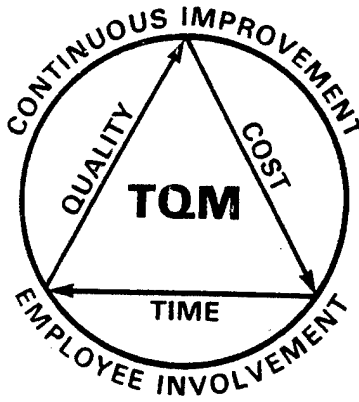


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# DoD TOTAL QUALITY MANAGEMENT

## MASTER PLAN.

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# DoD TOTAL QUALITY MANAGEMENT MASTER PLAN

## CONCEPT

Total Quality Management (TQM) in the Department of Defense is a strategy for continuously improving performance at every level, and in all areas of responsibility. It combines fundamental management techniques, existing improvement efforts, and specialized technical tools under a disciplined structure focused on continuously improving all processes. Improved performance is directed at satisfying such broad goals as cost, quality, schedule, and mission need and suitability. Increasing user satisfaction is the overriding objective. The TQM effort builds on the pioneering work of Dr. W. E. Deming, Dr. J. H. Juran, and others, and benefits from both private and public sector experience with continuous process improvement.

DoD's TQM implementation strategy aims at achieving one broad, unending objective: continuous improvement of products and services. This objective spans the breadth of DoD activities. "Product" means not only the weapons and systems fielded by military personnel but the result of all acquisition and logistics functions, including design, procurement, maintenance, supply, and support activities. Everything that DoD does, every action that is taken, every system that exists, involves processes and products that can be improved or services that may be performed more efficiently. This concept applies to all products and services, including those ultimately employed on the battlefield. TQM affects everything DoD does, produces, or procures. It demands commitment and professional discipline. It relies on people and involves everyone.

The means to achieving continuous improvement is by focusing on processes that create products, and using products as indicators of process adequacy. Continuous process improvement is inherent in TQM. Successful TQM implementation depends on establishing a nurturing, encouraging environment, a disciplined organizational goal-setting methodology, and a formal, structured process improvement methodology. DoD must establish these characteristics to achieve its overall objectives.

## **METHODOLOGY**

TQM employs a rigorous, structured methodology to achieve the goal of continuous improvement. The first step is to develop broad organizational goals and ensure those goals are reflected in and supported by subordinate goals and objectives. Measuring progress toward defined goals is the basis for evaluating the success of TQM efforts.

An Executive Steering Committee heads an integrated structure of process improvement teams. The Executive Steering Committee determines broad goals. At each subordinate level, goals are focused more specifically, and become the basis for improving organization processes. The teaming structure is the same as existing organizational structures; improvements are pursued within the context of natural work groups.

A consistent, regular process improvement cycle provides the means for translating goals into practice. The first step is to identify and define the processes by which work is accomplished. Once the processes are defined, relevant measurement points may be identified. Opportunities for improvement are identified and prioritized. The most promising solutions are implemented, and their effectiveness monitored. If ineffective, new solutions are tried. The process improvement cycle continues identifying opportunities for improvement, implementing solutions, and monitoring their effectiveness.

Specific tools and techniques are the technical methods and devices used in TQM. They provide means for measuring processes, implementing improvements, and assessing performance. Statistical evaluation of process performance information provides the key to identifying improvement opportunities. Techniques for integrating performance information into planning activities improve downstream performance, and group operating principles and techniques maximize the effectiveness of the integrated TQM team structure.

## **GOALS**

Key to achieving TQM is establishing, pursuing, and revising as necessary a common, agreed-upon set of goals and objectives for the effort, to provide the basis and the direction for implementation. Long-term goals translate intangible improvement goals into broad areas for quantifiable action. Mid-range goals support

the overall premise, focusing the effort where major improvements are required, and are attained through the pursuit of short-range goals specifically addressing given targets or tasks.

The goals and objectives provide a broad framework for the TQM effort within which each individual implementation plan will be developed. DoD will only realize TQM's potential by establishing a consistent purpose and approach to TQM implementation.

### **Long-Range Goals (7 Years)**

The long-range goals represent the mature application of TQM, are essential to attaining DoD's ultimate objectives, and will be achieved between 3 and 7 years after initial TQM implementation. They focus on the long-term cultural changes that are desired as an outcome of TQM. Long-term goals are:

- *Establish TQM as a way of life.*

The ultimate goal for TQM is that it will cease to have its own identity, that the label "TQM" will eventually fade from use as continuous improvement principles and practices become the normal way of doing DoD business. To realize this goal, all elements of TQM must be stabilized and normalized. Every individual, from the Secretary of Defense to file clerks, and all Defense industry personnel will understand and be trained in these elements. Only when TQM is a way of life and not a slogan can it truly be said to be mature.

- *All DoD personnel directly doing continuous process improvement.*

The Acquisition community has initiated the TQM effort. As it gains momentum in the acquisition community, DoD will undertake TQM implementation throughout the rest of its population. Implementation will first take place among senior leadership and selected promising activities. As with the acquisition community, the implementation process will progress until all activities and personnel will actively be doing TQM.

Successful TQM requires commitment, involvement, and dedication. People must recognize and accept their responsibility to improve the processes they employ. Implementation will begin with top leadership. Their commitment to TQM principles and demonstration of TQM activity will provide the momentum to infuse TQM throughout DoD.

- *Widespread Defense industry implementation of continuous process improvement.*

A primary tenet of continuous process improvement is that an organization must be able to control the quality of the products and services the organization receives and uses. DoD must ensure that Defense industry, including prime contractors, subcontractors, and suppliers at all levels, embraces the principles of continuous process improvement and aggressively pursues its implementation.

DoD will develop programs that encourage industry to adopt continuous process improvement and guide them in its principles, practices, and implementation. DoD will also assist industry efforts as much as possible to ensure understanding of the principles as employed within DoD. Additionally, criteria will be developed for evaluating continuous process improvement implementation. Source selection strategies will consider continuous process improvement as one element of selection. With these mechanisms in place to assist vendor implementation and objectively evaluate efforts, continuous process improvement will be encouraged as an essential capability for Defense industry.

Each participating contractor should progress gradually toward a mature, complete continuous process improvement culture. Evaluation criteria will recognize progress toward a continuous process improvement ideal. The intent of continuous process improvement efforts is to recognize and reward dedication and adherence to the improvement process, and not restrict reward to attaining a specific standard of performance.

- *Congressional understanding of and support for TQM.*

In order to implement TQM, strong congressional support is important. Many elected officials take an active interest not only in national military policy but in day-to-day DoD operations. Therefore, it is essential that they understand, embrace, and encourage TQM objectives and efforts. They must realize that TQM will benefit not only DoD but the nation as a whole through more efficient acquisition of Defense materiel and through better use of the financial and manpower resources provided for this purpose.

The effort to establish this broad-based congressional support will be one of continuing education and liaison between DoD and the Congress. Legislators will be educated in the basic premise and process of TQM, so they understand its potential. They will also understand that TQM does not happen overnight, and that it involves a significant change in the overall culture of any organization.

The purpose of establishing legislative support is to ensure that Congress supports TQM policies and processes. Revisions to the DoD reward and recognition structure, increased cooperation with Defense industry, and

altering source selection methodologies are all essential to a successful TQM effort. Within 7 years, congressional support will be earned for those initiatives, and legislative barriers to TQM will be removed.

### **Mid-Range Goals (3 Years)**

The mid-range goals are strategic objectives that need to be accomplished between one and five years after initial TQM implementation in order to support the long-range goals. They are more specific action statements than the long-range goals, and provide some targets and desired achievements for their time period.

- *Establish and implement policy deployment mechanisms.*

Functioning policy deployment mechanisms should be in place to provide a means for ensuring all Defense elements are working to achieve a common set of goals. Policy deployment mechanisms consist of integrated teams working to achieve common, consistent goals. After 3 years, these will include top OSD and Service leadership, the Acquisition community, and any other programs that have implemented TQM.

Products of the policy deployment process (i.e. goals and objectives for improvement and operations, and process analysis products) will apply to all activities, whether or not they have implemented TQM. TQM organizations will take their goals and objectives and continue to deploy them throughout their structure.

- *Harmonize DoD Directives/Regulations/Instructions and TQM.*

To ensure commonality of improvement approaches and to eliminate inconsistent and contradictory signals, TQM will be reconciled with other efforts. Other improvement programs will be examined to ensure their motivating factors are consistent with those of TQM. Regulations that codify reward and recognition practices, acquisition instructions and regulations, and other applicable documents will be examined for conflicts with the TQM approach, and any conflicts resolved.

Every document need not be brought under the mantle of TQM specifically. As TQM applies to all efforts, there is no need to rename every program that affects quality or improvement. The major concern is that messages, signals and rewards are consistent, so there is no confusion or ambivalence about TQM. Within 3 years, all major documents will be consistent with the TQM philosophy.

- *Eliminate barriers to TQM implementation.*

TQM barriers are those policies, practices, regulations, laws, and attitudes that contradict the aim of continuous improvement. They emit signals,

generate rewards, and develop expectations based on behaviors that detract from improvement efforts. To ensure TQM success, these barriers will be eliminated from DoD, beginning with the barriers impeding top leadership application of TQM. As the culture of continuous improvement progresses, it will also work on eliminating these barriers to its progress. Most major barriers will be eliminated after 3 years.

- *Implementation commitment by major Defense contractors, with "critical mass" achieved in at least the top 25 contractors.*

An important part of initial TQM implementation is to encourage Defense industry to implement continuous process improvement programs of their own. The top 25 Defense contractors receive more than 50 percent of contract dollars and the majority of major system contract awards. Ensuring their commitment to continuous process improvement will apply TQM principles to most major programs, and will also go a long way toward encouraging TQM-type efforts in the remainder of Defense industry. Top prime contractors will in turn be encouraging TQM activities by their subcontractors.

At least the top 25 contractors will be at "critical mass" with respect to their implementation efforts. This means that the senior leadership is trained and actively performing continuous process improvement. As well, selected programs or departments should have begun full process improvement implementation. This concept of critical mass is essential to continuous process improvement gaining a solid foothold in any organization.

- *DoD Acquisition personnel use TQM principles and practices in dealing with industry.*

As the top 25 contractors will be expected to implement their own continuous improvement efforts, all Acquisition personnel will be trained in and practicing TQM. This is essential to avoid giving signals or messages that conflict with continuous process improvement efforts. This is crucial to the success of contractor efforts.

Within 3 years, DoD will have its own "critical mass" established. Top leadership will be practicing TQM, along with selected functional communities. The lead community will be the Acquisition function, but others will begin TQM implementation in the mid-range time frame.

- *Develop, produce, acquire, and promulgate a standard set of TQM training materials.*

Ensuring a common understanding of the TQM effort requires a standard set of training materials. These materials will be purchased, acquired from ongoing improvement efforts, and developed especially for the effort. They

will be made available to DoD activities and Defense industry as they implement TQM.

The training materials will address a wide variety of principles, practices, techniques and tools. Materials suitable for self-study and for formal instruction will be developed. Within 3 years of TQM implementation, the entire training package should be developed, tested, and produced for mass use.

- *Establish a mature, functioning staff of facilitators.*

Within 3 years, TQM facilitation staffs will be formally in place and working at all levels to implement TQM. Their activities will include assisting group activities, training DoD and industry personnel in specific improvement techniques, and monitoring the overall progress of TQM implementation. Facilitators will be a commonly accessible reference resource, key to TQM success.

- *Understand and coordinate with TQM efforts by other sectors of the Federal Government.*

Other agencies of the Federal Government are beginning their own continuous improvement efforts. Many of these efforts embrace objectives, practices, and skills similar to those DoD will cultivate. A continuing interchange with these agencies will make more effective use both of the resources applied to TQM and the lessons learned in its implementation. Techniques proven valuable by an organization may be documented and made available for general benefit. Additionally, as Federal employees move among agencies, they will encounter similar practices and philosophies that will reinforce the overall aims of TQM.

- *Develop and cultivate key congressional TQM champions.*

This objective is essential to ensuring TQM's longevity. If Congress reinforces TQM's goals by encouraging TQM efforts, TQM will likely survive changes in DoD leadership, and will not receive contradictory messages from influential legislators.

To ensure this congressional support, DoD will take on the task of cultivating key legislators through briefings and training aimed at educating them in the basic premises and practices of TQM. The legislators must believe that TQM is truly beneficial and that TQM will have the ultimate result of using national resources more efficiently. Enthusiastic, supportive legislators, especially those who have more influence through seniority or position, would be valuable allies in this effort to ensure congressional support.



## Short-Range Goals (1 Year)

Achieving a series of short-term objectives is essential to attaining the mid-range objectives. The short-range goals are specific actions to be accomplished within one year of initial TQM implementation, and are narrowly focused action items that lay out the initial steps for TQM implementation. They will be aggressively pursued to maintain the momentum of the TQM effort. Their attainment will demonstrate initial progress and success, and will lay the groundwork for the overall TQM effort.

- *Establish Executive Steering Committee and subordinate teams, and begin training and continuous process improvement activities.*

Getting off to a good start on TQM means involving top leadership and obtaining their commitment and participation from the very beginning. DoD will ensure this commitment by forming an Executive Steering Committee. The Defense Council on Integrity and Management Improvement (DCIMI) will perform this role. The members of this Committee will form their own second-level teams, and the members of those teams will eventually convene third-level teams. The concept of this infrastructure is shown in Figure 1.

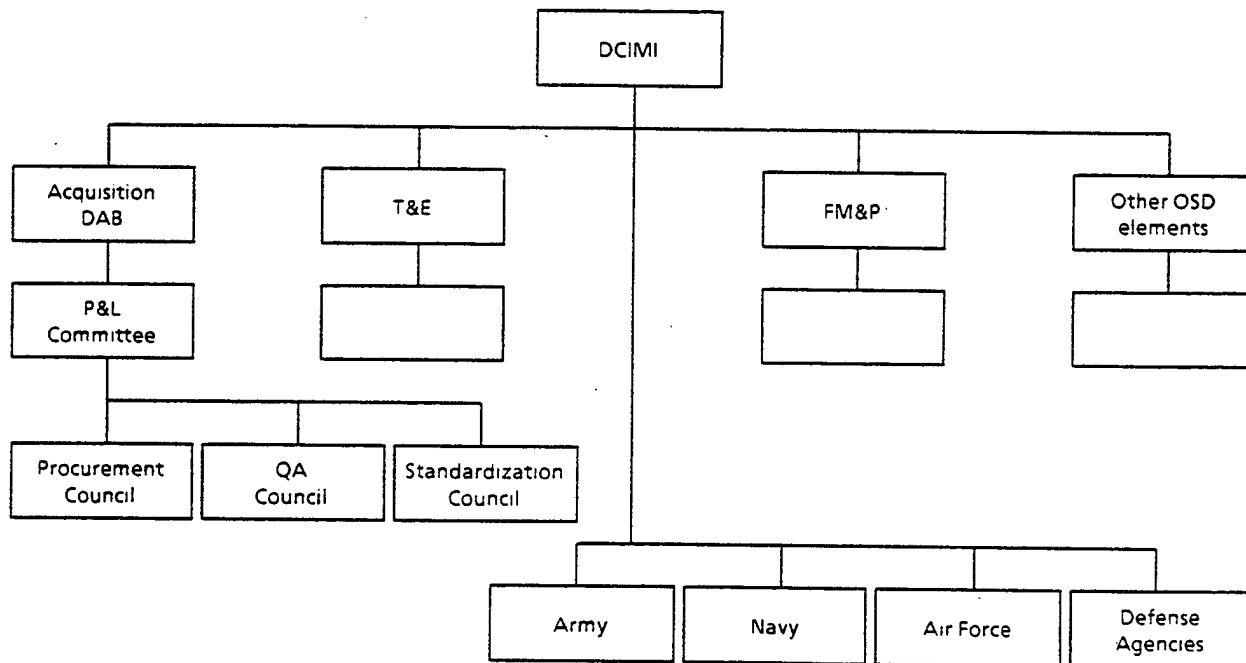


FIG. 1. TQM INFRASTRUCTURE

The Executive Steering Committee will pursue implementation of the TQM master plan. The master plan will be a living document, updated periodically to reflect and report TQM progress, adjust plans in view of progress to date, and identify short-term milestones as the plan progresses. The master plan will be publicized through press releases and broad dissemination throughout DoD and Defense industry.

Within the initial team structure, the policy deployment process will begin. Facilitators will train the team members in TQM techniques and team dynamics. Processes will be analyzed, and goals developed for subordinate level teams. This is the first and most important step in implementing TQM.

- *Identify initial cadre of TQM facilitators, and begin facilitating team activities and training staff facilitators.*

Establishing a core of trained facilitators who guide the TQM implementation as it spreads is a key element of the implementation strategy. Initially DoD will work with outside facilitators and consultants, however dedicated staff facilitators will also be trained at the same time. At the end of the first year of TQM implementation, an initial cadre of facilitators will be ready to assume facilitation responsibilities. They will work with the initial organizations that will adopt TQM, and will also aid in training more facilitators and working with industry.

- *Implement the TQM training strategy and begin collecting and developing training materials.*

TQM training requirements will be identified, along with who will conduct that training. DoD will also begin to identify how consistent training materials may best be obtained and disseminated. Existing improvement efforts will be investigated to identify any suitable training materials.

The training strategy and materials are important to ensure a common understanding and indoctrination in the principles and practices of TQM, thereby promoting a common approach throughout the scope of the TQM effort.

- *Establish an R&D program in support of TQM.*

An R&D program will be established to support TQM implementation. There is much that remains unknown about how to implement TQM in DoD. It is critical to capture and publish lessons learned so all DoD organizations may more smoothly adopt TQM practices. Additionally, the TQM practices and principles constitute a rapidly expanding technology base. There is a need to learn about this base and monitor it as it grows. A comprehensive R&D program will serve to investigate the growing TQM technology and standardize and disseminate practices, techniques, and tools

beneficial to DoD. The small R&D program that currently exists will be expanded to include all three Services and the Defense Agencies.

- *Develop and implement recognition and reward system based on TQM goals and behaviors.*

Appropriate recognition and reward of TQM efforts is essential to TQM success. DoD will develop a reward and recognition strategy aimed at reinforcing activity and behavior beneficial to TQM, and discouraging behavior that is contrary to TQM. This strategy must consider current performance incentives, how those incentives affect TQM, how they must be revised to encourage TQM, and what new incentives may be required in this regard.

- *Begin ensuring consistency among TQM and major documentation and guidance.*

As TQM has begun in the Acquisition community, documents, regulations, and initiatives pertaining to Acquisition are the first that will be reconciled. DoD will develop a plan for reviewing and ensuring consistency among these documents, and will begin work in this area as soon as possible. Eventually all major documents will be reviewed to ensure practices are consistent and conflicting messages are not being sent.

- *Begin enlisting Defense industry commitment.*

Taking advantage of existing DoD/industry forums and efforts is the first step in extending the TQM effort to industry. While DoD will first focus on internal TQM implementation, it is important that Defense industry understand the nature and scope of TQM. Through these ongoing dialogues, and by pursuing additional means of communicating TQM progress to the private sector, DoD will lay the groundwork for industry continuous improvement efforts.

## **ACTION**

The Secretary of Defense will take specific actions to initiate TQM. In addition to continuing the ongoing work to develop TQM's premise and to define TQM plans, the following specific milestones are planned:

- *Establish a DoD Executive Steering Committee.*

The Secretary of Defense will establish an Executive Steering Committee to oversee and guide TQM implementation throughout DoD. This Executive Steering Committee will promulgate broad objectives for the TQM effort and pursue implementation of the master plan. The DCIMI will perform the role of the DoD Executive Steering Committee.

- *Ongoing, regular policy deployment and process improvement efforts.*

Beginning with the Executive Steering Committee, DoD policy deployment will spread through the upper layers of DoD leadership. The Executive Steering Committee will meet regularly. Its members will chair regular meetings of Steering Committees for their own Agencies or Services. The policy deployment process within DoD will begin from the top.

- *Services, Agencies, and OSD components to develop and submit TQM implementation plans by 31 December 1988.*

In conjunction with the broad goals and objectives approved by the Executive Steering Committee and the Service Steering Committees, each Service, Agency, and OSD component will develop its own detailed plan for TQM implementation. Within the context of the master plan, the individual implementation plans will address more specific organizational goals and objectives, the organization's strategy and tactics for TQM implementation, and a means of ensuring that overall DoD goals frame the implementation efforts. The plans will be published collectively, and will be updated periodically to reflect TQM progress and changes in scope or direction.