

# Reengineering the Contract Change Process

Stepping "Out of the Box" to Achieve Dramatic Cycle Time Reductions

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The Delta II SPO modified process resulted in a 77-percent cycle time reduction for the first test contract and even greater cycle time reductions in subsequent contracts. Project participants, challenged to see the contract process as they had never perceived it before, found the reengineering effort demanding yet exhilarating and revitalizing.



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*Also contributing immeasurably to the successful research for this article, providing great insight into the contract change process as well as recent successes, were Robert Graham, a Certified Professional Contracts Manager and Delta II SPO Contract Negotiator; and Air Force 1st Lt. Tuan Nguyen, Project Engineer for the Delta II SPO.*

The government contract change process is often considered inefficient and time-consuming by contractor and government personnel alike. Many statutory, regulatory, and agency policy requirements affect the process. Arguably, some requirements add value by ensuring that the process is consistent and fair. However, many requirements serve only to degrade efficiency, that is, result in excessive cycle times.

Last year I participated in a highly successful joint effort to reengineer the contract change process for the Department of the Air Force, Space and Missile Systems Center (SMC), Delta II Systems Program Office (SPO). The Delta II, which is capable of boosting a 4,000-pound payload into a geosynchronous transfer orbit, is used by the U.S. Air Force as the launch vehicle for the Global Positioning System, by the National Aeronautics and Space Administration as a medium launch platform

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## Planning for Success

Careful, meticulous planning was of paramount importance to the Delta II project. Before people even began to work on the reengineering effort, fundamental issues had to be identified and addressed. These planning steps included establishing goals, securing senior-level support, defining reengineering, selecting team members, and empowering leaders.

**Establishing Goals.** The team's goal was to reduce the process cycle time from about 180 days to no more than 30 days, while improving efficiency and product quality. Accomplishing the goal involved incorporating a team concept at all project stages, converting requirements into contract modifications, and retaining only value-added activities from the old process. Once given the overall goal, the team developed and implemented the project schedule and milestones, both instrumental to success.

**Securing Senior-Level Support.** Many reengineering projects fail due to inadequate senior-level support. The success of the Delta II SPO project demonstrated how vital senior-level support and involvement are to a reengineering effort. Key senior leaders, including Air Force Lt. Gen. Lester L. Lyles, SMC Commander, offered tremendous support to the reengineering team. Lyles did not task the team to simply make improvements to the current process, but challenged it to seek "radical innovation" so as to implement an entirely new process focusing on improving efficiency, reducing cycle time, and ensuring process quality.

Strong leadership from the top down clearly established a path to success by creating an environment that promoted innovation, empowerment, and critical "outside the box" thinking. The leaders also provided the required resources and necessary project support, including strong backing for innovative changes, such as waivers to the Federal Acquisition Regulation requiring DoD or higher action.

**Defining Reengineering.** In the beginning, many team members devoted a

significant amount of time to determining the project focus, struggling with reengineering versus basic process improvement. Some team members simply wanted to look at the old process and fine-tune as necessary.

Two elements drove the focus toward reengineering. First, senior leaders reaffirmed that the project participants were not just another process action team (PAT) devoted to reviewing and recommending changes within the current process boundaries. Rather, they emphasized that the Delta II PAT was brought together to seek radical innovation in process design in order to achieve significant cycle time reduction and greater quality. While reviewing the merits of reengineering versus process improvement, the reengineering team discovered that many PATs had preceded this effort with few positive results.

The second factor affecting the project focus and subsequently mission success was obtaining a proper definition for action. Project participants found the focus for the Delta II project in *Reengineering the Corporation* by Michael Hammer and James Champy,<sup>1</sup> who define reengineering as "The fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service and speed."

Robert Graham, contract negotiator for the Delta II SPO and a member of the project team, stated, "The reengineering team redefined the acquisition process for the program office using milestones to track progress and establishing a process owner to see the change through to completion. These two aspects were key to redefining the acquisition process."

**Selecting Team Members.** Another key to project success was the involvement of the contractor, McDonnell Douglas Aerospace (MDA) [now Boeing], which played a very proactive, positive role in the reengineering effort. Successful reengineering depends heavily upon ensuring the participation of organizations

having a stake in the contract change process.

In addition to the contractor, stakeholders included numerous government agencies, including the SMC, the Delta II SPO, the Defense Contract Audit Agency (DCAA), and the Defense Contract Management Command (DCMC).

The reengineering effort comprised two main groups: the champions and the reengineering team. The champions, top leaders from each oversight and support organization, facilitated the project effort by performing the following key functions: defining the effort, identifying and clarifying goals, determining and providing resources, providing guidance, and reviewing progress.

The champions also appointed the reengineering team members, each of whom was a process expert with an intimate knowledge of the contract change process. SMC members included subject matter experts in such areas as legal, contracting, engineering, and configuration management. The reengineering

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team performed the following key functions: interviewing key personnel, gathering data, processing observations, drafting reports, and preparing and conducting presentations. Active participation and openly sharing knowledge were high priorities for both the champion and reengineering teams.

**Empowering Leaders.** From the onset, the champions clearly empowered the reengineering team to perform the mission and to implement a reengineered process. They also selected the reengineering team leader, which was an extremely important decision greatly affecting the project's outcome. The champions chose Air Force Capt. Greg Deabler, who possessed strong leadership traits and who was well versed in the contract change process, both key characteristics for success.

### Defining the Old Process

The critical first step in developing a successful new process was to fully understand the old process (Figure 1). After conducting many interviews and performing hours of intense study, the team

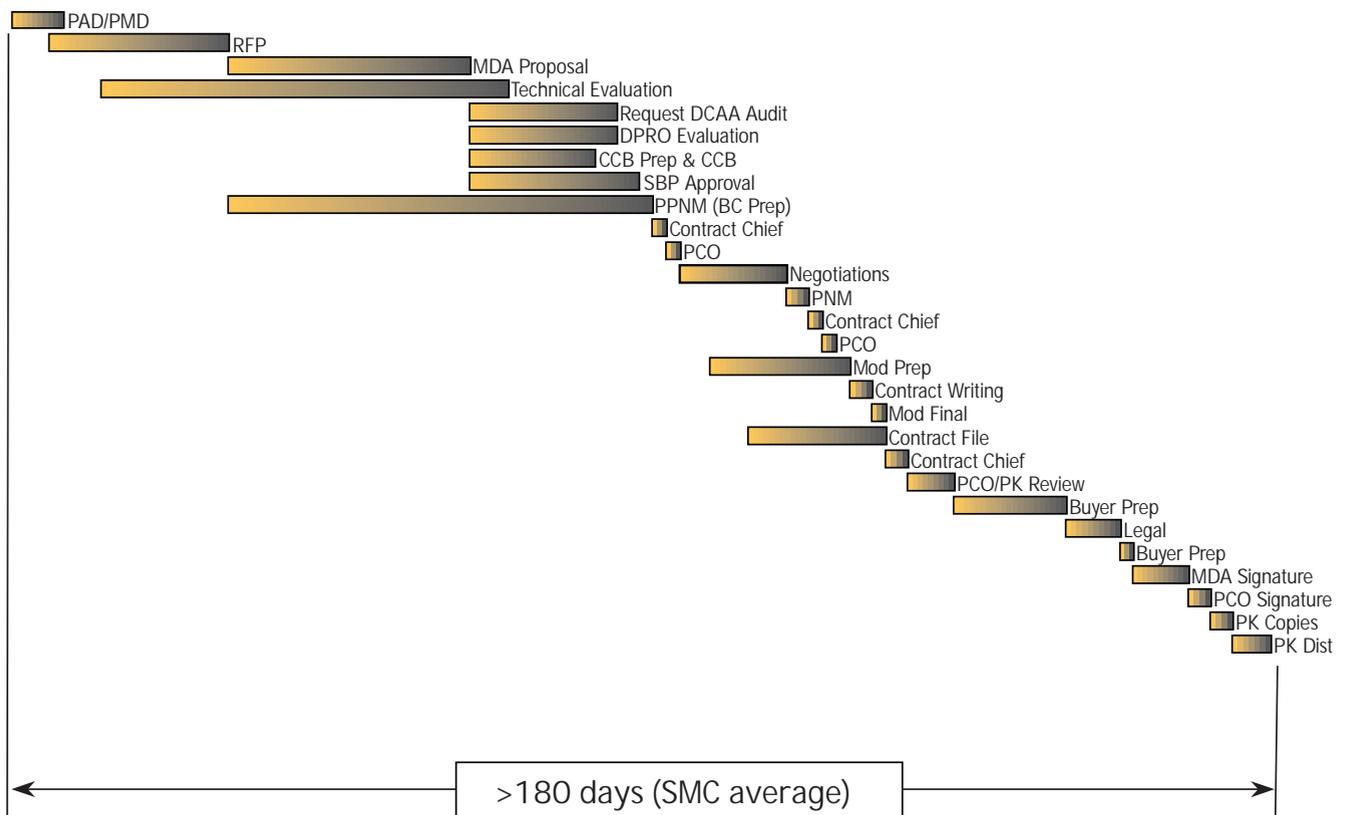


FIGURE 1. "Old" Process

discovered that the process was ownerless, sequential, and time-consuming. Contract change requirements simply flowed through individual reviews within the various organizations involved in the process. Consequently, process control and coordination were difficult to achieve.

Between the initial requirements document and the award of the contract, more than 25 hand-offs (separate actions) typically occurred. The process was reactive at best, often resulting in an undefined contract requirement, extensive fact-finding sessions, numerous reworks and reviews, and adversarial negotiations. The reengineering team identified that the old process had a tremendous number of nonvalue-added activities and recognized that streamlining activities, implementing a proactive approach, and eliminating nonvalue-added tasks were critical to achieving the project goal.

### Integrated Product Team Approach

From analyzing the old process, the reengineering team concluded that an

Integrated Product Team (IPT) approach, involving government and contractor personnel, was the most valid method for establishing leadership and ownership within the new Delta II SPO process (Figure 2). An IPT is essentially a multifunctional team. In this case, the IPT comprised engineering, integration, contract management, quality, and program management personnel.

The IPT approach benefited the reengineering process by streamlining coordination and communication between multiple functions, promoting a better understanding of issues affecting the process (synergistic effect), identifying better use of diminishing resources, and establishing ownership and responsibility for product delivery. The new reengineered process essentially established a three-phase operation aligned to the IPT framework, which eliminated the sequential and functionally aligned approach.

requirements and ownership is undefined for several months before any action occurs, the reengineered phase began with the IPT conducting a management review meeting to validate the requirement as well as assign an Officer of Primary Responsibility within the IPT, which clearly established ownership and ensured responsibility for product delivery. The user then verified the Statement of Work (SOW), and the IPT contracts members determined the applicable sections of the contract affected by the change.

Next, the IPT developed a Rough Order of Magnitude cost estimate jointly with the contractor and determined the availability of funds. Phase I concluded with the Procuring Contracting Officer (PCO) sending a letter to the contractor approving the IPT effort and authorizing the proposal development. This letter replaces the formal Request for Proposal and allows the contractor to accrue proposal costs.

**Phase II, Proposal Development.** In this phase, government and contractor IPT

**Phase I, Requirement Definition.** Contrary to the previous contract change process in which parties typically discuss

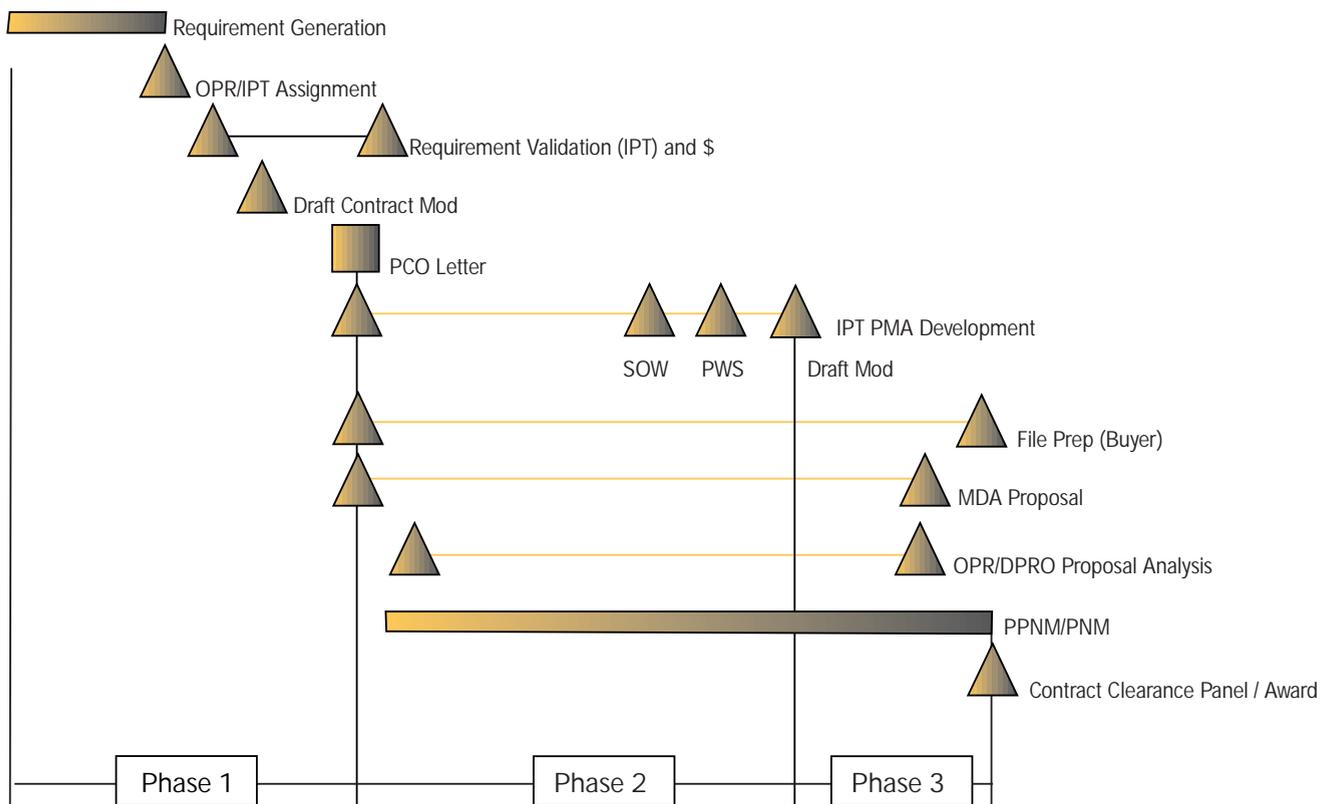


FIGURE 2. "New" Process

members concurrently developed and assessed the proposal. Major activities included finalizing the SOW, preparing the draft modification, conducting concurrent fact finding, achieving consensus on the Pricing Work Statement, and resolving configuration management issues.

In a process change that was nothing short of revolutionary, the DCMC and DCAA conducted their joint analysis in this phase, thereby eliminating the need to prepare and submit time-consuming formal audits. Instead, DCMC and DCAA incrementally audited the proposal.

Reviewing materiel rates and subcontractor proposals as MDA obtained them, the DCMC and DCAA concurrent proposal review avoided the traditional approach to processing audit reports and significantly reduced the cycle time. DCMC and DCAA satisfied Federal Acquisition Regulation requirements by executing a memorandum stating concurrence with the proposal, which replaced the extensive, detailed, and often untimely audit report. As a member of the IPT, the contractor concurred with the proposal build-up as well.

The SPO, MDA, DCMC, and DCAA executed a Memorandum of Agreement (MOA) establishing the new process and, most importantly, establishing a specific method for determining contractor profit in the absence of a Forward Pricing Rate Agreement (FPRA). This step totally eliminated the need for classic adversarial negotiations because the IPT built consensus with all parties during proposal preparation. Therefore rates, factors, and profit were determined by the FPRA and MOA. The exit criteria for this phase were the execution of the Business Clearance Approval and the authorization to submit the final proposal.

**Phase III, Award.** The last phase involved the critical IPT tasks of reaching final consensus on the proposal and submitting the results to the PCO. At this point in the reengineered process, time-consuming negotiations no longer were necessary because the personnel

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who typically conduct negotiations at the end under the old process had been intimately involved in the new process from the very beginning. The PCO simply performed a final review of the proposal with the IPT and executed the contract modification.

### Implementation and Results

For the initial test case, the Air Force chose a contract modification for the Advanced Launch Control Systems Workstation. The new process clearly resulted in significant improvements, of which the most dramatic was the reduction in cycle time. The test contract modification took 38 days to execute — a 77-percent reduction in cycle time. Although the initial test case did not meet the Lyles' challenge to complete the project within 30 days, the case clearly validated the new process.

The clear consensus of the IPT members was that the experience they gained would result in further cycle time reductions in future modifications, and that 30 days was a valid goal. Subsequently, two follow-on contract changes — the new Launch Operations Building and the Graphite Epoxy Motor Test — were executed within the 30-day goal. Moreover,

the new process eliminated more than 20 separate actions and reviews that normally occurred within SMC. Other significant improvements follow:

- Extensive use of IPTs with government and contractor membership resolved key concerns and issues real time.
- Ownership/Leadership clearly established with the Project Engineer within the Systems Program Office.
- Team reviews replaced sequential, time-consuming reviews.
- Preproposal analysis, fact-finding, and consensus building through real-time generation of supporting data eliminated the need for traditional negotiations.
- From participating in this project, both the leaders and the reengineering team members recognized that although reengineering takes scarce resources, the payoffs more than offset the costs. In the case of the Delta II SPO reengineering project, the payoff of reduced cycle time and greater customer satisfaction was substantial.

The SMC was also able to export the project success to other programs, exponentially increasing the impact. Currently, the SMC is incorporating the successful aspects of this effort into other launch programs. Given the success of the Delta II SPO's reengineering team, these programs will undoubtedly achieve similar, or even greater success!

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