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Baseline Guide for Planners

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1. INTRODUCTION

1.1 PURPOSE

The purpose of this document is to provide a high-level planning guideline for Project Planners to follow when creating a baseline schedule within P6.

1.2 SCOPE

The objectives of this guideline are to ensure:

- A standardised methodology for the Baselining process
A standardisation of planning inputs and outputs.
- All relevant project participants are fully aware of their required inputs to support this process.

1.3 DEFINITIONS

The definitions for industry or company specific terms and abbreviations used in this document are included within the BMS Glossary.

1.4 REFERENCES

- A. Global Standard Layouts Process
- B. Planning Kick Off Key Dates
- C. ProArc/Doc User Guide
- D. Logic Example

1.5 ABBREVIATIONS

CMS	Contract Master Schedule
CTR	Cost / Time Resource
FAT	Factory Acceptance Test
FPSO	Floating Petroleum Storage and Off-loader
HLV	Heavy Lift Vessel
LD	Liquidated Damages
PO	Purchase Order
PM	Project Management
PSR	Procurement Status Report
RFQ	Request For Quotation
SIT	Site Integration Test
SOP	Standard Operating Procedure
VOWD	Value Of Work Done
WBS	Work Breakdown Structure

2. DEVELOPING THE CONTRACT MASTER SCHEDULE

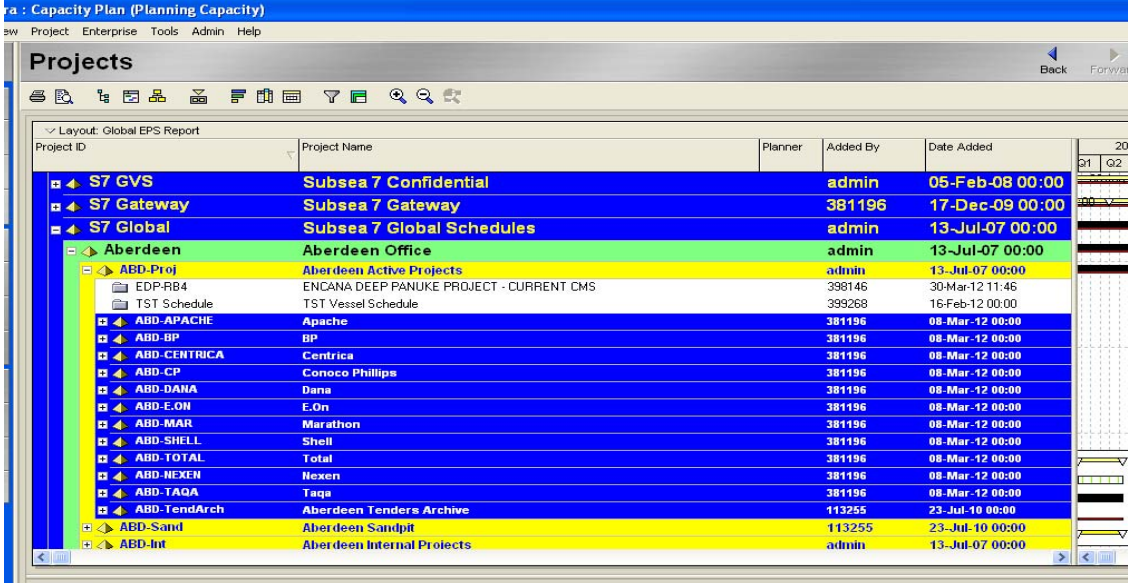
To develop the CMS, the following needs to be available.

- A Project Number created in SAP
- A Project Node created in P6
- Scope of Work
- Milestone Dates
- CTR
- MDR/Package List
- Client Provided Items
- Procurement Package/Details
- Offshore Scope

2.1 SOFTWARE

The planning software suggested is P6 and Microsoft Project. Other software is available; most of this guide still applies..

To make sure a node is set up in P6, log on to P6 with your user name and password and check if the Client Node for the Project is already set up (see below), if not, contact the Planning Manager to request one to be set up.



Project ID	Project Name	Planner	Added By	Date Added
S7 GVS	Subsea 7 Confidential		admin	05-Feb-08 00:00
S7 Gateway	Subsea 7 Gateway	381196		17-Dec-09 00:00
S7 Global	Subsea 7 Global Schedules	admin		13-Jul-07 00:00
Aberdeen	Aberdeen Office	admin		13-Jul-07 00:00
ABD-Proj	Aberdeen Active Projects	admin		13-Jul-07 00:00
EDP-RB4	ENCANA DEEP PANUKE PROJECT - CURRENT CMS	398146		30-Mar-12 11:46
TST Schedule	TST Vessel Schedule	399268		16-Feb-12 00:00
ABD-APACHE	Apache	381196		08-Mar-12 00:00
ABD-BP	BP	381196		08-Mar-12 00:00
ABD-CENTRICA	Centrica	381196		08-Mar-12 00:00
ABD-CP	Conoco Phillips	381196		08-Mar-12 00:00
ABD-DANA	Dana	381196		08-Mar-12 00:00
ABD-E.ON	E.On	381196		08-Mar-12 00:00
ABD-MAR	Marathon	381196		08-Mar-12 00:00
ABD-SHELL	Shell	381196		08-Mar-12 00:00
ABD-TOTAL	Total	381196		08-Mar-12 00:00
ABD-MEXEN	Hexen	381196		08-Mar-12 00:00
ABD-TAQ	Taqe	381196		08-Mar-12 00:00
ABD-TendArch	Aberdeen Tenders Archive	113255		23-Jul-10 00:00
ABD-Sand	Aberdeen Sandpit	113255		23-Jul-10 00:00
ABD-Int	Aberdeen Internal Projects	admin		13-Jul-07 00:00

2.2 LAYOUTS AND FORMATS IN P6

All projects should refer to a. Global Standard Layouts Process where applicable.

2.3 WORK BREAKDOWN STRUCTURE

The Work Breakdown Structure (WBS) is developed by the planner in conjunction with the Project Accountant which should have been defined prior to contract award.

A typical example of how we would set out our WBS levels:

Level 1

- Client Level
- Project Name

Level 2

- Milestones
- Project Management
- Engineering
- Procurement
- Construction/Fabrication
- Offshore Operations
- Hook Up & Commissioning

Level 3

- Work Packages

Level 4

- Operational Work

2.4 CALENDARS

Calendars are defined for different phases of the project and are assigned to the activity.

The two main calendars which are set up at a Global level:

- PM/Eng/Procurement Std-Standard 5 Day 8hr with Xmas and / or other defined holiday periods
- Offshore Operations Std-Global 7 Day 24hr

3. PREPARING THE BASELINE

The following information for each section must be available and will form the basis for the development of the Contract Master Schedule.

3.1 MILESTONES

Obtain Key Dates from within the Tender/Contract Documentation.

At contract award submit Ref B. Planning Kick off Key Dates sheet to Project Manager to get team to complete.

Once you have dates from both compare and review any changes from Tender/Contract to Contract Award and finalise with PM. These can then be used for the basis of your logic and entered into the plan.

3.2 PROJECT MANAGEMENT

CTR

A CTR (Cost Time Resource) will either be compiled in the Subsea7 CTR online system or via a CTR Library in an Excel spreadsheet. This is a total of budgeted man-hours for all Project Management and Engineering and how the hours would be estimated to be expended in the job by discipline.

The As-Sold CTR should be reviewed with the project team after contract award to capture any changes and once client approval is obtained (if required) this will then be submitted to the Project Accountant to set up in SAP.

Obtain from Project Cost Accountant the budgeted breakdown of hours for each discipline.

3.3 ENGINEERING

3.3.1 CTR

The CTR for engineering consists of a detailed list of activities for each discipline broken further down with deliverables and total hours. Once the agreed and authorised CTR has been completed, work with Engineering/Construction Manager to combine this with the MDR.

Example:

Geotechnical Group

G011 Scopes of Work		HR
G131	Trenching SoW	60
G132	Rockdumping SoW	60
G012 Support to Subcontractors		
G170	Trenching Services	110
G175	Rockdumping Services	50

3.3.2 MDR

Obtain the MDR from the Project Document Controller. Review with Engineering/Construction Manager and group documents into packages for entry into plan.

Give weightings based on hours from Engineering CTR as per weighting instructions as above.

All hours not assigned to a deliverable will be support activities.

3.4 PROCUREMENT

Procurement Status Report to be obtained from Package Manager, if however no Package Manager is appointed then the Project Manager, Technical Manager and Planner will sit together, review the offshore schedule and generate a procurement plan from the Key Offshore Dates. As a rule of thumb, if any procurement items have no float, a month's total float should be built into schedule between early and late dates unless the Client specifically requires different.

3.5 FABRICATION

At baseline set up stage, a high level of fabrication activities with lead times and required dates can be obtained from Project Manager/Fabrication Manager. (This may also be reference in the offshore schedule.) After project inception and subcontractors have been awarded, more accurate fabrication plans will be submitted from the subcontractor. The dates can be updated from these plans at a high summary level unless the Client specifically requires different.

3.6 OFFSHORE

The offshore schedule will be generated from the Tender or Scope of Work from Invitation to Tender (ITT) and complied by the Planner. Once contract is awarded a review of the schedule with Project Manager, Technical Manager and Engineers should be lead by planner to supply a revised offshore schedule. The initial schedule is usually complied in Microsoft Project with a high level summary being incorporated into the P6 CMS. Depending on which vessel is being used, interface with the VST department may be required.

A weather analysis should also be run before each offshore phase. This will be covered in more detail in the Progress & Monitoring Guideline.

4. COST WEIGHTING

4.1 INTRODUCTION

As per the Standard Work Breakdown Structure (WBS) discussed above, there are seven main areas within the Contract Master Schedule that need to be cost-weighted, as follows;

- Project Management
- Engineering
- Procurement & Subcontracts
- Fabrication
- Offshore Operations (Main Construction Vessels)
- Third Party Hire Vessels
- Platform / Topside Operations

The other main area within the WBS – Milestones & Key Dates – does not require any activities to be cost-weighted. This is because the information in this section is generally used to drive the logic network within the schedule and establish the critical path(s), for example using Liquidated Damages from the Contract.

4.2 THE COST MODEL

One of the key aspects of this process is the source of the cost data that we will use to weight the schedule. All of this information will be contained within the project **Cost Model** which is owned by the Project Cost Controller / Accountant. This is usually an Excel based tool which provides a break-down of all the project costs and revenues. It is important to obtain a copy of this as soon as possible.

As a general rule, the As-Sold Cost Model should be used for the initial Baseline creation. Basically, this just means the selling cost on which our final bid submission is based and has formed the basis of the Contract Award. However, this may vary depending on the specific project (i.e. for Frame Agreements / Partnership Contracts), or if there are any major scope changes during the final stages of Contract formalisation. In this instance, you should agree with Project Manager which revision of the cost figures will be used.

The following sections will describe how cost-weightings should be applied within each area of the WBS and the relevant sources of data / information required from the project team.

4.3 PROJECT MANAGEMENT

In addition to the Cost Model information, the **PM & Eng budget / CTR breakdown** is also required to allow us to cost weight the Project Management section of the schedule. This is usually owned by the Project Manager and should be fully developed during the tender stage of the project with input from the relevant PM & Eng disciplines. See Appendix I for a typical example of a PM budget summary.

The PM cost weighting can be applied as follows:

$$\frac{\text{Total Budgeted PM Cost}}{\text{Total Budgeted PM Hours}} = \underline{\underline{\text{Cost Rate per Hour for PM}}}$$

This can either be applied to each PM discipline within the schedule or to an overall general Project Management activity. This will generally be shown as a level of effort

activity from Contract Award to Project Close Out and will be progressed as on schedule throughout the project. However, in addition there may be some key PM deliverables that you want to show in the schedule and apply weighting, as follows;

- General PM documents, e.g. Project Execution Plan (PEP).
- Health, Safety & Environment documents, e.g. Project HSE Plan, HIRA Reports.
- Quality documents, e.g. Project Quality Plan, Supplier Alignment Plan.

If required, these key deliverables can be weighted by extracting the budgeted quantity of man hours from the total PM Budget, based on estimate from the document owner. Therefore, the overall budgeted Hours and Cost Rate per Hour will remain the same.

4.4 ENGINEERING

In order to allocate the Engineering Costs effectively, the same sources of information are required as detailed in previous section, i.e. the Cost Model and PM & Eng budget / CTR breakdown.

As with Project Management; the Engineering cost weighting can be applied as follows:

$$\frac{\text{Total Budgeted Eng Cost}}{\text{Total Budgeted Eng Hours}} = \text{Cost Rate per Hour for Eng}$$

The costs should then be allocated within the CMS against Engineering deliverables and any discipline support (i.e. level of effort) activities, as required. This split will need to be agreed with the Project Engineering Manager and Construction Manager prior to establishing the baseline, in order that all parties are in agreement with what proportion of the Engineering weighting is allocated to deliverables and how much allocated to support activities.

It is important to note that this process will be affected by how Pro Arc Work Packages are to be set up and what format the discipline CTR information will available in.

4.5 PROCUREMENT & SUBCONTRACTS

The Procurement & Subcontracts budget can be extracted directly from the Cost Model – Appendix II provides a typical example. The overall project Procurement & Subcontracts to be purchased during the project life-cycle is broken down in more detail within the Procurement Plan and the Procurement Status Report (PSR). These documents are owned and managed by the project Supply Chain Co-ordinator and Package Manager, respectively.

The Cost data required for weighting purposes will be extracted from the Cost Model, but these documents will also help to break down the weighting if necessary, for example if you have more than one item within a specific Procurement package such as Valves or Flanges.

The standard cost weighting breakdown for each Procurement items is as follows;

Activity Description	% Weighting	
	Activity	Cumulative
Issue RFQ	5%	5%
Place PO / Award Contract	10%	15%
Lead Time / Manufacturing	80%	95%
Delivery to site	5%	100%

Table 2.0: Standard Procurement Cost Weighting

The level of detail required in the CMS may differ between projects and is ultimately at the discretion of the Project Manager. Therefore, these weightings can be amended / summarised as appropriate.

In certain projects there may be a separate weighting break-down for Procurement & Subcontracts which is specified by the client. This is normally contained within the Value Of Work Done (VOWD) or Cost Progress Report, which will usually form part of the Project Reporting requirements within the Contract. This is not to be confused with the activity weightings as specified in Table 2.0. It is important to understand this aspect of the reporting requirements when weighting the schedule, as it will usually lead to discrepancies between the cost and planning reporting figures during the project. This can be explained by how the weightings are applied within the schedule and cost / accounting report.

4.6 FABRICATION

The Fabrication costs can also be extracted directly from the Cost Model. The Fabrication cost weighting is virtually the same as the Procurement & Fabrication weighting break-down. The only point that may differ is the 'Lead Time / Manufacturing' weighting (as per Table 2.0). Within Fabrication, this will normally require to be split over more detailed activities, depending on the specific schedule and level of detail required within the CMS. Other activities may include:

- Procurement & Procedures (i.e. by the Fabricator)
- Structural Fabrication
- Coating
- Pipe-work Fabrication
- Pipe-work, Valve & Flange Installation
- Testing (FAT and SIT, as required)
- Non-Metrology / Pre-Metrology Fabrication
- Post-Metrology Fabrication

The break-down of these weightings should be agreed with the project Fabrication engineer.

The level of detail required in the CMS may differ between projects and is ultimately at the discretion of the Project Manager. Therefore, these weightings can be amended / summarised as appropriate.

4.7 OFFSHORE OPERATIONS

4.7.1 Main Construction Vessels

The costs for each Offshore Operation will be broken down by each vessel within the Cost Model. The overall vessel cost should be broken down and allocated to each vessel activity based on task duration. A separate resource should be set up for each specific vessel.

This can be achieved as follows:

$$\text{Total Budgeted Vessel Cost / Total Planned Duration of Vessel Campaign} = \text{Cost Rate per Hour for Vessel}$$

Appendix V provides an example of how the overall cost is allocated to each vessel activity.

4.7.2 Third Party Vessel Hire

The cost break-down and allocation for Third Party Hire Vessels should be performed in exactly the same way as for Main Construction Vessels, as detailed in section 4.7.1. The only difference is that some of the cost may need to be re-allocated within the Procurement & Subcontracts section of the WBS for placement of the PO / Contract.

Third Party Hire Vessels may include, but is not limited to, the following:

- Barges
- Tugs
- Guard Vessels
- Heavy Lift Vessels
- Rock Dumping Vessel

4.7.3 Platform / Topside Operations

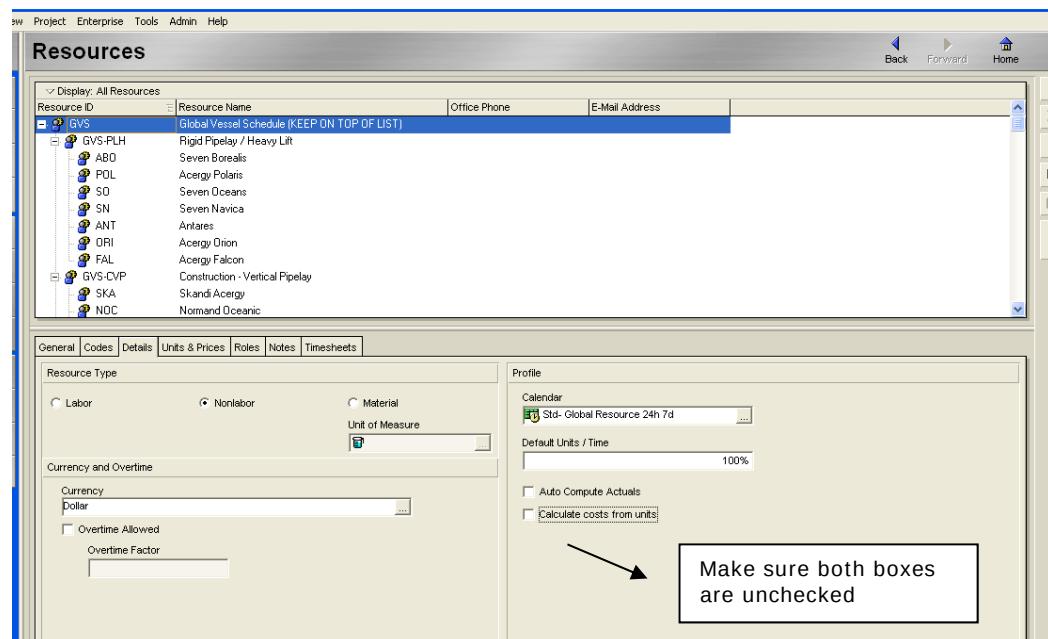
The cost break-down and allocation for Platform / Topside Operations should be performed in exactly the same way as for Main Construction Vessels, as detailed in section 4.7.1.

Platform / Topside Operations may include, but is not limited to, the following:

- Pre-commissioning (e.g. Leak Testing, De-watering...)
- Pull-in Operations (e.g. Umbilical, Flexible Riser...)
- Control System Testing
- Riser & Clamps Installation
- FPSO Mooring Hook Up

4.8 ASSIGNING RESOURCES & COST TO ACTIVITY

Once all weightings have been agreed apply a resource from the Enterprise list in P6. Ensure that the Auto Compute Actuals and the Calculate cost from Units are both unchecked.



Using weightings as previously discussed and assign the budgeted cost on the resource tab for each activity.

The screenshot displays the Primavera P6 software interface. The top menu bar includes File, Edit, View, Project, Enterprise, Tools, Admin, and Help. The main window shows the Activity List table with columns for Activity Name, Earned Value Cost, Activity ID, Remain. Dur, Start, and Finish. The table lists various activities under the Engineering category, including Project Management & Admin Docs, Design Engineering, and Installation Engineering. The Resource tab is selected, showing details for Activity 3700 (Mechanical Piping Design). The Resource tab includes a table with columns for Resource ID Name, Budgeted Units / Time, Budgeted Units, Budgeted Cost, Remaining Cost, At Completion Cost, Rate Type, and Price / Unit. The resource 'UK_PEME-Mechanical Engineer' is listed with a budgeted cost of £34,670.34.

Activity Name	Earned Value Cost	Activity ID	Remain. Dur	Start	Finish
Project Management	£403,892.73		290.50	21-Dec-11 A	11-1
Engineering	£644,198.60		277.50	21-Dec-11 A	26-5
Project Management & Admin Docs	£2,556.94		157.60	30-Mar-12 A	29-0
Risk & Reliability Report	£2,556.94	2300	111.60	30-Mar-12 A	29-0
Design Engineering	£147,420.01		91.20	21-Dec-11 A	24-7
Flow Assurance Report	£14,880.51	2500	52.50	21-Dec-11 A	07-7
Geotechnical / Trenching Packages	£22,189.02	3300	9.80	21-Dec-11 A	07-7
Mechanical Piping Design	£15,358.96	3700	65.20	21-Dec-11 A	24-7
Pre-Commissioning Packages	£5,304.56	3800	18.50	21-Dec-11 A	20-7
Welding & Material Specifications	£47,481.03	3600	3.74	03-Jan-12 A	30-1
Pipeline Design	£42,205.94	3000	54.78	03-Jan-12 A	09-7
Controls Procedures	£0.00	2700	26.00	25-May-12	30-7
Installation Engineering	£290,400.57		173.40	21-Dec-11 A	14-1
Installation Engineering - DSV Phase 1 Docs	£89,456.40	3420	23.52	21-Dec-11 A	27-7
Installation Engineering - General	£15,168.27	3400	0.00	21-Dec-11 A	16-1
Installation Engineering - Fly By Inspection & Metrology Docs	£8,667.58	3410	0.00	03-Jan-12 A	09-1
Installation Engineering - Lay Operations Docs	£74,724.11	3470	56.00	03-Jan-12 A	11-7
Installation Engineering - DSV Phase 2 Docs	£11,602.43	3430	54.54	03-Jan-12 A	09-7
Installation Engineering - Platform Preparation Docs	£30,717.92	3450	17.00	20-Jan-12 A	19-7

Resource ID Name	Budgeted Units / Time	Budgeted Units	Budgeted Cost	Remaining Cost	At Completion Cost	Rate Type	Price / Unit
UK_PEME-Mechanical Engineer	342%	400.00	£34,670.34	£22,397.04	£22,397.04	Price / Unit	£0.50/h

5. LOGIC LINKING

The most important aspect in the schedule is for the Planner to make sure that they have a solid and accurate logically linked network. There are many examples of how not to build projects logic but very few examples that explain and demonstrate an accurate way to build an accurate CMS.

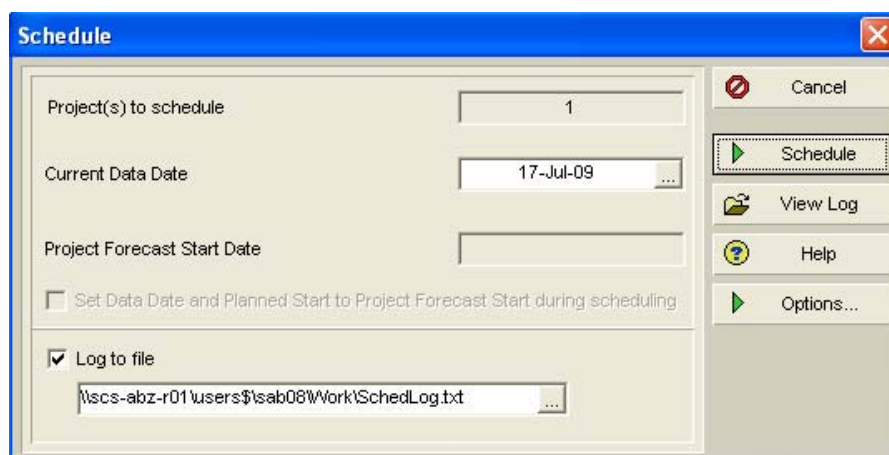
Check list for logic linking:

1. All tasks must have a predecessor & successor, except Contract award & Project Completion as these tasks will be the first and last task.
2. Constraint dates should only be used if they make up part of the contractual obligations i.e. LD dates, offshore window or free issue items.
3. There should be no negative float within the schedule, this is the first sign of an error within the project, especially at project set-up, and negative float will only be visible if the current CMS is critical.
4. Negative lag should be avoided unless there is no other method as this will cause issues when the schedule is run through Pertmaster for Risk Analysis purposes.
5. Total percentage of instances of lag
6. Number of open-ended activities
7. Hammock activities

5.1 LOGIC CHECK PRIOR TO COST WEIGHTING

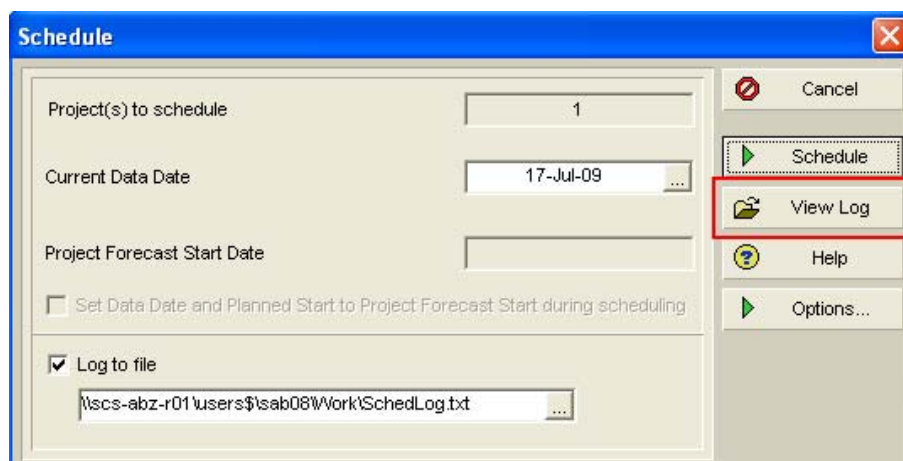
P6 has the ability to search through and bring to the Planners attention any errors or warnings that may have been found while it has run its analysis. This simple program will bring up any anomalies such as critical paths, negative float and open ended tasks that are found in the schedule.

This analysis is run every time the Planner schedules their scope, by pressing the F9 button the Planner will bring up the following menu.



Schedule Log Report Stage 1

The schedule must have the information run before you can view the log report so after you select schedule from the above option you have to press F9 again to reopen the menu and then select view Log



Schedule Log Report Stage 2

Once the log report has been selected you will receive the following report which highlights all information concerning your project, highlighting any issues you may wish to check.

```
SchedLog.txt - Notepad
File Edit Format View Help
Statistics:
-----
# Projects.....1
# Activities.....613
# Not Started.....350
# In Progress.....107
# Completed.....156
# Relationships.....1051
# Activities with Constraint.....16
Project: EDP-RB2 Activity: IMK.AA.1010 Contract Award
Project: EDP-RB2 Activity: IMK.AA.1110 Start of Constr. window for Offshore Inst., Tie-Ins and Pre-Comm.
Project: EDP-RB2 Activity: IMK.AA.1120 End of Constr. window for Offshore Inst., Tie-Ins and Pre-Comm.
Project: EDP-RB2 Activity: IMK.AA.1310 Issuance by company of the last provisional Acceptance Criteria
Project: EDP-RB2 Activity: IMK.AA.1320 Project Completion Date
Project: EDP-RB2 Activity: IMK.AA.1330 Offshore readiness - Pipelay Installation Procedures and Manuals
Project: EDP-RB2 Activity: IMK.AA.1340 Offshore readiness -subsea Construction Procedures and Manuals
Project: EDP-RB2 Activity: IMK.AA.1410 PFC delivery & On-site Date
Project: EDP-RB2 Activity: IMK.AB.1000 Mobilisation of Acergy Falcon in Halifax
Project: EDP-RB2 Activity: IMK.AB.1100 Mobilisation of DSV in Northsea
Project: EDP-RB2 Activity: IMK.AB.1200 Mobilisation of Acergy Trenching vessel in Teeside
Project: EDP-RB2 Activity: IMK.AB.1210 Mobilisation of Acergy Trenching vessel in Halifax
Project: EDP-RB2 Activity: IMK.AB.1220 Complete Installation of TLQ's onboard Falcon & Modifications to Tanks
Project: EDP-RB2 Activity: 4PR.AB.2035 Mob. of personnel,equipment and consumables
Project: EDP-RB2 Activity: 6OP.AA.1010 Transit to Halifax (2629 nm) @ 12 knts)
Project: EDP-RB2 Activity: 6OP.AA.1110 Mobilise Vessel @ Halifax (incl. loading out pipe)

Errors:
-----
Warnings:
-----
Activities without predecessors.....1
Project: EDP-RB2 Activity: IMK.AA.1010 Contract Award
Activities without successors.....1
Project: EDP-RB2 Activity: IMK.AA.1320 Project Completion Date
Out-of-sequence activities.....0
Activities with Actual Dates > Data Date.....0
Milestone Activities with invalid relationships.....0

Scheduling/Leveling Results:
-----
# Projects Scheduled/Leveled.....1
# Activities Scheduled/Leveled.....457
# Relationships with other projects.....0
Data Date.....17-Jul-09
Earliest Early Start Date.....17-Jul-09
Latest Early Finish Date.....31-Dec-10

Exceptions:
```

Schedule Log Report Stage 3

The above Example shows what the Planner should be looking for

1. All activities that have constraints are contractual obligations / milestones
2. Only one task without a predecessor "Contract Award"
3. Only one task without a successor "Project Completion"
4. No out of sequence activities i.e. Activities that have been given an actual before the preceding task is finished
5. No Start to Finish should be used when Early and Late Dates are required

These are just some of the items the schedule log will run through further down it will bring up a list of all tasks that are deemed critical by the Planners outlined Total float i.e. between 0 or a specific range i.e. 2wks etc.

5.2 STRESS TESTING PRIOR TO BASELINING

In addition to the in-built P6 tool, all schedules should be run through the Primavera Risk Analyser Schedule Checker function. This needs to be carried out by the Planning Manager or a Senior Planner.

The table below shows the checks which will be run, and a suggested standard acceptable levels of instance. Deviation from this standard is allowable, provided the Planning Manager is satisfied with the explanation as to the project schedule's need to breach the team norm.

Check	Allowable No. Of Instances
Constraints	0 (out with client supplied milestones)
Open-ended activities	0
Broken logic (out of sequence activities)	0
Lags	<5% of total activities
Leads (negative lag)	0
Start / Finish links	0
Links on summary tasks	0
Links across calendars	Unlimited, but must be noted as part of the baseline

6. ASSIGN BASELINE IN P6

Once plan is complete and reviewed with PM/Client we can now assign a Baseline in Enterprise, Assign Baseline as current project in P6.

7. REPORTING

Reporting requirement will be done as contractually agreed, however as a minimum we can expect s-curves, EVA, and what-if analysis. These will be covered in detail in a separate document.

APPENDIX I.

PM BUDGET

	COMPANY POSITION	Project Role	TOTAL (Mhrs)	RATE GBP	COST GBP	2012												
						D	J	F	M	A	M	J	J	A	S	O	N	D
	PROJECT MANAGEMENT		46,843		2,751,414	107	1171	1395	1317	1210	1210	1210	1050	1050	1050	1086	1050	1050
1	Project Manager - Construction/IRM	Project Manager	3,302	97	320,543	36	107	107	107	107	142	142	71	71	71	71	71	71
2	Project Manager - Construction/IRM G2	Deputy Project Manager	6,213	82	510,419	36	71	142	142	142	142	142	142	142	142	142	142	142
3	Contracts Administrator	Project Commercial Manager	3,392	40	137,016	36	142	142	142	142	107	142	71	71	71	71	71	71
4	Senior Project Accountant	Cost Controller	3,105	65	202,466		71	71	71	71	71	71	71	71	71	71	71	71
5	Buyer	SCM Co-ordinator	4,074	66	270,866		71	142	142	142	142	107	107	107	107	107	71	71
6	Administration	Project Co-ordinator	5,964	32	188,522		142	142	142	142	142	142	142	142	142	142	142	142
7	Document Controller	Document Controller	6,248	37	231,613		142	142	142	142	142	142	142	142	142	142	142	142
8	Senior Planner	Project Planner	3,036	71	216,862		107	107	71	71	71	71	71	71	71	71	71	71
9	QA Advisor	Quality Assurance Advisor	987	57	56,174		36	71	71	17	17	17	17	17	17	17	17	17
10	Senior QA Advisor	Quality Control Advisor	1,020	71	71,920		36	71	71	17	17	17				36	36	36
11	Senior Safety Advisor	HSE Advisor	3,035	77	232,812		107	106	71	71	71	71	71	71	71	71	71	71
12	Senior Engineer (Grade 2)	Risk Engineer	220	57	12,547			11	5	5	5	5	5	5	5	5	5	5
13	Contracts Administrator Specialist	Contract Specialist	6,248	48	299,654		142	142	142	142	142	142	142	142	142	142	142	142

APPENDIX II.

PROCUREMENT BUDGET

Resource	Summary Code	Object Code	GBP Total
PROC. #1 : Umbilical Cable - OMUK	46000	46290	1,090,079
PROC. #2 : FO Cable - Nexen	46000	46290	848,408
PROC. #3 : Wye's - Allied (Single Source)	46000	46290	602,922
PROC. #4 : Spacers - JGC	46000	46290	211,404
PROC. #5 : Anodes - Carrier - Impalloy	46000	46290	246,897
PROC. #6 : Anodes - Pipeline -Metec	46000	46290	3,638
PROC. #7 : Anodes - Structures -Metec	46000	46290	33,492
PROC. #8 : PLR's 2013 (Moffat)	46000	46290	427,086
PROC. #9 : Linepipe - Carrier (Tata GFE)	46000	46290	1,540,328
PROC. #10 : Line Pipe - 2013 - Spools & Bends - LFF Scotland	46000	46290	471,040
PROC. #11 : Linepipe Coating - Bradero Shaw	46000	46290	285,308
PROC. #12 : Bundle Flood & Vent Valves - Moffat	46000	46290	28,167
PROC. #12 : Bundle Flood & Vent Valves - Moffat	46000	46290	1,894
PROC. #13 : Fibre Optic Connectors	46000	46290	30,000
PROC. #13 : Fibre Optic Connectors	46000	46290	1,578
PROC. #14 : Bulkheads - Linvic	46000	46290	40,500
PROC. #16 : Fittings 2013 - IODS	46000	46290	54,112
PROC. #17 : Pulled Bends - 2013 - FTV Proclad	46000	46290	464,888
PROC. #18 : Stud Bolts - 2013 - Beck Prosper	46000	46290	15,097
PROC. #19 : Concrete Mattresses - 2013 - (Pipeshield)	46000	46290	63,125
PROC. #20 : Corrosion Inhibitor Sticks	46000	46290	33,981
Total			6,493,945

APPENDIX III.

STANDARD PROCUREMENT COST BREAKDOWN

Activity ID	Activity Name	Weight (%)	Cost (GBP)
Carrier Linepipe - Coated (Bundle) – Proc #9			1,540,328.00
SU50P4B010	Engineer SOW required by		
SU50P4B020	Issue RFQ	5%	77,016.40
SU50P4B030	Receive Bids & Perform Internal Evaluation		
SU50P4B040	Client Approval		
SU50P4B050	Place PO	10%	154,032.80
SU50P4B060	Lead Time - Carrier Pipe, Coated (26wks)	80%	1,232,262.40
SU50P4B070	Delivery to Site (Wester site, Wick)	5%	77,016.40

APPENDIX IV.

STANDARD FABRICATION COST BREAKDOWN

Activity ID	Activity Name	Weight (%)	Cost (GBP)
SSIV/WYE Structure			2,271,561.50
SU30F5A010	Engineer SOW required by		
SU30F5A020	Issue RFQ		
SU30F5A030	Receive Bids & Perform Internal Evaluation		
SU30F5A040	Client Approval		
SU30F5A050	Place PO	15.0%	340,734.23
Fabrication & Testing			
SU32F5A190	Submit Manuf. Docs & Run Structural Weld Procedures (incl. COMPANY review)	5.0%	113,578.08
SU32F5A200	Structural Fabrication	30.0%	681,468.45
SU32F5A205	Structure Coating	5.0%	113,578.08
SU32F5A210	Install Pipework, Valves, Flanges & Controls	20.0%	454,312.30
SU32F5A220	Hydrotest & Conditioning	5.0%	113,578.08
SU32F5A225	FAT	5.0%	113,578.08
SU32F5A226	Construction SIT	5.0%	113,578.08
SU32F5A227	Controls SIT (COMPANY driven)	5.0%	113,578.08
SU32F5A230	Ready For Load Out (Skandi Acergy mob port)	5.0%	113,578.08

APPENDIX V.

STANDARD VESSEL OPERATIONS COST BREAKDOWN

<u>Activity ID</u>	<u>Activity Name</u>	<u>Duration (Hrs)</u>	<u>Weight (%)</u>	<u>Cost (GBP)</u>	<u>Vessel Rate / Hr</u>
2013 Installation Activities					
SKANDI ACERGY (SSIV/WYE Structure & Metrology)		173.0		1,728,732.54	£9,992.67
Mobilisation					
SU60V6A010	Load Out SSIV/WYE structure	36.0	21%	359,736.25	
SU60V6A020	Transit to site & DP Trials	23.0	13%	229,831.49	
Operations					
SU60V6A030	SSIV/WYE Structure Installation	47.0	27%	469,655.66	
SU60V6A040	22" Spool Metrology	13.0	8%	129,904.76	
SU60V6A050	Smart Plug Positioning set-up	12.0	7%	119,912.08	
Demobilisation					
SU60V6A060	Transit to port	18.0	10%	179,868.13	
SU60V6A070	Demobilise vessel	24.0	14%	239,824.17	

APPENDIX VI.

LOGIC DIAGRAM

