

# DSMC Core Curriculum Now Includes Best Manufacturing Practices

Savvy Members of Acquisition Community Look to Navy's BMPCOE to Innovate, Cut Costs

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Consider the following scenario. You're sitting at your desk in the program office, and in front of you is a Single Process Initiative concept paper provided by the contractor part of the acquisition team. Your boss just asked you to perform a technical evaluation of the proposed practice, part of it dealing with soldering.

## Two Sides to Every Story

The contractor part of the team wants to use a commercial practice – the American National Standards Institute AS-4461A standard versus Mil-Std-2000A.

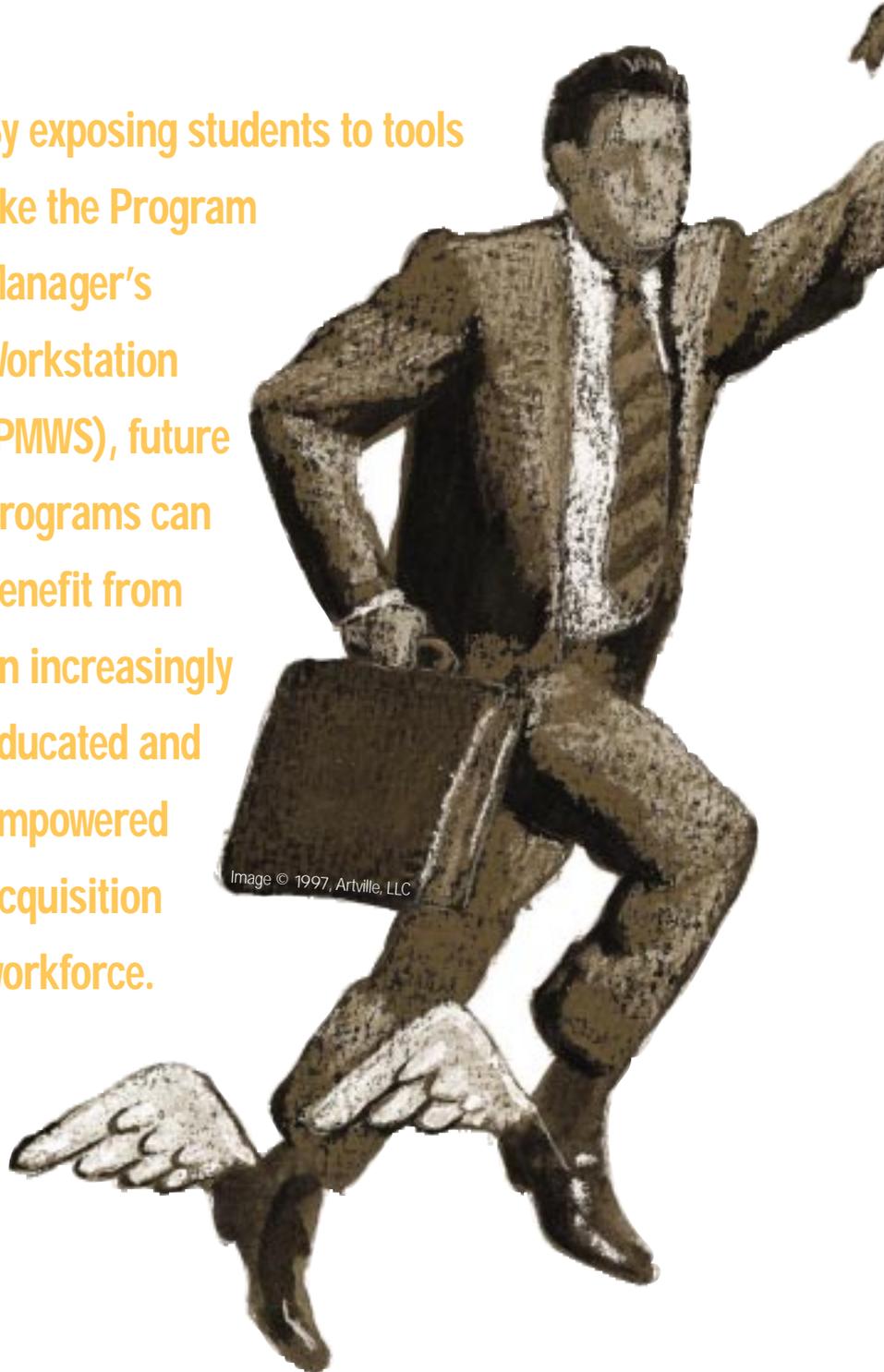
Admittedly, you're not an expert on soldering. To remedy that shortcoming, you "cruise" down the hall to engineering. Unfortunately, the engineers have recently been "right-sized," so neither of them is up on soldering.

No problem. You call the engineering home office of the support staff only to find they lack the expertise as well. Again, no problem.

You then "cruise" down the hill to the Air Force Research Laboratory, Materials and Manufacturing Directorate, only to find they're swamped and cannot devote any resources to you for two months.

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By exposing students to tools like the Program Manager's Workstation (PMWS), future programs can benefit from an increasingly educated and empowered acquisition workforce.



At this point, a level of real concern hits you. How do you determine the technical risk to your program for this process change?

On the other hand, you're the contractor part of the acquisition team. Defense Contract Management Command

is pressuring you to substitute best commercial practices in lieu of government specifications and standards. In fact, DoD has forbidden you to use military specifications and standards on new contracts. (For example, you're no longer able to use Mil-Std-1528A. Manufacturing Management.)

Seeking more information, you get on the Internet and "hit" the Society of Manufacturing Engineers Home Page to see what the industry association's best practice is, only to find out there is none. Now what do you do? The risk to your program hasn't gone away. There just isn't any guidance. And, you don't have any idea of where to look for best practices.

### Difference Between Success and Failure

At a time when senior leadership and the American taxpayer are expecting us to do more with less, knowing what resources to leverage can mean the difference between success and failure on your program. Savvy members of the acquisition community striving to innovate and cut costs, look to the Navy's Best Manufacturing Practices Center of Excellence (BMPCOE) for help.

Since 1985, the BMP Program's continuing goal is to help businesses by identifying, researching, and promoting world-class business practices across a wide spectrum of technical and management disciplines. This timely information is available to anyone with an Internet connection.

The BMPCOE is also part of the Navy's Manufacturing Technology Program.

This program has other Centers of Excellence available to the acquisition professional:

- Composites Manufacturing Technology
- Electronics Manufacturing Productivity Facility
- National Center for Excellence in Metalworking Technology
- Navy Joining Center
- Energetics Manufacturing Technology Center
- Manufacturing Science and Advanced Materials Processing Institute
- National Center for Advanced Drivetrain Technologies
- Surface Engineering Manufacturing Technology Center
- Laser Applications Research Center
- Gulf Coast Region Maritime Technology Center

As you can see, these Centers of Excellence address many manufacturing concerns that have broad application beyond naval system development.

### What Does DSMC Have to Offer?

Prior to the start of DSMC's Advanced Program Management Course (APMC) 97-3, BMP Program and Program Manager's Workstation (PMWS) training was offered as an elective for the APMC; now DSMC's Manufacturing Management Department offers the training as part of the core curriculum.<sup>1</sup> While the BMP Program is a Navy program established to foster the sharing of advanced technology throughout the U.S. industrial base, PMWS is a series of tools based on best government and commercial practices and proven engineering guidance.

From its inception, development, and subsequent application as the electronic medium used to convey best government and commercial practices and proven engineering guidance to the acquisition workforce at no cost, PMWS has proven its potential and intrinsic value to government, industry, and academia.

Within the DoD community, BMPCOE resources and PMWS in particular, are recognized as excellent tools for program

management and acquisition reform. As a systems engineering tool, PMWS helps program managers with engineering issues such as design reviews, worst case analysis, risk management, and lessons learned. For the user, it also provides timely acquisition and engineering information, with workload reduction being a top priority.

Consisting of a series of knowledge-based software packages, PMWS has four main components:

**KnowHow.** KnowHow is an electronic library of expert technical assistance with an intelligent search capability, which includes government regulations that must be complied with; technical reference handbooks to help guide you through the design review process; and templates to take you through designing, funding, testing, and transition planning. This tool, with its on-screen help, cuts document search time up to 95 percent.

**Technical Risk Identification and Mitigation System (TRIMS).** TRIMS is a technical risk management system that may be tailored to the user's needs. It identifies and ranks those program areas with the highest risk levels, providing the ability to conduct continuous risk assessments for preemptive corrective actions and to track key project documentation from concept through production.

**BMP Database.** The BMP Database draws information from the BMP surveys of industry, government, and academia to identify proven best practices in design, test, production, facilities, management, and logistics.

**BMPnet.** BMPnet provides communication among all PMWS users. The PMWS tools, developed by the Navy and available to all users at no cost, are centered on the engineering process itself, allowing the user to manage technical and process risks as engineering problems are surfaced, giving the user visibility at the earliest possible point.

### Keeping in Touch

After completing DSMC training, many students maintain contact with the

BMPCOE, requesting briefings and presentations for their organizations. In fact, BMPCOE resources and tools are widely used throughout the entire DoD community and U.S. industrial base.

In addition, several program managers have acquired BMPCOE staff engineering support to help them manage program tracking and risk assessment for a wide diversity of DoD programs:

- Multifunctional Information Distribution System
- Standard Missile
- Advanced Amphibious Assault Program
- Surface Ship Torpedo Defense System

The bottom line is BMP/PMWS provides proven solutions to problems and risks associated with the DoD acquisition process.

### Curriculum Integration

The BMP program and PMWS exposure play a key role in the entire Manufacturing Management (MM) portion of the APMC curriculum. As shown in the chart below, Design for Manufacturing Strategy I is the first lesson in the MM integrated exercise. This exercise is an

11-hour block of instruction designed to allow students to analyze a program of their choice, identify risks, and develop a strategy for mitigating those risks using the risk-reducing tools and techniques they learn in other MM lessons.

Strategy I primarily covers PMWS and follows a lesson designed to acquaint students with the various sources of production risks on acquisition programs; it precedes a series of five lessons that cover other manufacturing-related tools.

The 97-3 class was the first to receive this training, and their responses as well as other attendee feedback were very positive. A typical example was, "Excellent overview of system! Recommend this course to other program management office personnel. Good risk control/evaluation segment based on the Willoughby templates."

Another student said, "A good introduction of the PMWS, a software tool that will save you countless hours of researching DoD 5000 requirements. The risk analysis tracking tool is also very good."

### The Qualitative Edge

DoD Directive 5000.1, Defense Acquisition, March 15, 1996, encourages

program managers in paragraph 2.h. to "...continually search for innovative practices that reduce cycle time, reduce cost, and encourage teamwork." Deputy Under Secretary of Defense (International and Commercial Programs) Paul J. Hoepfer, at the Sixth Semiannual PEO/SysCom Commanders/PM Conference,<sup>2</sup> exhorted program managers to "...give the qualitative edge to the warfighters. That's what we really need to do, and it's within that context that we have to reduce Total Ownership Costs."

Promoting these goals is a constant part of DSMC's mission; by exposing students to tools like PMWS, future programs can benefit from an increasingly educated and empowered acquisition workforce.

### REFERENCES

1. This training has been required for the Advanced Production and Quality Management Course for almost three years as well.
2. *Program Manager*, "DSMC Hosts Sixth Semiannual PEO/SysCom Commanders/PM Conference," Vol XXVI, No. 6, DSMC 141 (DSMC, November-December 1997), p. 80.

## ABOUT DSMC

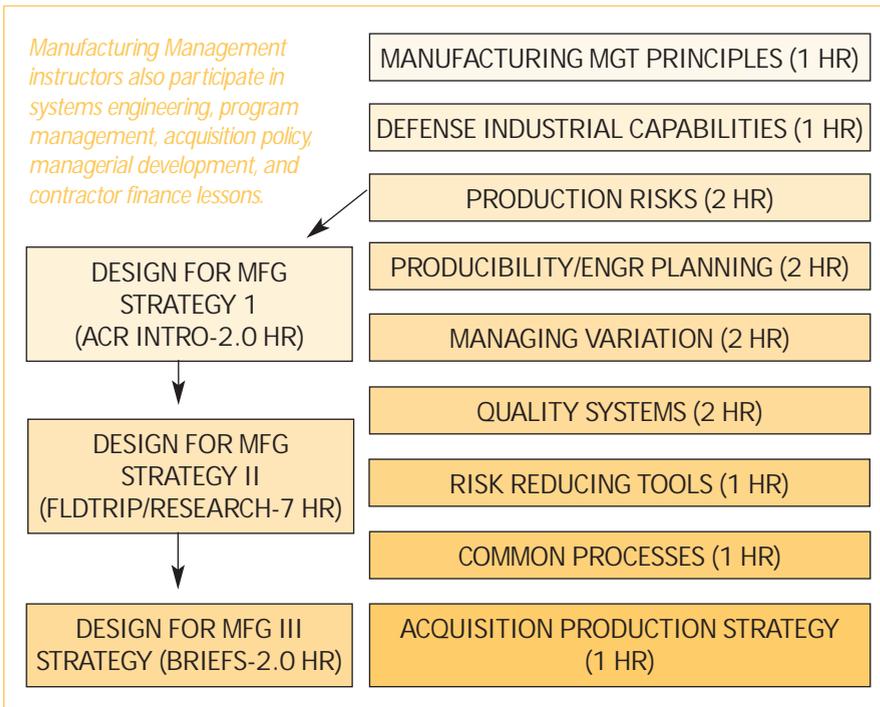
Anyone who desires to take a course offered by DSMC should first contact their local training office for detailed Service/Component/Agency procedures on how to apply for DSMC courses. The Service/Component-level points of contact listed in the DSMC 1998 Catalog (pp. 30-31) can advise on specific application procedures.

For catalog requests or general information about DSMC courses or schedules, call the Office of the DSMC Registrar at (703) 805-3681, DSN 655-3681, or Toll Free 1-888-284-4906. Information about DSMC courses and schedules is also available at <http://www.dsmc.dsm.mil> on the DSMC Home Page.

### About the BMPCOE

Ernie Renner, Director, BMPCOE, is the point of contact for those interested in learning more about or using the resources of the BMPCOE:

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 E-mail: [ernie@bmpcoe.org](mailto:ernie@bmpcoe.org)  
 Fax: (301) 403-8180



## Manufacturing Management Curriculum Flow & Integration — APMC 98-1