* **Analyze the state of the project**
  1. **Draw an EVM graph**

Based on the information given, one can assume that the budget for the project was $1,000K, given the fact that the extra 5-months requested will cost an extra $500K.

Assumption:

* 5-months Status Report:
* Planned Value (PV) = $500k
* Earned Value (EV) = $550k
* Actual Cost (AC) = $450k
* 10-months Status Report:
* Planned Value (PV) = $1,000k
* Earned Value (EV) = $670k
* Actual Cost (AC) = $11,00k



* 1. **Recommend and justify next steps**
     1. **Calculate SV, CV, SPI and CPI for the 5 and 10month reporting periods**
* 5-months Status Report:
* Schedule Variance (SV) = EV – PV

= $550k – $500k

= $50k

* Cost Variance (CV) = EV- AC

= $550k – $450k

= $100k

* Schedule Performance Index (SPI) = EV / PV

= $550k / $500k

= 1.1

* Cost Performance Index (CPI) = EV / AC

= $550k / $450k

= 1.22

* 10-months Status Report:
* Schedule Variance (SV) = EV – PV

= $670k – $1,000k

= –$330k

* Cost Variance (CV) = EV- AC

= $670k – $1,100k

= –$430k

* Schedule Performance Index (SPI) = EV / PV

= $670k / $1,000k

= 0.67

* Cost Performance Index (CPI) = EV / AC

= $670k / $1,100k

= 0.61

For 5-month status report, SV is $50k and CV is $100k. They are all positive numbers. SPI is 1.1 and CPI is 1.22. They are all greater than 1. Those all mean that the project is good and under the budget.

For 10-month status report, SV is –$330k and CV is –$430k. They are all negative numbers. SPI is 0.67 and CPI is 0.61. They are all less than 1. Those all mean that the project is out of control and over the budget.

* + 1. **Recommend changes to complete the project by month 13**

As we know, this project is late and we hope to finish it in 13 months. To achieve this goal, we need do some changes.

* The engineering team needs to be sanctioned and work more hours than they should without getting paid overtime
* The team also has to be reinforced with more competent workers who can work with the given technology, no matter how complex it is.
* Reduce scope of the project and give up the failed sub-projects.
* Hire a technical consultant since the engineers said that the problems were due to using unfamiliar, complex technologies.
* Improve the project management and set up more milestones to supervise the budget and efforts. Improvements include:
* Negotiate with the customer to extend the time.
* Communicate with the engineers, accountants and all other relevant stakeholders and know the newest update of this project.
* Press the budget tight: Since the project funds has been expended with the project still far from fetch. The budget needs to be constantly monitored to avoid unnecessary expenditures.
* Monitor milestones or checkpoints.

|  |  |
| --- | --- |
| **Recommendations** | **Cost** |
| Hire a technical consultant | $15k per month = $45k |
| Condense schedule by 3 months | $600 K |
| New budget | $645 K |

* **Analyze the state of the company**
  1. **Who should be fired (and why)?**

From the little information given about the project it seems that company has absolutely no way of controlling projects. There seem to be no line of communication between the stakeholders involved in the project, especially the project leaders / team, engineers and accountants. Hence, the project manager in this project (from 0 month to 10 month) should be fired for the poor management skills. He should find the problem earlier. Also, the leader of the engineering team should be fired because he should have made it clear to the project manager that the project could not be completed in 10 months and not take the risks.

* 1. **Document a process improvement plan stating specific changes to make future projects more likely to succeed**

To successfully implement future projects, the company needs to have the followings:

* Constant line of communication between the stakeholders
* Avoid guaranteeing unattainable schedules
* Break down the project’s work schedule and set more milestones.
* Monitor PV, EV and AV at every milestones and demand reports every month.
* Conduct site visits bi-monthly
* Avoid implementing unfamiliar technologies in their project (or hire consultant to assist them).