



CONSTRUCTION INDUSTRY INSTITUTE®

TECHNIQUES FOR
RADICAL REDUCTION IN
PROJECT CYCLE TIME

Construction Industry Institute

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U.S. General Services Administration	Turner Construction Company
U.S. Steel	Victaulic Company of America
Weyerhaeuser Company	Walbridge Aldinger Company
	Washington Group International
	Williams Group International
	Yates Construction
	Zachry Construction Corporation
	Zurich North America

Techniques for Radical Reduction in Project Cycle Time

**Prepared by
The Construction Industry Institute
Reduction in Project Cycle Time Project Team**

**Research Summary 193-1
August 2004**

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The University of Texas at Austin.

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Printed in the United States of America.

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Executive Summary

Radical reduction (a reduction of 25% or more in project cycle time compared to industry norms for similar projects) is achievable. Significant reductions, in the range of 25% to 50%, have been achieved on projects in a variety of industries. And, although not in the scope of this investigation, it is safe to assume that many more have failed. However, there is no simple formula or “silver bullet” to ensure this level of achievement.

To address radical reduction, the Construction Industry Institute (CII) established the Radical Reduction in Project Cycle Time Project Team (PT 193) to investigate the reality, requirements, and barriers to radical reduction in project cycle time. The goal of this research was to identify the common elements in the successful projects and attempt to provide an approach that would, to a greater degree, ensure the success of projects in true need of radical reduction in cycle time.

The research found several common themes in projects achieving radical reduction. These have been divided into drivers and techniques. The drivers identified must be present or employing the techniques will be of lesser value. Of the drivers, the owner’s commitment throughout the process is the key. This is the most consistent and determining factor in successful cycle time reduction. Once the commitment exists with a continuing need, then high performing teams backed with detailed planning and armed with proven reduction techniques can execute and deliver a project in significantly less time.

Of the successful techniques, none are new or unusual to the engineering and construction industry. Many are CII Best Practices. Others include management and schedule reduction techniques. This research explains which techniques consistently have the greatest influence and, equally important, when they are best applied.

While not totally surprising, the research found some collateral benefits on the projects studied. Safety did not deteriorate with the emphasis on schedule reduction, but in most cases it improved. Quality

did not suffer, but again, in most cases improved. Finally, and probably somewhat unexpectedly, cost did not increase but decreased on most projects.

Several tools were developed to optimize the implementation of these techniques. Two implementation resources, *Project Manager's Game Planner* (IR193-2) and *Project Manager's Playbook* (IR193-3) are available from CII as a result of this research.

Radical reduction is not possible on every project. It takes a huge commitment, a strong team, and outstanding execution. In some instances, the cycle time has already been significantly reduced over time through experience and less intense attempts at compression.

Teams and projects have accomplished radical reduction without previous experience in such achievements. If the drivers are in place, the techniques in this research are utilized, and the tools developed by this research are employed, radical reduction is within reach.

Introduction

Today's businesses rely on just-in-time capacity enhancements and first-to-market product strategies to gain competitive advantage and increase profit margins. This has created an increased demand for a high performance project delivery system that can achieve a dramatic reduction in project delivery time. Global competition and reduced product life cycle ultimately put greater performance requirements on capital project delivery systems.

Radical reduction is defined as a reduction of 25 percent or more in overall project cycle time when compared to the current industry standard for projects of similar size and scope. CII chartered the Radical Reduction in Project Cycle Time Project Team (PT 193) to investigate the reality, requirements, and barriers to such radical reduction in project cycle time.

The completed research confirms that radical reduction in project cycle time is achievable and does not require sacrificing key project objectives. In fact, the additional planning and attention provided dramatic and possibly unanticipated results, specifically the following:

- Consistent schedule reduction of 40 to 50 percent
- Improved safety in over 85 percent of the cases
- Savings in cost up to 20 percent
- Equal or improved quality

To achieve radical reduction, four key drivers must be present:

- A compelling business need
- Owner commitment
- A high performing team
- Detailed project planning and execution