with deleted constraints in the project's schedule given that these activities are deleted when comparing it to the base project's schedule
80	Activities Constraints	Activities that have constraints in the project's schedule
81	Added Constraints for Existing Activities	Activities with added constraints in the project's schedule given that these activities are still existing when comparing it to the base project's schedule
82	Added As-Built Constraints for Existing Activities	Activities with added constraints in the project's schedule given that these activities were completed when comparing it to the base project's schedule

83	Added Constraints due to Added Activities	Activities with added constraints in the project's schedule given that these activities have been added when comparing it to the base project's schedule
84	Changed Constraints	Activities with altered constraints in the project's schedule when comparing it to the base project's schedule
85	Changed Expected Finish Date	Activities with altered expected finish date in the project's schedule when comparing it to the base project's schedule
86	Added Expected Finish Date	Activities with added expected finish date in the project's schedule when comparing it to the base project's schedule
87	Activities with Deleted Budgeted Cost	Activities with deleted budgeted cost in the project's schedule when comparing it to the base project's schedule
88	Activities with Added Budgeted Cost	Activities with added budgeted cost in the project's schedule when comparing it to the base project's schedule
89	Activities with Changed Budgeted Cost	Activities with altered budgeted cost in the project's schedule when comparing it to the base project's schedule
90	Project's Total Budget Cost (PV)(BAC)	Total budget cost of the project's schedule
91	Progressed activities with no increase in Earned Value	Progressed activities with no increase in Earned Value
92	Activities with Earned Value Greater Than Budgeted	Activities with earned value that exceeds their budget cost in the project's schedule
93	Activities with Reduction of Earned Value	Activities with decreased earned value in the project's schedule when comparing it to the base project's schedule
94	Project's Total Earned Value (EV)(BCWP)	Total earned value of the project's schedule
95	Negative Actual Cost	Activities with a negative actual cost in the project's schedule
96	Cost Overrun (Actual Cost Greater Than Budgeted)	Activities with cost overrun (actual cost exceeding the budget cost) in the project's schedule
97	Reduction of Actual Cost	Activities with decreased actual cost in the project's schedule when comparing it to the base project's schedule
98	Project's Total Actual Cost (AC)(ACWP)	Total actual cost of the project's schedule
99	Cost Overrun (based on Cost Performance Index)	Activities with cost overrun (cost performance index is less than 1.0) in the project's schedule
100	Changes in Actual Cost without Earned Value	Activities with altered actual cost in the project's schedule without changing their earned value when comparing it to the base project's schedule

101	Changes of Earned Value without Actual Cost	Activities with altered earned value in the project's schedule without changing their actual cost when comparing to the base project's schedule
102	Slipped Activities (based on schedule performance index)	Activities that have slipped (their schedule performance index is less than 1.0) in the project's schedule
103	Project's Cost Variance (CV)	Total cost variance (earned value minus the actual cost) of the project's schedule
104	Project's Cost Performance index (CPI)	Cost performance index (project's earned value divided by its actual cost) of the project schedule
105	Project's Schedule Variance (SV)	Schedule variance (project's earned value minus its budgeted cost) of the project schedule
106	Project's Schedule Performance Index (SPI)	Schedule performance index (project's earned value divided by its budgeted cost) of the project schedule
107	Project's Estimate at Completion (EAC)(CPI Method)	Estimated cost at completion (project's budgeted cost divided by its cost performance index) of the project schedule
108	Project's Estimate to Complete (ETC)	Estimated cost to complete (project's estimated at completion cost minus its actual cost) the project schedule
109	Project's Variance at Completion (VAC)	Variance in cost at completion (project's budgeted cost its estimate at completion cost) of the project schedule
110	Added Resources	Activities with added resources in the project's schedule when comparing it to the base project's schedule
111	Deleted Resources	Activities with deleted resources in the project's schedule when comparing it to the base project's schedule
112	Changed Total Resource Units	Activities with altered resources in the project's schedule when comparing it to the base project's schedule
113	Changed Remaining Resources' Percent Complete	Activities with altered percentage of their remaining resources in the project's schedule when comparing it to the base project's schedule
114	Added Activity Notebook (Memo)	Activities with added memos in the project's schedule when comparing it to the base project's schedule
115	Deleted Activity Notebook (Memo)	Activities with deleted memos in the project's schedule when comparing it to the base project's schedule
116	Deleted Relationships due to Deleted Predecessor	Activities with deleted relationships in the project's schedule given that their linked predecessor activities are deleted when comparing it to the base project's schedule
117	SV%	Percentage of schedule variance
118	SV% (using Baseline)	Percentage of schedule variance to budgeted cost of work scheduled of baseline
119	Hit%	No. of compared activates with respect to number of planned completed activities.

120	Added Relationships - Added Predecessor	Activities with added relationships in the project's schedule given that their linked predecessor activities are added as well when comparing it to the base project's schedule
121	SF Relationship Percentage	Activities with Start to Finish Relationships
122	Calculated Finish Date	Calculated finish date of the project's schedule
123	Project's Mandatory Finish Date	The project's required finish date by the contract documents.
124	Changed Actual Project Start Date	Project with altered actual start date in the project's schedule when comparing it to the base project's schedule
125	Changed Calendar's Update Date	Project with altered actual start date in the project's schedule when comparing it to the base project's schedule
126	Changed Calculated Finish Date	Project with altered calculated finish date in the project's schedule when comparing it to the base project's schedule
127	Changed Number of Activities	Project with altered number of activities in the project's schedule when comparing it to the base project's schedule
128	Same Data Dates	Project with non altered data date in the project's schedule when comparing it to the base project's schedule
129	Changed Lowest total Float	Project with altered lowest total float in the project's schedule when comparing it to the base project's schedule
130	Changed No. of Relationships	Project with altered number of relationships in the project's schedule when comparing it to the base project's schedule
131	Changed Project's Total Budget Cost (PV) (BAC)	Project with altered total budget cost in the project's schedule when comparing it to the base project's schedule
132	Changed Project's Total Earned Value (EV)	Project with altered total earned value in the project's schedule when comparing it to the base project's schedule
133	Changed Project's Total Actual Cost (AC)	Project with altered total actual cost in the project's schedule when comparing it to the base project's schedule
134	Changed Project's Cost Variance (CV)	Project with altered cost variance in the project's schedule when comparing it to the base project's schedule
135	Changed Project's Cost Performance index (CPI)	Project with altered cost performance index in the project's schedule when comparing it to the base project's schedule
136	Project's Schedule Variance (SV) (using Baseline)	Project's schedule variance calculated using a baseline schedule
137	Project's Schedule Performance index (SPI) (using Baseline)	Project's schedule performance index using baseline schedule
138	Changed Project's Estimate at Completion (EAC)	Project with altered estimate at completion in the project's schedule when comparing it to the base project's schedule

139	Changed Project's Estimate to Complete (ETC)	Project with altered estimate to complete in the project's schedule when comparing it to the base project's schedule
140	Changed Variance at Completion (VAC)	Project with altered variance at completion in the project's schedule when comparing it to the base project's schedule
141	Changed Project's Percent Complete	Project with altered percent complete in the project's schedule when comparing it to the base project's schedule
142	Changed Project's Mandatory Finish Date	Project with altered mandatory finish date in the project's schedule when comparing it to the base project's schedule
143	Changed Total Float less than Updated Period	Activities with altered total float in the project's schedule given that it is less than the duration between the data date of the and base schedules when comparing it to the base project's schedule
144	Non-Critical Activities	Non critical activities in the project's schedule
145	Activities that Missed Planned ES	Activities with early start date scheduled to be before the data date of the project's schedule given that it was not started when comparing it to the base project's schedule
146	Activities that Missed Planned LS	Activities with late start date scheduled to be before the data date of the project's schedule given that it was not started when comparing it to the base project's schedule
147	Activities that Missed Planned EF	Activities with early finish date scheduled to be before the data date of the project's schedule given that it was not started when comparing it to the base project's schedule
148	Activities that Missed Planned LF	Activities with late finish date scheduled to be before the data date of the project's schedule given that it was not started when comparing it to the base project's schedule
149	Miss%	No. of activities that should have been completed to date but did not with respect to the planned completed date
150	Changed WBS	Activities with altered WBS in the project's schedule when comparing it to the base project's schedule
151	Out of Sequence Activities	Activities that are out of sequence in the project's schedule when comparing it to the base project's schedule
152	CV %	Project's cost variance divided by its earned value
153	Budgeted Cost for Work Scheduled (BCWS)	Budgeted Cost for Work Scheduled of the baseline to be used for Earned Value Analysis (Perfect World Method) (Not DoD Method)
154	Changed Project's Critical Path Type	Project with altered critical path type in the project's schedule when comparing it to the base project's schedule
155	BCWS (Baseline)	Budgeted Cost for Work Schedule of the baseline to be used for Earned Value Analysis
156	Changed CV%	Changed percentage of cost variance
157	Baseline Execution Index (BEI)	One of DCMA's schedule assessment's 14-point check. This assessment point calculates the number of completed activities divided by the number of incomplete activities
158	Critical Path Length Index (CPLI)	One of DCMA's schedule assessment's 14-point check. This assessment point calculates the critical path length plus the total float of the latest activity divided by the critical path length

159	Leads Check	One of DCMA's schedule assessment's 14-point check. This assessment point calculates the number of activities with negative lag divided by the number of incomplete activities
160	Lags Check	One of DCMA's schedule assessment's 14-point check. This assessment point calculates the number of activities with lag divided by the number of incomplete activities
161	Logic Check	One of DCMA's schedule assessment's 14-point check. This assessment point calculates the number of activities without predecessor or successor divided by the number of incomplete activities
162	Relationships Check	One of DCMA's schedule assessment's 14-point check. This assessment point calculates the number of relationships falling under different types of relationships between activities divided by the number of incomplete activities
163	Constraints Check	One of DCMA's schedule assessment's 14-point check. This assessment point calculates the number of activities with hard constraints divided by the number of incomplete activities
164	Long Durations Check	One of DCMA's schedule assessment's 14-point check. This assessment point calculates the number of activities with original duration more than 44 working days divided by the number of incomplete activities
165	High Float Check	One of DCMA's schedule assessment's 14-point check. This assessment point calculates the number of activities with total float more than 44 working days divided by the number of incomplete activities
166	Negative Float Check	One of DCMA's schedule assessment's 14-point check. This assessment point calculates the number of activities with negative float divided by the number of incomplete activities
167	Resources Check	One of DCMA's schedule assessment's 14-point check. This assessment point calculates the number of activities with no assigned resources divided by the number of incomplete activities
168	Missed Tasks Check	Number of activities that missed their finish date / number of incomplete activities
169	Critical Path Test	A DCMA's schedule assessment's 14-point check. By Changing the early finish (EF) of the stated uncompleted activity which has the latest EF to about 600 working days extra, any activity that does not slip in proportion misses a necessary relationship.
170	Invalid Dates Check	One of DCMA's schedule assessment's 14-point check. This assessment point calculates the number of activities with actual start or finish date after the data date
171	Milestone Activities	Activities that are finish or start Milestones
172	Completed Milestones	Completed Activities that are finish or start milestones
173	Activities that Changed Planned ES to Earlier Date	Activities with early start that changed to an earlier date.

174	Activities with Actual Start Prior to its Planned ES	Activities that started before the planned start date
175	Activities with Actual Start After its Planned ES	Activities that started after the planned start date
176	Activities Started on Time	Activities that started on exactly the planned start date
177	Activities that took Longer than Planned	Completed activities with actual duration exceeding their planned duration
178	Activities that took Less than Planned	Completed activities with actual duration less than their planned duration
179	Activities that Took Time as Planned	Completed activities with actual duration equal to their planned duration
180	Potentially Crashed Activities	Activities that took less than planned and finished on or before their planned finish date
181	Critical and Near Critical Activities that have a Potential for Delay	Critical and Near critical Activities that can be delayed because of their predecessors
182	High Dependency Critical & Near Critical Activities	Critical and Near Critical Activities that can cause other activities to delay
183	Activities with Zero Durations	Activities that are not milestones but have zero target duration
184	Completed Activities	Number of completed activities in the project's schedule
185	Started Activities	Number of started activities in the project's schedule
186	Not Started Activities	Number of activities that have not started in the project's schedule
187	Project's Estimate at Completion (EAC) (Composite Method)	Estimated cost at completion (cost and schedule combination method) of the project schedule
188	Project's EAC (Cost & Schedule Weighted Factor Method)	Estimated cost at completion (combined weighted method of the cost performance index and schedule performance index) of the project schedule
189	TCPI (EAC Method)	TCPI (To-Complete Cost Performance Index) is calculated using the EAC method (work remaining divided by money remaining based upon the total estimate at completion assuming the project efficiency remains unchanged from the current efficiency).
190	TCPI (BAC Method)	TCPI (To-Complete Cost Performance Index) is calculated based on Budget at Completion (Work remaining divided by money remaining based upon the total estimate at completion assuming the project efficiency remains unchanged from the current efficiency).
191	TCPI (EAC Method)/CPI	Ratio between Project's To-Complete Cost Performance Index based on Estimate at Completion to Cost Performance Index

192	% Spent (AC/PV)(ACWP/BAC)	Actual cost spend to date with respect to budgeted cost
193	% Schedule (BCWS/BAC)	Percent of days consumed from beginning of the project up to date
194	Changed Project's Estimate at Completion (EAC) (Cost/Schedule Method)	Changes in the estimated cost at completion (cost and schedule combination method) in the project's schedule when comparing it to the base project's schedule
195	Changed Project's Estimate at Completion (EAC) (Cost & Schedule Weighted Factor Method)	Changes in estimated cost at completion (combined method of the cost performance index and schedule performance index) in the project's schedule when comparing it to the base project's schedule
196	Changed TCPI (To-Complete Cost Performance Index) (EAC Method)	Changes in work remaining divided by money remaining based upon the total estimate at completion assuming the project efficiency remains unchanged from the current efficiency in the project's schedule when comparing it to the base project's schedule
197	Changed TCPI (To-Complete Cost Performance Index) (BAC Method)	Changes in work remaining divided by money remaining based upon the total estimate at completion assuming the project efficiency remains unchanged from the current efficiency in the project's schedule when comparing it to the base project's schedule.
198	Changed TCPI (EAC Method)/CPI	Changed Ratio between Project's To-Complete Cost Performance Index based on Estimate at Completion to Cost Performance Index when comparing the base schedule to the revised schedule.
199	Changed % Spent (AC/PV)(ACWP/BAC)	Changed Actual cost spend to date with respect to budgeted cost
200	% Schedule (BCWS/BAC) (using Baseline)	Percent of days from beginning of the project up to date divided by the total project duration
201	Cost Under-run (Actual Cost Less Than Budgeted)	Activities with cost saving (budget cost exceeds actual cost) in the project's schedule
202	Cost Under-run (based on Cost Performance Index)	Activities with cost saving (cost performance index is more than 1.0) in the project's schedule
203	No. of "Total Task" Activities	Number of Activities after excluding all the tasks with zero duration, milestone, and level of efforts activities
204	Float Buffer%	Percent of schedule contingency for non critical chain activity.
205	Sigma Value (6 Sigma Check)	Sigma value based on schedule hit percent. It checks the schedule quality on the 6-Sigma scale

207	Abused Summary Tasks	Summary tasks should be a rollup of its subtask. It should not have any resources, predecessors, successors, or allocated cost. Any summary task with assigned resources, predecessors, successors, or allocated cost is shown here.
208	Planned Activities Ready to Start	This rule shows activities with completed predecessors that are ready to start but did not until now.
210	Activities with Actual Finish before Actual Start	Actual start of any activity should be before its actual finish. Any activity that does not meet this condition, shows up here.
211	% of Activities with Cost Overrun	Percent of activities with actual cost exceeding the budgeted cost for them
212	Delayed Activities	Delayed tasks are defined here as the tasks with zero total float
213	% of Delayed Tasks	Percent of delayed tasks with respect to remaining tasks
214	% Criticality	Percent of critical activities with respect to remaining ones
215	No. of Missed Critical Dates	Number of delayed milestones or activities with constraints
216	Dragged Activities	Activities that are anticipated to take longer than planned based on the time spent so far and the remaining duration
217	% of Dragged Activities	Percent of dragged activities with respect to in-progress activities