Progress Control

Problems During Construction

- Construction is dusty, dirty, and complex operation
- Despite the good planning, many activities consume more time than planned
- Frequent changes are introduced to the scope of work
- Some trades proceed slower than required, thus produce delays
- Dealing with suppliers and subcontractors is not easy
Progress Control

➢ All the previously mentioned factors result in Schedule delays and cost overruns

➢ Thus, progress control is needed

Objective of Project Control

➢ Accurately follow the project plan
➢ Update the project plan based on the new circumstances
➢ Monitor actual site progress and keep track of resources
➢ Comparing actual versus planed progress
➢ Forest the cost and timing to completion
➢ Take corrective actions to bring time and cost close to plan
Progress Control

Gathering data to help in project control

- Bi-weekly or monthly meeting should take place
- Report on work done till to-date
- Problems causing delays
- Define responsibilities
- Work of next time period
- Actions needed to correct delays and cost overruns
- Good documentations help in settling claims

Progress Control

Schedule Updating

- The original plan is considered as the baseline schedule
- Baseline will be used to compare actual progress
- Frequent updating is necessary to make the schedule realistic
Progress Control

Schedule Updating

Reasons for schedule update

- Change in actual activity duration or network logic
- Procurement delays
- Sudden changes of labor availability
- Accidents
- Strikes
- Change in design

Data date (Updating date)

- The date in which data are collected form site
- Based on this date, activities will be classified as:
  - Completed activities
  - In-progress Activities
  - Future activities
Progress Control

Schedule Updating

Completed activities

Duration = Remaining Duration = 0

Percent complete = 100%

Set an actual start date

Set an actual finish date
Progress Control

Schedule Updating

In-progress activities

- Duration = Remaining duration
- Percent complete = Completed duration/actual duration
- Set an actual start date

Future activities

- Duration = Remaining duration
- Percent complete = 0%

Progress Control

Schedule Updating: Example

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration (Weeks)</th>
<th>Predecessors</th>
<th>Resource (units/week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>C</td>
<td>5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>E</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>6</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>G</td>
<td>6</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>H</td>
<td>6</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>I</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>J</td>
<td>2</td>
<td>5, 6</td>
<td>4</td>
</tr>
<tr>
<td>K</td>
<td>7</td>
<td>6, 7</td>
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<tr>
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<td>3</td>
<td>2, 8</td>
<td>2</td>
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<tr>
<td>M</td>
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</tr>
<tr>
<td>N</td>
<td>2</td>
<td>10, 11, 12, 13</td>
<td>0</td>
</tr>
</tbody>
</table>

Same as example 6.1 page 89
Progress Control

Schedule Updating: Example

Updating report at end of week 5

- Activities B, C, D, and E have been completed
- Activity F is ready to start at beginning of week 6
- Activity G will not start until end of week 7
- Remaining duration of activity H is 4 weeks
- Remaining duration of activity I is 3 weeks
- Activity J has been omitted
- It is decided to shorten activity K by 2 weeks
- Volume of work in activity L has been increased by approximately 33%
Progress Control

Schedule Updating: Example

A
C
D

B

E

F (6)
7
13

G (6)
7
13

H (4)
10
14

I (3)
13
16

J (2)
13
16

K (5)
13
18

L (4)
14
18

M (2)
16
18

N (2)
18
20

13/01/2002 Emad Elbeltagi