

**“Project Management Using Earned Value”
Case Study Solution 16.1**



16.1

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**Analyzing
Schedule Changes**

Analyzing Schedule Changes

1. To determine the impact of the additional scope, first it must be determined which of the added activities are on the critical path. These are listed below.

| <u>Activity</u> | <u>Duration</u> |
|-----------------|-----------------|
| N1 | 18 Days |
| N2 | 12 Days |
| N3 | 10 Days |
| V1 | <u>6 Days</u> |
| TOTAL | 46 Days |

Since all of these new activities are on the critical path, each day of their duration has resulted in a day-for-day slip in the projected end date of the project. Thus, 46 days of slip has been introduced because of scope changes. Even though activities L1 and L2 have added 6 additional days of work, they are not on the critical path and have no impact on the calculated completion date.

Next consult Figure 3 and the variance columns. We are interested in the finish date delays rather than the start date delays. This is because the network calculations will be determined from the completion of the activity (for completed activities). An activity may start late but still finish on time if the duration is shortened. List the critical path activities and how much delay was caused by late completions.

| <u>Activity</u> | <u>Duration</u> |
|-----------------|-----------------|
| A | 5 Days |
| B | 5 Days |
| C | 1 Days |
| E | 14 Days |
| G | <u>6 Days</u> |
| TOTAL | 31 Days |

- 2) Checking a Year 1 calendar reveals that a slip from August 15th to December 5th constitutes exactly 16 weeks (80 days). There are only 77 days indicated above. As shown, 46 of those days were due to added scope while 31 were due to late completion of activities in the original scope. The other three days are due to a change in the schedule network logic. Activity N in Attachment 3 is a Finish-to-Finish with Activity U. Activities N1 to N3 have added 40 days to the critical path, but Activity U adds an additional 3 days (the duration of U) because now the critical path comes from Activity N3 Finish-to-Start with Activity U instead of Finish-to-Finish from Activity N as before.