

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

AD-A212 901

is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this reporting burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Avenue, to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

REPORT DATE

July 1989

3. REPORT TYPE AND DATES COVERED

4. TITLE AND SUBTITLE

DIPEC Total Quality Management Implementation Plan

5. FUNDING NUMBERS

6. AUTHOR(S)

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Defense Industrial Plant Equipment Center (DIPEC)
Memphis, TN

8. PERFORMING ORGANIZATION
REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING/MONITORING
AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT

Approved for Public Release; Distribution is Unlimited.

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

This document outlines DIPEC's concept and strategy for implementing TQM at all levels within the Command. It includes a methodology for implementation, TQM goals and milestones.

DTIC

FLECTE

SEP 29 1989

D

S

E

14. SUBJECT TERMS

TQM (Total Quality Management), Continuous Process Improvement, Management

15. NUMBER OF PAGES

16. PRICE CODE

17. SECURITY CLASSIFICATION
OF REPORT

UNCLASSIFIED

18. SECURITY CLASSIFICATION
OF THIS PAGE

UNCLASSIFIED

19. SECURITY CLASSIFICATION
OF ABSTRACT

UNCLASSIFIED

20. LIMITATION OF ABSTRACT

UL

TOTAL QUALITY MANAGEMENT IMPLEMENTATION PLAN



Accession For	
DDI - CDDI	<input checked="" type="checkbox"/>
DDI - TIR	<input type="checkbox"/>
Unprocessed	<input type="checkbox"/>
Classification	
By	
Distribution/	
Availability Codes	
Avail and/or	
Dist	Special
A-1	

DEFENSE INDUSTRIAL PLANT EQUIPMENT CENTER
JULY 1989



89 9 29 026

TABLE OF CONTENTS

	PAGE
PURPOSE	1
SCOPE	1
CONCEPT	1
METHODOLOGY	2
GOALS	3
EXECUTION	5
APPENDICES	
A TERMS	A-1
B DIPEC TQM INITIATIVES	B-1

**TOTAL QUALITY MANAGEMENT
IMPLEMENTATION PLAN
DEFENSE INDUSTRIAL PLANT EQUIPMENT CENTER**

1. **PURPOSE:** This plan outlines DIPEC's concept of, and strategy for, implementing Total Quality Management (TQM) at all levels within the command.

2. **SCOPE:** This plan pertains to all elements within DIPEC to include DIPEC Memphis and the Directorates of Industrial Plant Equipment (IPE) Operations at Stockton, Columbus, and Mechanicsburg.

3. **CONCEPT:** TQM shall be the development and maintenance in the workforce of a set of quality oriented work characteristics with which we will approach all tasks. There will be as a result of this focus on quality, a series of activities, changing over time, initiated to improve organizational processes and output. TQM is thus a strategy for continuously improving processes and individual performance at every level, and in all areas of responsibility. It combines fundamental management techniques, existing improvement efforts, and specialized technical tools under a coordinated program. Improved performance is directed toward satisfying customer need. The elements of cost, quality, schedule, and all mission requirements are components of customer need.

a. **Objective:** The overriding objective of the TQM philosophy is to increase customer satisfaction, and the customer is anyone receiving or using the work accomplished. Customer satisfaction is achieved by continuous improvement of the process, and therefore, products and services. "Products and services" means not only the repair/rebuild and modification of IPE but also the service of providing acquisition and logistics functions including procurement, maintenance, technical services, supply and internal support activities. Everything DIPEC does involves processes and products that can be improved or services that may be performed more effectively or efficiently with the end result of increasing customer satisfaction.

b. **Commitment:** TQM must affect everything DIPEC does, produces or processes. It demands commitment and professional discipline. It relies on people and the commitment people must make to the TQM philosophy. Successful implementation depends on establishing a nurturing, encouraging, physical and supervisory environment, a workforce with a quality oriented personal work methodology, and a formal, structured process improvement procedure. DIPEC must implement and institutionalize these aspects to achieve the TQM benefits.

METHODOLOGY

4. **METHODOLOGY:** DIPEC has established an Executive Steering Committee which will define TQM program management responsibilities and procedures to ensure the TQM program is coordinated, implemented, and ongoing/updated over time. TQM will be implemented in three phases: Training; Practical Exercise; Organized Structure.

a. **Phase 1.** DIPEC has established a TQM training program designed to develop characteristics in its workforce supporting the TQM philosophy. Training will be directed from the highest to lowest organization levels to firmly implant into the minds of all employees the TQM principals and philosophy.

b. **Phase 2.** Concurrently with ongoing training discussed above, two TQM practical exercises will be immediately initiated: Transition of appropriate current Management by Objectives (MBO) into TQM initiatives (not all MBOs are necessarily classified TQM); and review of the processes involved in an ongoing productivity improvement initiative. A multi-skilled team comprised of personnel who cross functional lines has been established to ensure the proposal contains optimum process activity.

c. **Phase 3.** Upon completion of training, an organized TQM structure will be developed to officially coordinate and implement TQM throughout DIPEC.

GOALS

5. TQM GOALS: DIPEC's all encompassing TQM goal is to ensure incorporation of Dr. E. Deming's Fourteen Obligations of Management into its everyday management style. DIPEC management shall strive to encourage creativity, support innovation, and tolerate failure and mistakes along the road to improvement. Our strategy for getting to that posture is depicted in the following goals:

a. Develop a TQM Trained Workforce. TQM requires a commitment to quality from the whole workforce. TQM training strategy will have six elements: introduction of the TQM concepts to executives, managers, supervisors, and employees; training of TQM facilitators who will serve as internal consultants to support TQM in operation; utilization of publicity/information services to keep the program and training opportunities in the forefront; identification of subsequent, more detailed continuing TQM training opportunities for supervisors and managers; establishment of necessary processes to administer the TQM training program; and, recognition of TQM accomplishments through active use of the awards program. The following courses have been initially identified for DIPEC employees:

- (1) **Investment in Excellence** - all employees
- (2) **Total Quality Management Course** - DIPEC Commander, Deputy and Directors.
- (3) **How to Build a Better Team** - Division Chiefs and team leaders
- (4) **Problem Solving Using Statistical Methods** - Facilitators, team leaders and division chiefs
- (5) **Quality and Productivity Improvement Team Process** - Facilitators, team leaders, and supervisors
- (6) **TQM Orientation Briefing** - all employees

b. Harmonizing Directives. As existing and future policies and procedures evolve to improve processes, reviews will be conducted in focus with TQM principles. The reviews will entail an indepth study of all policies and procedures for the purpose of improving the efficiency and effectiveness of internal operations and the quality of service to our customers.

c. Integrate Existing Initiatives. Whenever possible, and to the extent practicable, TQM process reviews will be accomplished simultaneously with other programs requiring process review such as the Strategic Planning and

Excellence and Efficiency in an Enriched Environment (E4). A discussion of some ongoing DIPEC initiatives or programs which fall under the TQM umbrella is contained at Appendix B.

d. Sensitize Industry to TQM and Encourage Adoption in Business Strategy. DIPEC has many customers from military services as well as civilian vendors, and therefore, has the opportunity and responsibility to demonstrate TQM methods and to encourage them to adopt the TQM philosophy. Better quality will minimize lead times, decrease the number of errors or rejects, reduce costs, and increase earnings. The following initiatives have been identified to ensure successful accomplishment of this goal:

(1) Value Engineering (VE). TQM concepts are interwoven throughout the VE process. These concepts include buying the highest quality product at the best value (not necessarily at the lowest cost).

(2) The use of Statistical Process Control to measure productivity and quality.

e. Demonstrate an Uncompromising Commitment to Quality. DIPEC has the responsibility to provide quality products to our customers and to demand it of those from whom we buy or contract for services. We must make quality a key element in contracting. Again, selection of vendors and contract performance can be measured by TQM statistical methods.

f. Enhance DLA Recognition and Award System. Recognition programs will be enhanced to reward TQM super achievers and to publicize success stories.

g. Institutionalize TQM with DIPEC. The ultimate goal is to incorporate TQM into the everyday life of DIPEC. The Commander and top staff are totally committed to the TQM philosophy. They will be continually educated in TQM in order to instill the TQM philosophy at all levels of the workforce. To this end, the entire DIPEC organization will be reviewed to identify areas of concentration where TQM will be applied. A specific goal of the TQM organization is to identify the work processes which will be reviewed for application of TQM management techniques.

EXECUTION

6. **EXECUTION:** This portion of the plan contains the actions DIPEC is taking to implement TQM throughout the Center. Listed below are the actions necessary to complete milestones for the execution strategy.

	CY 89				CY 90				CY 91			
	1	2	3	4	1	2	3	4	1	2	3	4
Program Initiation												
Designate Productivity Principal				*								
Publish Implementation Plan								*				
Training												
Develop initial training requirements and request funding					O-----							
Schedule courses					O----							
Develop ongoing training requirements					O-----							
Develop TQM Initiatives												
Identify and integrate existing initiatives					O-----							
Incorporate DLA Core Goals												
Develop a TQM trained workforce					O-----							
Harmonize directives - bring DIPEC directives/regulations in consonance with TQM philosophy												
Integrate existing initiatives												
Sensitize industry to TQM												
Demonstrate an uncompromising commitment to quality												
Enhance DIPEC's recognition and awards system												
Develop feedback and communication system												
Institutionalize TQM within DIPEC - ingrain throughout the Center												

Monitorship

Measurement

o Start * Completion -----ongoing

APPENDIX A

TERMS

Process - A systematic approach to accomplish a specific task.

Control Chart - A method of monitoring the output of a process or system, through the sample measurement of a selected characteristic or characteristics and the tracking/analysis of its performance over time.

Fishbone Chart - A cause and effect diagram for analyzing problems and the factors that contribute to those problems.

Histogram - A bar graph displaying a frequency distribution of actual factors.

Pareto Chart - A bar graph of identified causes shown in descending order of magnitude or frequency.

Scatter Diagram - A graph displaying the correlation of two characteristics, normally a comparison/relationship.

Process Improvement Cycle - An analytical method for improving processes. The improvement cycle consists of: identification and definition of the processes by which work is accomplished, identification of relevant measurement points, identification and prioritization of opportunities for improvement, implementation of the best solutions and monitoring of effectiveness.

Productivity - The efficiency with which resources are used to produce a government service or product at special levels of quality and timeliness.

Process Action Team - Action teams which are formed as needed for those TQM initiatives which address improvements to processes.

Statistical Process Control - A measurement method used for assessing the performance of processes.

Total Quality Management - A strategy for continuously improving performance at every level and in all areas of responsibility.

Quality - The extent to which a product or service meets customer requirements and is fit for use.

APPENDIX B

DIPEC TQM INITIATIVES

1. **Review of Current Processes** - The directorates are investigating processes and addressing those which give the best return for investment for possible refinement. Management by Objectives (MBO) are being reviewed for transition to TQM Initiatives as appropriate.
2. **Consolidated Parts Ordering** - This initiative addresses the implementation plan of a productivity improvement identified during a recent study to centralize parts supply functions from the Directorates of IPE Operations to a combined technical operations/procurement production improvement team.