Fast Tracking or Back Tracking?

By Joel Kohler, PMP

Friend or Foe: Fast Tracking for Schedule Compression

We’ve all been there. The customer or the calendar demands a quicker than planned completion to the project. Should you consider fast tracking to compress the schedule? Can you fast track, without back tracking through new costs or delays?

Fast tracking is a simple concept. “A Guide to the Project Management Body of Knowledge – Third Edition” (or PMBOK® Guide) defines fast tracking as a schedule compression technique “where phases that normally would be done in sequence are performed in parallel.” However, the PMBOK Guide also warns that fast tracking can result in rework and increased risk. While fast tracking trades cost for time, it can actually increase the risk of achieving a shortened schedule.

Let’s look at a practical example: a home improvement project planned for completion in 10 days. If we fast track the project, and simultaneously paint the walls while laying the carpet, it looks like we could finish in five days.

So what’s the risk? By simultaneously painting and laying carpet, there’s a risk of getting paint on the carpet. Back tracking to clean paint from the carpet lengthens the schedule again. This mess and delay would not have occurred if the painting finished before carpet laying began.

Despite the risks and added burdens, fast tracking is widely used. In the correct situation, and with the right amount of care, fast tracking can shorten the critical path to project completion. “However, it is a very risky schedule logic to use, if its sole purpose is to get off the critical path,” says Selwyn Hope, Project Control’s Manager at Chicago-based Citgo Petroleum. “Using finish-to-finish logic simply to shorten the project duration and the critical path masks the length of the project’s true critical path, and introduces additional risks of rework.”

When conventional finish-to-start logic indicates a project end date beyond the customer’s financial, marketing, or political horizon, fast tracking appears to offer the project manager an easy way to shorten the project schedule. However, if fast tracking is employed in the wrong situation, or if things don’t go as planned, fast tracking can wind up costing money and time.

A Steep, Slippery Slope

Fast tracking is an extremely slippery slope. Even the best project managers, in the most well-defined engineering organizations with the fullest-staffed infrastructures, find fast tracking difficult to manage. Problems crop up daily.

Yet fast tracking is often not a choice. It’s often a necessary evil of doing business in today’s complex engineering environment. Large, complex projects, employing hundreds of engineers at different sites, are extremely costly and time consuming. With budgets stretched thin to begin with, customers often direct their project manager to find ways to compress the schedule and reduce the critical path.
It’s one thing to compress the schedule on paper. You just change the finish-to-start logic to finish-to-finish logic. Executing the change is another story.

To realize fast tracking’s promised benefit of a compressed schedule, you need to have in place an integrated change control system with solid configuration management. The system should be primed specifically to handle the increased burdens of fast tracking.

### Change Control and Configuration Management

Integrated change control and configuration management are two tools the *PMBOK Guide* suggests using to offset the increased risks posed by fast tracking the schedule.

Change control, according to the *PMBOK Guide*, is a process used to evaluate, capture, and track changes to the project. Configuration management can be used to track changes to a product, to ensure that the changes are in accordance with the overall project plan.

Let’s see how these work with our home improvement example. What happens if the painting contractor, acting in good faith and pressed for time, processes a seemingly minor change? The painter discovers the specified paint color is discontinued and picks a slightly different replacement tint without letting the customer or carpet contractor know about the change.

In the language of project management, what occurred was that a change was processed (change control) without evaluating the effect on the finished product (configuration control). In this case the finished product is the redecorated room.

And in this case, the customer is extremely dissatisfied. The wall paint and carpet color no longer match. The customer now demands rework that results in cost and schedule increases. Since the room is not ready on time, there’s a cascading effect throughout the entire project. Now the wedding planned for the room has to be moved to a private catering facility, costing yet more money, more time, more complexity, and even more customer dissatisfaction.

### Who is to Blame?

Look in the mirror. The project manager usually gets the blame. Fair or not, the manager is ultimately responsible for poorly planning the job. In our example, the customer is the project manager. The customer here bears the responsibility for setting an unrealistic five day constraint, and for not factoring in the added risks. The added risks arose when trying to perform two activities in parallel, instead of in series.

### Project Complexity Further Increases the Risks

The risks increase along with the project’s complexity. Instead of a simple home improvement project, consider something bigger. Imagine instead a complicated chemical processing facility, employing 200 design engineers, across ten engineering disciplines. This project is big, important, late, over budget, and plagued with design changes.

The project manager is under extreme duress from the customer. The customer demands that the manager compress the schedule. So they decide to fast track the foundation development, while simultaneously completing the architectural blueprints.
The scheduling logic here is changed to finish-to-finish. This means the civil engineers are starting to work in parallel with the architects finishing their drawings. Foundations are excavated based on design drawings that continue to evolve.

The project management headaches also continue to evolve.

**Managing Fast-Tracked Schedules**

Fast-tracked schedules require nimble, skillful project management. If things are moving faster, potential problems have to be identified and corrected more quickly. Otherwise, when unanticipated changes occur, it may be too late to avoid reworking the design.

Using traditional finish-to-start logic, simple changes within one discipline do not normally impact down-stream disciplines. But turning to finish-to-finish logic can turn this on its head.

Changes that were once within the purview of one discipline, now need to be evaluated by all the fast-tracking partners, and need to be evaluated quickly. That’s because parallel execution means all the disciplines risk having their work redefined by changes outside their control.

The burden of managing fast-tracked schedules falls in several places. Of course it falls on the project managers, but also on the project controls – integrated change control, and configuration management. The change control system has to react more quickly to a lower threshold of change, and it has to handle and quickly evaluate an increased number of design changes. Configuration management is needed to monitor the products more closely, especially where the disciplines interact, causing product specifications to be quickly reworked.

Additionally, more communication is required to manage fast tracking. This often results in more meetings, more e-mails, more phone calls, and a generally higher level of management supervision and crisis intervention.

**When is Fast Tracking Most Appropriate?**

Some projects are more suitable for fast tracking than others. You should also take care when selecting activities to fast track, especially in new design jobs where there is a significant amount of interaction between engineering disciplines. Selwyn Hope says, “I believe that fast tracking needs to be very carefully applied in new design jobs.”

“Rapid rollout of first-time products almost never works as planned, says Bruce Kohler, Computer Programming Lead at IBM. “However, schedule compression can be employed on projects that are clones of the original project.”

In addition to updating proven projects, it is safer to fast track activities that have little interaction with one another. “Fast tracking scheduling logic is OK in new design when the two activities do not share common interfaces like plumbing and electrical,” says Tina MeinsWhite, Project Management Consultant at SSC Predication Planning & Control, LLC. Plumbing and electrical work can be done in parallel because they do not interact with each other, and they do not share a common interface.

“Finish-to-finish relationships are normally fine, especially when they are used for the right reason,” added Hope. “Typically this relationship is followed with a lag of some duration
because you have to build in the time to finish. There are not many instances when you have ‘finish-to-finish’ with a zero lag.”

“Fast tracking two engineering disciplines is less risky if ‘schedule lags’ are employed, where one discipline follows in the footsteps of its’ predecessor,” added MeinsWhite. “For example, electrical wiring could proceed behind house framing, while the framing is progressing to completion.”

Both MeinsWhite and Hope agree that fast tracking any activities that share a common interface is very risky. Hope concluded, “I am extremely suspicious of finish-to-finish logic with a zero lag.” As you can see, fast tracking the foundation excavation in parallel with the completion of the architectural design appears to be a high-risk decision.

Project execution activities are more suitable for fast tracking. Once the architectural design is frozen, for example, it is safer to sequence some work in parallel, especially work that can be timed around lags in the schedule.

**Fast Track or Not?**

Before fast tracking a project, you need to carefully assess the characteristics of the project. Is it a new project that’s never been done before? Or one where there is a fair amount of interaction between engineering disciplines? If either, it’s not a good candidate for fast tracking – unless you carefully consider adding scheduling lags between performance of the activities.

You also need to carefully weigh all the risks. Can you minimize the risks in your situation? Can problems arise that would cost more time and money than you planned to save?

If you do plan to fast track, prepare for an added administrative and communications burden. Project personnel in charge of change control, configuration management, and overall project management will all be required to do more. Be ready for more meetings, e-mails, phone calls, crisis intervention, work arounds, and rework.

Like it or not, fast tracking is here to stay. Marketing, financial, or political demands frequently force compression of the critical path to completion. To minimize back tracking, project managers must be aware of the risks and dangers of fast tracking. Armed with that information, project managers can perform their usual project magic.

– Joel Kohler, PMP, is the President of Joel Kohler Consultant, Inc., an independent project management consultancy based in the Denver metropolitan area. Joel can be reached at Jkohler173@aol.com.
Sidebar to Feature Article

Test your Knowledge of Fast Tracking

Answer these three questions to see how much you know about fast tracking.

**Question A)** What happens when design growth requires a larger facility, which exceeds the dimensions of the already-completed excavation?

1. Tempers flare and people become frustrated.
2. Costs increase.
3. The customer becomes dissatisfied.
4. The project manager gets blamed.
5. All of the above.

The correct answer is 5 – All of the above.

**Question B)** How can the Project Manager solve this problem?

1. Evaluate whether the design can be forced into the smaller space.
2. Ask for more money to re-excavate the site.
3. Request a change to build a smaller plant.
4. Stop work while 1, 2, and 3 are evaluated.

The correct answer is 4; stop work while 1, 2, and 3 are evaluated.

**Question C)** Who is to blame?

1. The configuration control manager.
2. The new designer.
3. The process mechanical design supervisors.
4. The project manager.
5. All of the above.

The correct answer is 4 – The project manager, who in turn gets extremely angry with “All of the above.”