

Maximizing Maintenance Operations for Profit Optimization: The Journey to Maintenance Excellence

February 2002

**Establishing a Strategy for Profit-Centered Maintenance
By
The Maintenance Excellence Institute**

Division of Ralph W. Peters and PEOPLE Inc.

Maximizing Maintenance Operations for Profit Optimization: The Journey to Maintenance Excellence

Ralph W. "Pete" Peters
The Maintenance Excellence Institute
Division of Ralph W. Peters and PEOPLE Inc.
6809 Foxfire Place, Suite 100
Raleigh, North Carolina 27615
919-846-6019

RalphPetePeters@aol.com
<http://www.PRIDE-in-Maintenance.com>

Introduction

Our objective for this five part series is exactly what the overall title implies, to maximize the value of maintenance operations to achieve profit optimization while on your journey to maintenance excellence. This is also the cornerstone mission of The Maintenance Excellence Institute to support not only plant maintenance operations but maintenance operations in other important areas. With capabilities to support healthcare operations, fleet operations, facilities management in governmental and educational systems at all levels including grounds and golf course management our mission is implementing profit-centered practices and attitudes.

Past focus has primarily been to help the in-house maintenance organization's capability to maximize profit optimization, to lessen the concern of being "contracted out" or to stop or slow the "tide of privatization". The Maintenance Excellence Institute has helped and continues to get a very constant demand to help the growing numbers of contract maintenance providers that are truly profit-centered and really, really in favor of profit optimization. So to help maximize the value of all types of plant maintenance operations this series was developed to share proven strategic, tactical and operational level approaches.

This series defines three key elements that can help turn improvement opportunities into visible profit-centered results. These three elements include how to develop and apply proven benchmarking tools via a proven approach from The Maintenance Excellence Institute. Profit optimization can be enhanced and well underway with these essential tools in place to measure results and long-term progress:

1. *The Scoreboard for Maintenance Excellence* for Maximizing Overall Best Practices
2. *The CMMS Benchmarking System* for Optimizing Your IT Investment
3. *The Maintenance Excellence Index* for Validating Bottom Line Results

The following preface provides a brief look at each of the five key parts and the underlying objectives for each one as a cornerstone for maintenance excellence and profit optimization.

Part I: Maintenance is Forever!

"Maintenance is forever!" and Part I defines the need for long-term continuous reliability improvement (CRI) within the business of maintenance and physical asset management. It sounds the alarm to support maintenance leaders in their quest to maintain facilities and equipment with diminishing funds while often gaining new production assets and facilities along with new maintenance requirements for

these physical assets via new minor/major additions or acquisitions. It strives to explain how four very basic but interrelated challenges can almost exponentially grow the scope of overall maintenance work requirements. Part I brings all to the realization that maintenance within manufacturing operations has a major impact on profit, throughput and quality in many ways. That impact can easily be negative and with focused investments and continuous reliability improvement, the impact can conversely have a very positive impact on the bottom line and profit optimization. It also strives to help all leaders understand the importance of managing their maintenance and physical asset management operations as a profit-center and that maintenance truly is forever!

**Part II: Determining Where You Are?
As a Profit-Centered Maintenance Operation:
*The Scoreboard for Maintenance Excellence***

This very intensive section gets down to the detailed level of “determining where you are?” with actually applying today’s best practices for maintenance. It introduces *The Scoreboard for Maintenance Excellence* as today’s most complete benchmarking tool to assess your current operation. It addresses 27 major evaluation categories with 300 very specific evaluation criteria. *The Scoreboard for Maintenance Excellence* provides the first of three benchmarking tools introduced in this series and is the major one that “benchmarks where you are with applying external best practices that other successful manufacturing operations recognize and use. This part defines how you can also develop your own unique *Scoreboard for Maintenance Excellence*, outlines steps for conducting a self-evaluation and how to use it to continuously evaluate progress on your journey to maintenance excellence. This part also defines how your unique *Scoreboard for Maintenance Excellence* can provide a strategy for a multiple site operation.

Developed originally as *The Scoreboard for Excellence* in 1981, this external benchmarking process has evolved from over 20 years of successful application to many different types of public and private organizations. Currently there are five versions of the Scoreboard for Excellence that now includes:

1. The Scoreboard for Maintenance Excellence
2. The Scoreboard for Facilities Management Excellence
3. The Scoreboard for Fleet Management Excellence
4. The Healthcare Scoreboard for Excellence
5. The Golf Course Scoreboard for Excellence

This five parts series will be focused on plant maintenance within primarily manufacturing and continuous processing type operations. The overall strategy is applicable to both public and private sector organizations as well as pure facilities management and maintenance, fleet management, healthcare maintenance and golf course management operations. For the other types of maintenance operations, five other very similar series like this one are also available or being developed by The Maintenance Excellence Institute. These publications support the application and effective use of their respective *Scoreboards for Excellence*.

**Part III: Developing Your CMMS/EAM as a
True Maintenance Business Management System**

Fully integrated information technology systems to manage the business of maintenance are now essential business management tools. Computerized Maintenance Management (CMMS) for enterprise

asset management (EAM) is affordable for operations of all sizes. The effective use of CMMS/EAM is a mission-essential business management tool in the New Millennium. Full use of CMMS or the lack of integration with higher level or even parallel financial, accounting, procurement, inventory or timekeeping systems can waste valuable technical and administrative resources. Part III introduces the second benchmarking tool and the improvement process for getting maximum use from current information technology.

The CMMS Benchmarking System is introduced as a means to evaluate the effective use of your current CMMS, to define functional gaps and to define how to enhance current use, and point to needed functional gaps up grades. Results from using *The CMMS Benchmarking System* will also help to develop and justify a replacement strategy if that is needed. *The CMMS Benchmarking System* is easily adaptable and should be specifically tailored to your existing CMMS and to its intended application. This tool is an internal benchmarking guide that is becoming an IT industry standard and model process for benchmarking effective IT utilization.

Part IV: Path Forward to a Profit-Centered Maintenance Operation

Part IV provides a recommended strategy and profit-centered philosophy toward maintenance operations that has been used successfully by The Maintenance Excellence Institute. It applies to both public and private sector maintenance operations and to major contract maintenance providers where in house maintenance has already been privatized or contracted out. This part defines three key elements that help turn improvement opportunities into visible profit-centered results. These elements include how to:

1. Determine and quantify benefits and savings
2. Improve craft productivity, the most valuable resource
3. Define a path forward strategy to implement improvement opportunities

This section summarizes the many direct and indirect savings opportunities and illustrates how one of those opportunities; increased craft productivity can be included as gained value. The Overall Craft Effectiveness (OCE) Factor is introduced in this section as well. Part IV shows how one best practice area; effective shop level planning and scheduling provides more than a 5 to 1 return on the investment for just one planner position within a 20 person craft work force.

Part V: Profit Optimization and How to Validate Results With Your Maintenance Excellence Index

The goal is profit optimization and exceeding customer expectations. It not a report with evaluation details from *The Scoreboard for Maintenance Excellence* neatly bound in a report. The goal is successful implementation of prioritized improvement opportunities from the evaluation and to help improve all internal resources do a better job for production operations or the tenant/customer. Part V ties in closely with Part IV to introduce the third benchmarking tool from this series, *The Maintenance Excellence Index (MEI)*.

As a result of applying all benchmarking tools in this proven approach from The Maintenance Excellence Institute the journey to Maintenance Excellence is well underway with three essential tools to measure results and long-term progress:

4. *The Scoreboard for Maintenance Excellence* for Maximizing Overall Best Practices
5. *The CMMS Benchmarking System* for Optimizing Your IT Investment

6. *Maintenance Excellence Index* for Validating Bottom Line Results

This section covers the process of defining and gaining consensus on very specific key performance indicators related to the total manufacturing and maintenance operation. This section helps validate maintenance contribution to profit optimization. It covers a recommended set of internal benchmarks or metrics for today's leader, the purpose for each, where they traditionally can be found in the CMMS (or financial system), how to calculate each one and how to determine your current baseline. Each element for a developing and calculating your own MEI is covered. Most importantly, this section recommends an attainable performance goal and how your own uniquely developed *Maintenance Excellence Index* will validate results and ROI for maintenance operations.

Conclusion: The New Millennium view toward maintenance and physical asset management must see maintenance helping to maximize profit optimization. The strategy defined in this five part series has been proven for application to a multitude of different types of maintenance and physical asset management operations within both the public and private sectors. The approach is simple but powerful in terms of achieving results and validating return on investment. Organizations that clearly understand that “Maintenance is Forever” and find the key to balancing all resources toward optimum total operations success will succeed in the 21st Century. For organizations now evolving into today's profit-optimization trend, profit-centered maintenance can help maximize your profit optimization efforts. A true profit-centered approach must include one very essential resource; your physical assets, the production assets, the facilities and the businesses processes within these facilities into its profit optimization process.

Profit Optimization Requires Investments: The Maintenance Excellence Institute views all maintenance operations as profit centers. Maintenance and physical asset management operations at client sites are and/or can be true contributors to profit generation or increased service levels. The Maintenance Excellence Institute believes the cost of its services will be a very good investment, one that can be validated long term through the *Maintenance Excellence Index* that is established with every client. The investment to retain The Maintenance Excellence Institute to help potential clients complete this recommended strategy initiative will be based upon a fixed fee plus actual travel expenses as they are incurred.

The opportunities for measurable results in almost all organizations are significant. It is highly recommended that The Maintenance Excellence Institute help to develop your Scoreboard for Maintenance Excellence and to help conduct an initial pilot evaluation. A complete copy of this five-part series is available to you. To find out the best approach for your organization, to request that a fixed cost proposal be developed for you or for help with planning the pilot evaluation contact:

Ralph W. “Pete” Peters
The Maintenance Excellence Institute
6809 Foxfire Place, Suite 100
Raleigh, NC 27615
E-Mail: RalphPetePeters@aol.com
Office: 919-846-6019
Fax: 919-846-9804
<http://www.PRIDE-in-Maintenance.com>

Bio of Ralph W. "Pete" Peters

President and founder for **Ralph W. Peters and PEOPLE Inc.** a consulting firm with three divisions for total operations improvement; The Maintenance Excellence Institute (maintenance), The Manufacturing Excellence Institute (manufacturing) and The Institute for Public Service Excellence (governmental). His practical engineering experience and technical leadership in the maintenance, manufacturing and governmental productivity consulting fields has helped hundred of operations achieve manufacturing operations success and maintenance excellence in plant, fleet and facility maintenance operations.

His scope of experience in governmental operations productivity has firmly established his personal capabilities and that of The Institute for Public Service Excellence to support value added government services. Pete is a senior member of the Institute of Industrial Engineers, the Association of Facility Engineers and the Society of Maintenance and Reliability Professionals He has been involved in manufacturing operations management, systems implementation, facilities management, maintenance and governmental productivity consulting for more than 30 years. He is retired from the US Army Corps of Engineers/NC Army National Guard (1995) with 28 years of service and serving in Viet Nam and during Desert Storm.

Pete is author of the upcoming books; *Profit-Centered Maintenance: The New Millennium Strategy for Maintenance Excellence* and *PRIDE in Maintenance*. He is editor/primary author for *The Guide to Computerized Maintenance Management Systems*, Scientific American Newsletters LLC, author of the maintenance chapters in *The Warehouse Management Handbook* and *The Future Capable Company* from Tompkins Press and John Wiley's new *Handbook of Industrial Engineering, 3rd Edition*. A recognized leader in the areas of implementing manufacturing and maintenance best practices, profit-centered maintenance, performance measurement, productivity improvement for government operations and providing value-added total operations consulting, He is also the author of over 200 articles and publications and as a frequent speaker has delivered presentations on manufacturing and maintenance-related topics worldwide. He received his BSIE and MIE from North Carolina State and is a graduate of the US Army Command and General Staff Course and the Engineer Officers Advanced Course.

Clients from the manufacturing and maintenance sectors have included operations in the petrochemical, aerospace, manufacturing, mining, pharmaceutical, hand-tool manufacturing, utilities and automotive industries, in addition to construction fleet management, public transit operations and facilities management for healthcare, educational and governmental facility complexes.