Lecture-9th PCM

Forecasting-

PCM

7.4 Control Cost ->T&T-> Forecasting

Forecasting

Forecast: An estimate or prediction of conditions and events in the project's future based on information and knowledge available at the time of the forecast.

The information is derived from:

- Project's past performance
- Information that could impact project in future
- Expected future performance

EAC - Estimate at completion

ETC - Estimate to complete

EAC (Estimated at Completion)

EAC is Monetary value that represents the project's final cost when the project finishes.

There are differnt methods to estimate EAC.

1. EAC forecast for ETC work performed at budgeted rate.
   EAC = AC + **(BAC – EV)**.

2. EAC forecast for ETC work performed at present CPI.
   EAC = BAC / CPI

3. EAC forecast for ETC work considering both SPI and CPI.
   EAC= AC + {(BAC-EV) / (CPI*SPI)}

PV = $40 EV =$32 AC= $ 48 BAC= $150

SPI = 32/40= 0.80 CPI= 32/48= 0.67

Assumption	Example Formula
Future cost performance will be performed at the budgeted rate	EAC = AC + (BAC−EV) Data Example: EAC = 48 + (150 − 32) = 166
Future cost performance will be the same as all past cost performance	EAC = AC + [(BAC−EV)/CPI] = BAC / CPI Data Example: EAC = 48 + [(150 − 32)/0.67] = 150/0.67 = 225
Future cost performance will be the same as the last three measurement periods (i, j, k)	EAC = AC + [(BAC − EV) / ((EV$_i$ + EV$_j$ + EV$_k$) / (AC$_i$ + AC$_j$ + AC$_k$)]
Future cost performance will be influenced additionally by past schedule performance	EAC = AC + [(BAC - EV) / (CPI x SPI)] Data Example: EAC = 48 + [(150 − 32) / (0.67 x 0.80)] = 269.3
Future cost performance will be influenced jointly in some proportion by both schedule and cost indices	EAC = AC + [(BAC - EV) / (0.8 CPI + 0.2 SPI)] Data Example: EAC = 48 + [(150 − 32) / (0.8 x 0.67) + (0.2 x 0.80)] = 218.2

01

02

03

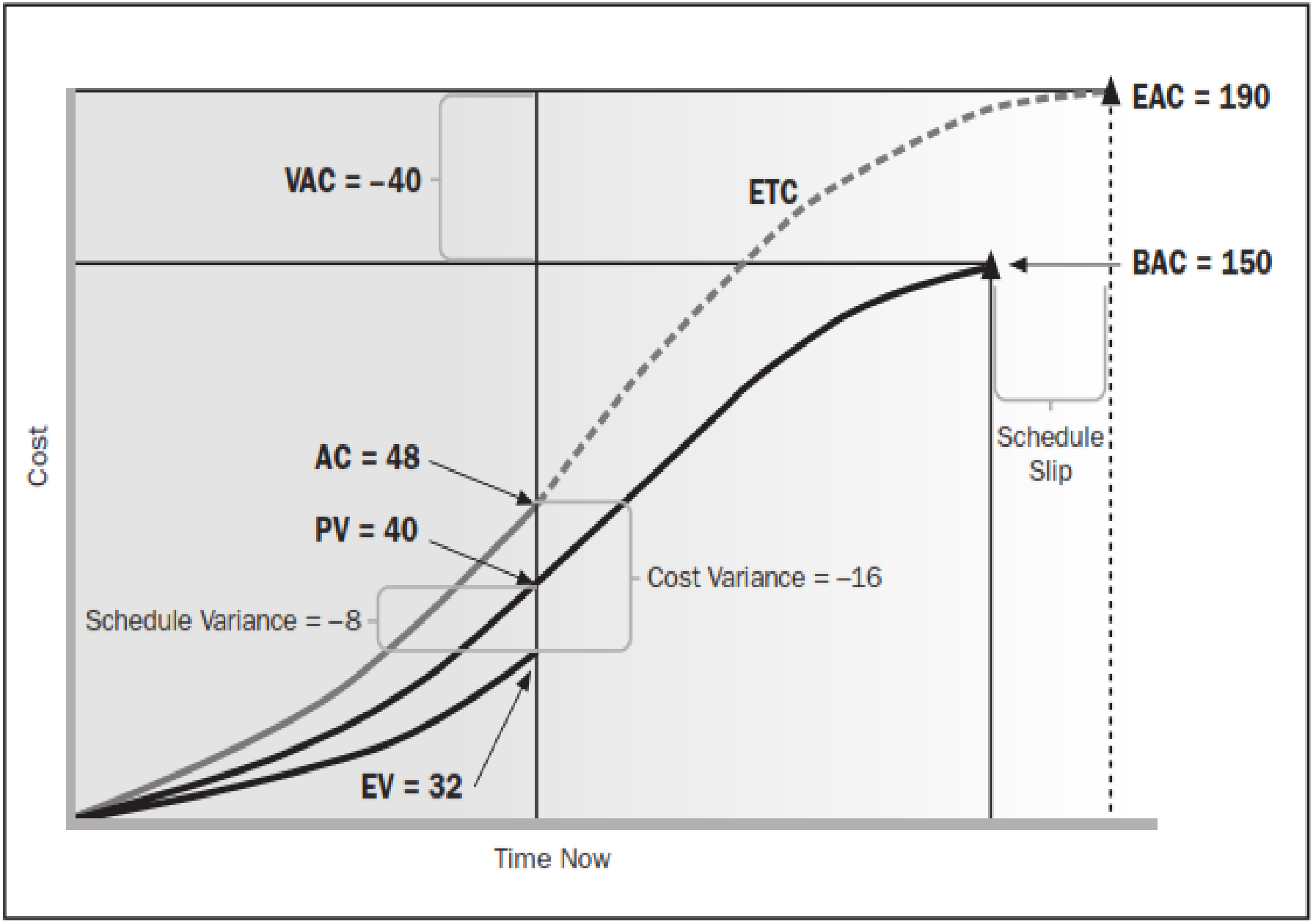

Figure 9-5. Graphic Summary of Project Status

Variance at Completion (VAC)

- BAC = $80,000
- EAC = $101,265
- VAC = BAC – EAC
  = $80,000 – $101,265
  = -$21,265
- Based on past performance, project will exceed planned budget by $21,265

TCPI

TCPI is the calculated projection of cost performance that must be achieved on the remaining work to meet a specfied managemet goal such as BAC or **EAC** (in place of BAC if it becomes obvious that BAC is no longer viable).

Once approved the EAC supercedes BAC as the cost performance goal.

$$\frac{\text{Work Remaining (BAC-EV)}}{\text{Funds Remaining (BAC-AC) or (EAC-AC)}} = \text{TCPI}$$

TCPI

Work Remaining / Cost Remaining

TCPI = (BAC – EV) / (EAC – AC)

= ($ 80,000 – $ 38,000) / ($ 101,265 – $48,000)

= $ 42,000 / $ 53,265

= 0.7885

Practice Q-1

- Megabina Sdn Bhd Started construction of sky-bridges in 2001 and planned completion by 2008 (8 years). They were to cost $12 Billion, the project included 8 sky-bridges ($1.5 Billion per bridge/year)

- At the end of the year 4 three were completed and the cost was $2.5Billion.
- ***Do the EV analysis?***

Practice Q-2

1. You have a project to build a new farm hut (Barn). The specs for building the hut are to construct 4 sides and then an angled roof.
2. Each side of the hut is to take one day to build as is the roof. The budgeted amount is $2,000 per side and $2000 applied to the roof cost.
3. The sides are to be completed one after the other. Today is the end of day four.
4. All the sides were complete however the roof work is only 60% complete. The actual cash outflow till date is $9,850. **Perfom EVM?**

Practice Q-3

Q1:

Earned Value Management (EVM) technique is used by project managers to measure performance and progress of their projects during execution stage. Mr. Lien a project manager is assigned a medium scale project called ITNA "Installation of Towers in Northern Areas". The Budget approved (BAC) for this ITNA is $125,000. The project was started by the project team in Jan 2012 and as on today it seems to be deviated from certain targets set in project management plan.

The data provided by the project team revealed that only 70% of the BAC work could be achieved (EV) till date. However work planned (PV) till today was 80% of BAC. The actual cost of work till date is $96,500(ACWP).

Required:

Based on EVM technique in control costs process evaluate the ITNA progress using followings;

a) SPI and CPI of the project as on today? 3Marks.
b) EAC forecast for ETC work performed at budgeted rate? 3Marks.
c) TCPI based on BAC of the project? 2Marks.
d) Give your analysis about this project? 2Marks.