Welcome to the Eastwood Harris Pty Ltd Primavera P6 Versions 8.1 to 15.1 Professional and Optional Client 3 day training course

PMI REP No 3001 – Course Number PP6

Administration
- Evacuation
- Facilities, timings and meals
- Mobile phones & Emails
- Introductions:
  - Your name,
  - The types of projects you are involved in,
  - Your experience in scheduling software and
  - What you seek from this course
  - What version of P6 does your company use
- Course attendance sheet,
- Course conduct.

Course Objectives
This course objectives are teach participants:
- Introduction to the user interface and how to plan projects without resources,
- Filters, layouts and printing,
- Baselines, and updating an un-resourced project,
- Creating and assigning roles and resources,
- Controlling projects with resources and costs,
- Setting up and administering a database plus advanced features including import/export,
- Activity Codes, Custom Data Fields and Global Change.
Successful completion of all the course workshops will confirm that the objectives have been met.

Course Conduct
The course consists of:
- The instructor demonstrating the software using a combination of:
  - A PowerPoint slide show and
  - Live software demonstrations,
- Most chapters are then reinforced with student workshops working through a scenario of creating a small project planning the submission of a bid,
- The book is for you to keep,
- Ask any questions as the course progresses.

Course Agenda
Day 1 Modules
1 - Introduction
2 - Creating a Project Plan
3 - Starting Up and Navigation
4 - Creating a New Project
5 - Defining Calendars
6 - Creating a Primavera Project WBS
7 - Adding Activities and Organizing Under the WBS
8 - Formatting the Display
9 - Adding Relationships
10 - Activity Network View
11 - Constraints.
Course Agenda
Day 2 Modules
12 - Group, Sort and Layouts
13 - Filters
14 - Printing and Reports
15 - Scheduling Options and Setting a Baseline
16 - Updating an Unresourced Schedule
17 - User and Administration Preferences
18 - Creating Roles and Resources
19 - Assigning Roles, Resources and Expenses.

Course Agenda
Day 3 Modules
20 - Resource Optimization
21 - Updating a Resourced Schedule
22 - Other Methods of Organizing Project Data
23 - Global Change
24 - Managing the Enterprise Environment
25 - Multiple Project Scheduling
26 - Utilities
27 - Earned Value.

1 - INTRODUCTION

1.1 - Purpose of the Course
1.2 - Required Background Knowledge
1.3 - Purpose of Planning
1.4 - Project Planning Metrics
1.5 - Planning Cycle
1.6 - Levels of Planning
1.7 - Monitoring and Controlling a Project.

1.1 – Purpose of the course
• Provide a method for planning, scheduling and controlling projects using Primavera,
• Within an established Enterprise Project database or a blank database,
• Up to an intermediate level.

1.2 - Required Background Knowledge
• The ability to use a personal computer and understand the fundamentals of the operating system,
• Experience using application software such as Microsoft Office and
• An understanding of how projects are planned, scheduled and controlled, including understanding the project management processes applicable to your projects.

1.3 – Purpose of Planning
• The ultimate purpose of planning is to build a model that allows you to predict which activities and resources are critical to the timely completion of the project,
• Strategies may then be implemented to ensure that these activities and resources are managed properly, thus ensuring that the project will be delivered both On Time and Within Budget.
3 - STARTING UP AND NAVIGATION - SUMMARY

3.1 - Logging In
3.2 - The Projects Window
3.3 - Opening One or More Projects
3.4 - Displaying the Activities Window
3.5 - Opening a Portfolio
3.6 - Top and Bottom Panes of Windows
3.7 - User Interface Update
3.8 - User Preferences
3.9 - Starting Day of the Week
3.10 - Admin Preferences – Set Industry Type

3.11 - Application of Options within Forms
3.12 - Do Not Ask Me About This Again
3.13 - Right-clicking with the Mouse
3.14 - Accessing Help
3.15 - Refresh Data – F5 Key
3.16 - Commit Changes – F10 Key
3.17 - Send Project
3.18 - Closing Down.

3.19 - Workshop 1 - Navigating Around the Windows

To become familiar with Primavera you will need open your database and navigate around the windows,
Note: Your windows may look different from the ones used in this course which uses a demonstration database provided by Oracle Primavera.

4 - CREATING A NEW PROJECT

4.1 - Creating a Blank Project
Select File, New to run the Create New Project Wizard,
Information Required:
- EPS Node
- A unique Project ID
- Project Name
- Planned Start date
  (Optional Must Finish By date)
- Responsible Manager (OBS)
- Resource Rate Type.

4.2 - Copy an Existing Project
Select project or projects to be copied,
Select Edit, Copy or Ctrl C,
Select EPS Node to be copied to,
Edit, Paste or Ctrl V
Select options as required:
7.9 - Activity Information – Bottom Layout Tabs
- General
- Status
- Summary
- Resources
- Expenses
- Notebook
- Steps
- Feedback
- WP’s & Docs
- Codes
- Relationships
- Predecessors
- Successors
- Discussion, new to 8.3.

7.10 - Assigning Calendars to Activities
- Activities often require a different calendar from the default Project Calendar assigned in the Project Information form,
- An Activity Calendar may be assigned:
  - In the General tab of the Bottom Layout, or
  - By displaying the Calendar column:

7.11 - Assigning Activities to a WBS Node
- A new activity will inherit the WBS Node that is highlighted when an activity is created,
- A new activity will inherit the WBS Node of a selected existing activity when the project is organized by the WBS and a new activity is created,
- To change the Activity WBS Node:
  - Select the activity and click the WBS box in the General tab in the lower window, this will open the Select WBS form where you may assign the WBS Node,
  - Drag & drop activities from one WBS Node to another WBS Node,
  - Insert WBS into activity columns.

7.12 - Reordering or Sorting Activities
- The sort order of activities within a band is set by an order from one or more columns,
- You may not drag activities up or down the schedule in the same way as other products.
- To sort Activities:
  - Highlighting a column title and clicking with the mouse, or
  - Select View, Group and Sort By:
    - Click the Sort icon,
  - This will be covered in detail in Module 8,
- NOTE: Ensure the layout is saved immediately as the sort is destroyed as soon as another column header is clicked.

7.13 - Undo
- Primavera Version 5.0 introduced a multiple Undo function that operates on Resources, Resource Assignments, and Activities windows, but no Redo function,
- There are many functions that will erase the Undo memory such as scheduling, summarizing, importing, opening a project, opening Code forms, opening User and Admin Preferences and closing the application,
- This will only undo schedule calculations not formatting.

7.14 - Summarizing Activities Using the WBS
- Double-click any WBS band description,
- Select View, Expand All or View, Collapse All from the menu,
- Right-click and select Expand All or Collapse All from the menu,
- Click on the + or - button to the left of the WBS Node description to expand or collapse the WBS Node.
Activity Constraint Types
Constraints are used to impose logic on activities that MAY not be realistically scheduled with logic links.
This module will deal with the following constraints in detail:
- **Start On or After** more commonly called an Early Start constraint and affects the activities Early Start date,
- **Finish On or Before** more commonly called an Late Finish constraint and affects the activities Late Finish date,

These are the minimum number of constraints that are required to effectively schedule a project,
There are many other types that may be used:

Activity Constraint Types continued
Other Constraint Types:
- **Start On** initially sets the Early and Late Start dates and prevents float from travelling through the constraint,
- **Start On or Before** more commonly called an Late Start constraint and affects the activities Late Start date,
- **Finish On** initially sets the Early and Late Finish dates and prevents float from travelling through the constraint,
- **Finish On or After** more commonly called an Early Finish constraint and affects the activities Early Finish date calculation,

11.1 - Assigning Constraints
When setting constraints often the constraint time will not be set at the activity calendar start or finish time but set at 00:00 or some other irrelevant time,
Therefore when setting constraints you should always display the time by selecting Edit, User Preferences..., Dates tab to ensure the constraint time is compatible with the activity calendar,
Two constraints are permitted against each activity, plus an Expected Finish Date,
Constraints may be set by:
- Using the Activity Details form, or
- Displaying the appropriate Columns, or
- Typing in a Start Date, or
- Dragging an activity.

11.2 - Project Must Finish By Date
An absolute finish date may be imposed on the project using the Project Window, Dates tab:

11.3 - Activity Notebook
It is often important to note why constraints have been assigned to activities, or record other relevant information about an activity,
The Primavera Notebook function enables you to record information associated with an activity, including the reasons for setting a constraint,
**Notebook Topics** are created first by:
- In the Professional Client Version, selecting Admin, Admin Categories... and
- In the Admin area of the Web tool for Optional Client users,
Then Notes are created in the Activity Details form using the Notebook tab, which enables Notes to be assigned to Notebook Topics and this function has some word processing-type formatting functions.
15.4 - Workshop 13 – WBS, LOEs and Setting the Baseline

- We will first look at how WBS and LOE activities work and
- Then create and assign a Baseline.

16 - UPDATING AN UNRESOURCED SCHEDULE

16.1 - Practical Methods of Recording Progress

- The following information is typically recorded for each activity when updating a project:
  - The activity start date and time if required,
  - The number of days or hours required to complete the activity or the date and time the activity is expected to finish,
  - The percentage complete, and
  - If complete, the activity finish date and time.

16.2 - Understanding the Concepts

There are three stages of an activity lifecycle:

- Not Started – The Early Start and Early Finish dates are calculated from the Predecessors, Constraints, and Activity Duration,
- In-Progress – The activity has an Actual Start date but is not complete:
  - The activity is assigned an Actual Start date, entered in the past in relationship to the Data Date, which will override the Start Constraints and Start Relationships that were originally used to calculate the Early Start,
  - The Finish Date will be calculated from the Data Date or Resume Date and the Remaining Duration, or an Expected Finish Constraint, or a Finish Relationship,
- Complete – The activity is in the past, the Actual Start and Actual Finish dates are manually entered and the percentage logic and constraints.

Understanding % Complete Types

- The Default % Complete Type is assigned in the Project Window, Details form, Defaults tab,
- Activity % Complete, displayed on the % Complete Bar, may be linked to only one of the three % Complete from the following three fields:
  - Physical % Complete
  - Duration % Complete
  - Units % Complete

- The Activity % Complete is also linked to the % Complete Bar and shown on the % Complete Bar.
20.11 - Resource Curves
• Resource Curves enable a non-linear assignment of resources to schedules,
• Resource curves are assigned in the Curve column in the Resources tab of the Activities Window.

20 - RESOURCE OPTIMIZATION - SUMMARY
20.1 - Reviewing Resource Loading
20.2 - Resource Assignments Window
20.3 - Copying and Pasting into Excel
20.4 - Other Tools for Histograms and Tables
20.5 - Methods of Resolving Resource Peaks & Conflicts
20.6 - Resource Leveling
20.7 - Leveling Examples – Not covered
20.8 - Resource Shifts – Not covered
20.9 - Guidelines for Leveling
20.10 - What to Look for if Resources Are Not Leveling
20.11 - Resource Curves.

20.12 - Workshop 17 - Resources Optimization
• We will review the resource loading of the schedule.

21 - UPDATING A RESOURCED SCHEDULE
21.1 - Understanding Budget Values and Baseline Projects
21.2 - Understanding the Current Data Date
21.3 - Information Required to Update a Resourced Schedule
21.4 - Project Window Defaults for Updating a Resourced Schedule
21.5 - Activity Window - Percent Complete Types
21.6 - Using Steps to Calculate Activity Percent Complete
21.7 - Updating the Schedule
21.8 - Updating Resources
21.9 - Updating Expenses
21.10 - Workshop 18 - Updating a Resourced Schedule.

Updating a Resourced Schedule
• It is often considered best practice to update a project between 10 and 20 times in its lifecycle. Some companies update schedules to correspond with accounting periods, which are normally every month. This frequency is often too long for projects that are less than a year in duration, as too much change may happen in one month. Therefore, more frequent updating may identify problems earlier,
• Updating a project with resources employs a number of preferences and options, which are very interactive and will require a significant amount of practice by a user to understand and master them,
• It must be decided if the software will calculate the Actual costs and units from the percentage complete or if this data is to be collected and entered into the software.

Preparing to Update a Resourced Schedule
After this course and before working on a live project, inexperienced users should gain confidence with the software by:
• Creating a new project and setting the Defaults, Preferences and Options to reflect the method you wish to enter information and how you want Primavera to calculate the project data,
• Creating two or three activities and then assigning two or three resources to each activity,
• Update the Activities and Resources as if you were updating a schedule and observe the results,
• Alter the preferences and defaults if you are not receiving the result you require. Re-update and note the preferences and defaults for future reference.
24.8 - Project Durations in the Project Window

- The project durations in both the Projects Window and Activities Window are normally calculated on the Project Default calendar,
- EPS Node durations are normally calculated on the Database Calendar.

24.9 - Why Are Some Data Fields Gray and Cannot Be Edited?

- If you are unable to edit data then consider the following points:
  - You may not have access. Discuss your access rights with your administrator,
  - Some data, e.g., the project Status, needs the project open before the data may be edited,
  - The field may be calculated, such as Actual Duration, and cannot be edited.

24.10 - Summarizing Projects

- The data displayed in the Projects and Tracking Windows, such as Durations, Dates, etc., may be incorrect unless the projects have been summarized by selecting Tools, Summarize,
- The date when a project was last summarized is displayed in the Settings tab,
- The Settings tab in the Project Window specifies to what level the data is summarized and indicates when it was last summarized.

24.11 - Job Services

- A Job Services may be set up by:
  - Selecting Tools, Job Services… to open the Job Services form, or
  - Select Administer, Global Scheduled Services in the Web for Optional Client users,
- The following services may be run:
  - Apply Actuals to projects when timesheets are used,
  - Batch Reports. In the Reports Window a Batch may be created by selecting Tools, Reports, Batch Reports… to open the Batch Reports form. This creates one or more reports simultaneously, or
  - Export one or more projects on a regular basis, or
  - Schedule one or more projects on a regular basis, or
  - Summarize projects.

24.12 - Tracking Window

- The Tracking Window is used to track multiple projects down to WBS level,
- Tracking Layouts are used for the resource, cost, and schedule analysis of multiple projects,
- There are four Tracking Layout types:
  - Project Table
  - Project Bar Chart
  - Project Gantt/Profile
  - Resource Analysis.

24 - MANAGING THE ENTERPRISE ENVIRONMENT - SUMMARY

24.1 - Multiple User Data Display Issues
24.2 - Enterprise Project Structure (EPS)
24.3 - Project Portfolios
24.4 - Organizational Breakdown Structure – OBS
24.5 - Users, Security Profiles and Organizational Breakdown Structure
24.6 - Project Codes
24.7 - Filtering, Grouping and Sorting Projects in the Projects Window
24.8 - Project Durations in the Project Window

Continued...


### Planned Value

- There are no options for selecting and displaying the following data from a progressed schedule:
  - The Late Baseline values
  - Planned Material Units
  - Planned Expense Units
- Planned data in the following windows or panes display the Budgeted field values read the Current Schedule Planned dates and Current Schedule Budget values and should be used with caution:
  - Resource Usage Spreadsheet
  - Resource Usage Profile
  - Resource Assignments.

### Earned Value

- Example of the Calculation of the Earned Value:

```
<table>
<thead>
<tr>
<th>Activity</th>
<th>Budgeted Cost</th>
<th>Total Earned Value</th>
<th>Remaining Earned Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A123</td>
<td>$1200</td>
<td>$1000</td>
<td>$200</td>
</tr>
<tr>
<td>B123</td>
<td>$3000</td>
<td>$2500</td>
<td>$500</td>
</tr>
</tbody>
</table>
```

### Actual Costs

- These are the costs actually incurred in performing the work,
- Actual Costs are often calculated from the amount paid plus accruals,
- Actual Costs and Actual Units may be recorded in Primavera and displayed in two methods:
  - The total to date, or
  - Calculated from the Financial Periods values when Period values are stored.

### Estimate to Complete

- P6 has two separately calculated estimate to complete fields:
  - Estimate to Complete from Resource and Expense Units and Costs, usually titled Remaining Costs or Remaining Units and
  - Estimate to Complete from P6 Earned Value Calculations, titled Estimate to Complete (costs) or Estimate to Complete Labor Units,
  - NOTE: It is very important that users understand the differences between these two fields and know which they are using and displaying.
27.7 - Sample Graphical S-Curves

- Remaining and Late Remaining curves are drawn from the zero point, and
- Traditional EV S-Curves.

27 - EARNED VALUE MANAGEMENT WITH P6 - SUMMARY

27.1 - Performance Measurement Baseline
27.2 - Planned Value
27.3 - Earned Value
27.4 - Actual Costs
27.5 - Estimate to Complete
27.6 - Activity Usage S-Curves
27.7 - Sample Graphical S-Curves.

Review Expectations

- Any questions,
- Complete Feedback Sheet,
- Course Certificates,
- Have we met your expectations?

Database Cleanup at end of course, if required:

- Please could you delete all:
  - User Filters
  - User Layouts
  - The resources created but NOT your Resource node
  - Your projects.

Thank you for attending