



TenStep Supplemental Paper

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Project Managers May Need to Plan for Reserve Resources

When the idea for a project first comes up, you rarely know exactly all the resources you will need. As the project initially progresses, however, you start to define the scope, assumptions, deliverables, approach, etc. This gives you enough information to put together an initial estimate of the effort and other resources required for the project. From there you estimate the duration and cost of the project, gain approval and begin the work.

As you know, the estimates that you prepare up-front are just that – estimates. The only time you know for sure what the effort, cost and duration of the project are is when the project is over. Up to that point, you are dealing with some level of estimating uncertainty and risk.

Estimating Contingency

So far, this is nothing new. All projects have some level of uncertainty. If possible, you account for the estimating uncertainty through the use of a contingency budget. If you believe your estimates are 80% accurate, you could request a 20% contingency budget. For example, if your project was estimated to cost \$100,000, you would request an additional \$20,000 contingency budget to cover some level of estimating inaccuracy and account for activities that are clearly in-scope but that you may have missed in the original estimate. Any money remaining in the contingency budget is returned to the client at the end of the project.

Planned Reserves

The nature of some projects requires that the project manager take this contingency even farther. On some projects, you must actually plan for what the contingency resources look like and how you will get them when needed. You need a strategy and plan for having reserve resources available when needed. These could be labor or non-labor resources, such as hardware, equipment or supplies.

There will be a couple times when you need to plan ahead for reserve resources.

Time is of the Essence

In a typical project, if you find that work is taking longer than you anticipated, you would ask for additional time and budget. However, if the deadline date is critical and cannot be moved, you may not have time to look for new resources when you first realize you need them. You may have to have already made plans for where they are and how to acquire them. For example, let's look at the YR2K projects of a few years ago. If you were entering the final six months of 1999 and had a lot of work remaining, chances are you would have had a game plan for completing on time, plus a plan on how to acquire additional people if necessary. Having internal employees identified and in reserve would allow you to move quickly if you determined more resources were necessary.

High Incremental Costs of Obtaining Resources



TenStep Supplemental Paper

You may have resources that are less expensive when purchased in bulk, but very expensive when purchased incrementally. For instance, if the solution you are building requires new hardware, you may find that the price per unit is less as you purchase more units. Let's say that you estimate you will need 100 units. Depending on your estimating uncertainty, you may choose to purchase 110 instead, and have ten units in reserve. You would do this because the price to purchase the extra ten units now (as a part of the bulk order) is much less expensive than having to purchase ten units later, when the incremental cost would be much higher.

Long Lead times for Specialty Resources

Sometimes there is a long lead-time to acquire hard-to-find specialty resources. You may need to have them in reserve if needed. For example, you may work with consulting firms ahead of time to find specialty resources, such as experts in some obscure tool, with the understanding that the requirement is not 100% firm. The firms can work ahead of time to locate these people and try to have someone available on short notice in case you need them later on the project.

Creating a Reserve Plan as a Part of the Risk Plan

Use the following steps to identify the need for reserves and have them ready when needed.

1. **Recognize the need.** The first critical step is simply to understand that you have such a need for reserves to begin with. If you do not recognize that you are in this situation until the need arises, it will already be too late to react. The need for reserve resources will typically come out as part of your risk management strategy. You may have identified a certain project risk and determined that the way to mitigate the risk was to have certain resources in reserve.
2. **Determine the costs and benefits.** There is obviously a benefit to having potentially necessary resources in reserve. There is usually a cost as well. For instance, there is the project management time required to put together and execute the Risk Plan. However, many times there are also additional project costs. Let's look at the three prior examples.
 - In the YR2K example, there may not have been an incremental cost associated with identifying additional resources if they were internal to the company. The cost would have only been incurred if the resources were needed.
 - In the second example, you purchase an extra ten hardware units and have them in reserve. The cost to the project is increased by those additional ten units. If you end up needing the units, there is no additional cost. (In fact you probably saved some money.) However, if you don't use them all, the remaining units may be unused and would be an extra cost that the project would not have had to spend otherwise.
 - In the third example, you ask consulting firms to look for a specialty resource. You would typically not have an incremental cost up front, unless you paid a

TenStep Supplemental Paper

consulting firm to have people available and in reserve. However, if you ended up needing an additional resource, the billing rate will probably be higher to reflect the additional work that the consulting firm invested.

3. **Gain approval.** The risk, cost and benefit information should be taken to the sponsor for approval. You want to be sure that the sponsor agrees that your reserve plan is rigorous enough to reduce the risk to the project. You also want to make sure the sponsor approves any cost to the project and is aware of any incremental costs if the reserve resources need to be acquired.
4. **Manage the Risk Plan.** The activities associated with the Risk Plan need to be moved to the workplan and managed proactively. The project manager should also re-evaluate the risks on a scheduled basis, probably monthly, or at the end of major milestones, to ensure that the reserves are still necessary and provide proper risk protection to the project

Summary

On most projects, if you find that you need more resources, you talk to your sponsor and revise the budget and schedule if necessary. However, on some projects you do not have the luxury of additional time. In those cases, the project manager must identify where the project may be at risk and have a plan in place to make sure resources are in reserve if needed. Sometimes you actually need to have the resources physically available. Other times, you just need to know that you could acquire them on short notice if necessary. The need for project reserves would typically be identified and managed through the risk management process, with reserve resources being a response to a specifically identified project risk.