

Best Manufacturing Practices Survey of Navy's Directorate for Missiles and Surface Launchers

A Process for Benchmarking Program Management Office Teams and Processes

Larry J. Halbig • Thomas A. Harvat • Cmdr. Frederick F. Schulz, USN

On July 11, 2002, the leadership, management, and process champions of the Department of the Navy's Directorate for Missiles and Surface Launchers (PEO TSC-M/L) received a debrief on the results of a best manufacturing practices (BMP) survey of their organization. During their briefing, the BMP survey team co-chairs reviewed the on-site activities conducted during that week; summarized the team's findings in each area surveyed and conducted feedback; provided a draft copy of the BMP survey report for organizational review and comments; thanked the host organization for the invitation to validate its best practices; and welcomed them into an expanding network of excellence.

Shortly after his appointment as under secretary of defense for acquisition, technology, and logistics (USD (AT&L)) in 2001, Edward C. "Pete" Aldridge Jr., announced that the top five goals on his agenda to sustain acquisition excellence were to:

- Improve the credibility and effectiveness of the acquisition and logistics support process.
- Revitalize the quality and morale of the AT&L workforce.
- Improve the health of the defense industrial base.
- Rationalize the weapon systems and infrastructure with our defense strategy.
- Initiate high-leverage technologies to create warfighting capabilities and strategies of the future.

By this time, the men and women of the Navy's STANDARD Missile Program management team had already embarked on a series of activities in keeping with these goals, with successful results. As part of its continuous process improvement efforts, leadership considered obtaining independent validation of its practices using an

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outside team of subject matter experts (SMEs). By benchmarking with the best, the program management office (PMO) believed it could obtain feedback from teams of experts; avoid costly mistakes through reduced reinvention, duplication, and risk; and raise the bar for others by sharing capabilities of the STANDARD Missile team. The BMP survey process provided a credible resource.

This article is intended to provide the AT&L community with information on an available process to benchmark

Halbig is a process champion for BMP surveys with the Best Manufacturing Practices Center of Excellence (BMPCOE). **Harvat** is a program management analyst with the Surface Ship Weapons and Launchers, Program Executive Officer for Integrated Warfare Systems (PEO IWS 3A). **Schulz** recently retired from the U.S. Navy as a commander. He served as a member of the DAU faculty, teaching manufacturing management, systems engineering, and acquisition topics.

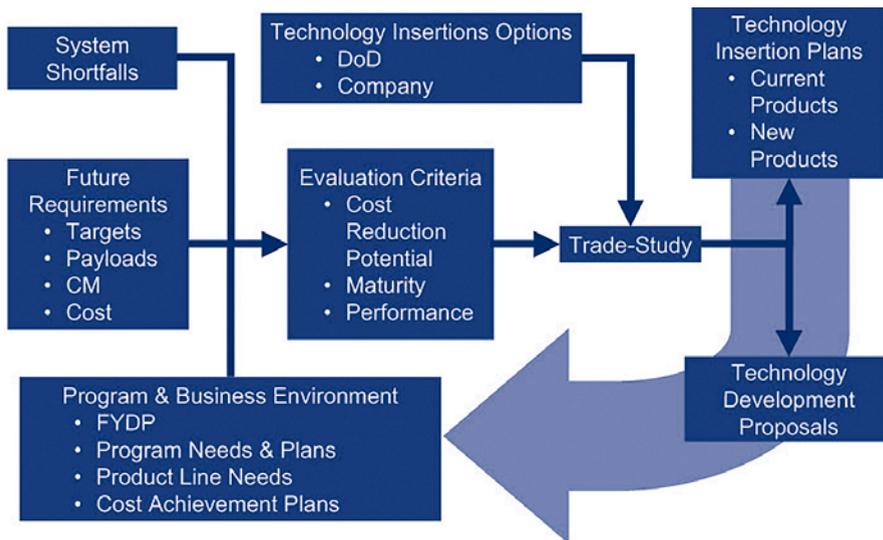


FIGURE 1. Technical Evaluation and Selection Process

PMO teams; to enable participants to share individual and organizational perspectives and insights on how the process can add value to all parties involved; and to solicit ideas from others on opportunities for the STANDARD Missile team to continue process improvement efforts already under way.

PEO Organizational Mission

The PEO TSC-M/L (formerly the STANDARD Missile Program office (PMS 422)), is responsible for cradle-to-grave management of the STANDARD Missile Program (including all variants). This responsibility includes concept formulation, design, development, integration, acquisition, test and evaluation, fleet introduction, modernization, and life-cycle maintenance. All functions of the team are performed in a manner consistent with Department of Defense (DoD) acquisition policies and regulations. The PMO team consists of 85 geographically dispersed men and women (both government employees and contractors) and is headquartered in Arlington, Va. PEO TSC-M/L continues to meet the Navy’s needs while evolving the STANDARD Missile Program through the application of new technology and best practices. As a result of a recent reorganization, the PEO TSC-M/L is now the program executive office for integrated warfare systems, surface ship weapons and launchers (PEO IWS 3A).

BMPCOE Mission

An Office of Naval Research (ONR) activity, the mission of the Navy’s BMP program is to provide support to the fleet by identifying and promulgating the use of best practices throughout industry to improve weapon system performance. The BMP Center of Excellence (BMPCOE), located in College Park, Maryland, is a Navy manufacturing technology program in partnership with the Department of Commerce (DoC) and the University of Maryland. This technology transfer collaboration between government,

industry, and academia is further leveraged by 10 regional satellite centers through voluntary agreements with host organizations. BMPCOE’s core competencies include on-site surveys, systems engineering (including risk management), and Web technologies. The BMPCOE serves as a national resource to improve the quality, reliability, and maintainability of the goods and services delivered by the national technology and industrial base.

Critical Thinking—Connecting the Dots

It was while he was a student at the Defense Acquisition University (DAU) that Clay Crapps, deputy program manager for PEO TSC-M/L, first learned about the BMP program. Ex-

ploring the BMP database, he saw the diversity of organizations previously surveyed by BMP teams (including small, medium, and large; government and commercial; both manufacturing and service); and documented practices (including funding, design, test, production, facilities, logistics, and management). At first glance, not many of the practices appeared to apply to a government program office. What was missing was a BMP survey of a DoD PMO. The BMP survey process appeared sound, so Crapps decided to invite the BMPCOE to survey his outfit. “We are always looking for ways to better our processes or performance,” he says.

Conducting the PMO Survey

The BMP survey of the PEO TSC-M/L was conducted and completed as planned and on schedule, in accordance with a mature and documented process. During the months of April and May 2001, the PEO TSC-M/L management team process champions developed a list of their best practices. Crapps sent a letter to the BMPCOE director formally requesting a BMP survey of the organization. The first challenge was informing members of the PMO team. Educational briefings and discussion meetings got the word out that a BMP survey is not an audit or an inspection; rather, it’s a cost-effective way to promote the things an organization does best and obtain feedback from SMEs on ways to improve organizational practices.

The next issue was to identify the best practices the BMP team was to survey. “We knew we were working hard and doing some good things,” says Crapps. As the first program office to be surveyed by the BMPCOE, process champions were not sure which processes would be seen by the BMP survey team and the community as “best.” Working with representatives of the BMPCOE, the program office developed, refined, and presented a list of topics. During the pre-survey visit, the PEO TSC-M/L identified 23

Anatomy of a BMP Survey

Developing a List of Presentations

An organization's first step in preparing for a BMP survey is to develop a list of items that it does well and wants the survey team to evaluate. The list should not include anything the organization does not wish published in the final report (classified or proprietary items, for example). Each item on the list should be accompanied by a brief description of the process or practice. The typical number of topics presented during a BMP survey ranges from a minimum of 15 to over 100, depending on the size of the organization.

Organization Invitation

The process begins when the BMPCOE director receives a letter from the host organization (signed at an appropriate management level). The organization should identify a desired target date for the survey and an organizational point of contact (POC).

Hosting the Pre-Survey Visit

Eight weeks prior to the survey, the survey team chair and one or two BMP representatives conduct a one-day pre-survey visit to the facility. Agenda items include an overview briefing of BMP and the survey process; an organizational overview briefing and facility tour; reviews and discussions of proposed topics; and administrative details (including security clearance procedures and on-site logistical support for the survey team members).

Survey Team Preparations

Based on the pre-survey visit, the survey chairperson develops and executes a BMP survey plan. The team's organization is determined by the categories of topics to be presented. Team member selection is based on individuals' knowledge

and experience in those areas. (BMPCOE maintains a U.S.-wide pool of approximately 150 subject matter experts from government, industry, and academia.) Prior to the survey, a list of team members and their biographies is provided to the host organization to allow the organization to review qualifications and eliminate team member(s) that it would prefer not be included.

The On-Site Survey

A BMP survey consists of a five-day visit to the facility (typically commencing on a Monday afternoon and concluding early on the following Friday morning).

- **Day 1:** In-processing; welcome and introductions; organizational overview; and facility tour.
- **Days 2 and 3:** Process champion presentations of their best practices (briefings and process demonstrations). As many as six presentations per day for each team may be scheduled concurrently. These are typically not more than one hour in length, including time for questions and answers and tours. BMP survey teams work to organizational schedules to minimize disruptions to enterprise operations.
- **Day 4:** The survey draft report is prepared by the BMP team.
- **Day 5:** BMP survey team debrief/feedback with enterprise management, staff, and presenters. A draft copy of the survey report is left with the organization for review and comment. While BMPCOE controls the process ratings, the organization controls the data.

Post-Survey

The enterprise approves the draft survey report. The survey report is posted on the BMP Web site. Abstracts are added to the BMP best practices database. BMPCOE publishes and distributes hard copies of the survey report.

items for presentation to the BMP survey team and designated Thomas Harvat as the organizational point of contact. The BMPCOE director, Anne Marie SuPrise, designated Rick Schulz and Larry Halbig as survey team co-chairs. The 23 topics were organized into five best practices categories: design (two topics); test (four topics); production (two topics); logistics (one topic); and management (14 topics). For the survey, the co-chairs selected a team of 10 individuals from a cross section of industry, government, and academia (including DAU; Naval Surface Warfare Center (NSWC) Corona; NSWC Crane; Computer Sciences Corporation (CSC); the BMPCOE; and the DoC.

The on-site survey was conducted July 8 - 11, 2001. During the survey, PEO TSC-M/L presenters provided in-depth descriptions of their practices and the benefits derived from them by the PMO. The BMP survey team validated, documented, and assessed each practice presented and exchanged knowledge and recommendations derived from their own experience and from the BMP best practices database.

Survey Process Results

The BMP survey team validated 16 PEO TSC-M/L practices as among the best in use throughout government and industry. Included are:

- The strategic planning and technology management process—to identify and use new technology and process priorities for insertion into current and future programs (Figure 1, Technical Evaluation and Selection Process, page 25).
- The Configuration Control Board—which streamlined the directorate's change control process by adopting a more parallel procedure that facilitated a timelier approval cycle and avoided expensive delays.
- The revision of the Missile Document MD-57104—a comprehensive process that consolidated systems engineering, quality, and reliability requirements.

- Government program office/contractor co-location—which improved communication.

The full BMP survey report is available on the BMP Web site at < www.bmpcoe.org > .

Firsts for BMPCOE

“We were thrilled to receive Clay’s invitation,” says SuPrise. “Though the BMP program has conducted many surveys of government enterprises [including all services, operational fleet units, and support activities at various echelons] this was our first survey of a PMO.”

At first glance, some might consider surveying a PMO to be a stretch for the BMPCOE, but the majority of the best practices recently validated have been in the management area (currently 33 percent of the total BMP database). “For this survey, my vision was to rely heavily on our partnership with DAU, the DoD program management functional gurus,” adds SuPrise. While members of the DAU faculty had served on teams for previous BMP surveys of industry, having a DAU member as co-chair of the team this marked another first. “DAU came through like champs,” says SuPrise. “Benchmarking DoD PMO teams is a logical and essential step in the evolution of the BMP survey process. Partnering with the DAU provides an exceptional resource of SMEs for our BMP survey teams.”

A Survey Team Member’s Perspective

“I found great value in my participation on the BMP survey team, and highly recommend that DAU faculty and staff actively seek to participate on a survey team,” says DAU faculty member Jill Garcia. She adds that the benefit is three-fold: (1) staying current with organizations’ best practices; (2) networking and making contacts with practitioners; and (3) sharing experiences and knowledge with others to improve performance.

A PM’s Viewpoint

“We were the first program office to be surveyed by the BMPCOE, and we hope others will follow,” says Crapps. “We will let others learn from us and hope to learn from them once they have participated in the survey process. We believe the BMPCOE provides a credible resource for helping members of the AT&L community identify and mitigate program risks.” Crapps adds that the BMPCOE mission aligns perfectly with the USD (AT&L) goals, and their developed tools (such as the Program Manager’s WorkStation (PMWS) and Collaborative Work Environment (CWE)) enable rapid access to technical guidelines documents and management of geographically dispersed teams.

On Nov. 22, 2002, at the PEO/SYSCOM Commander’s Conference at the DAU, the USD (AT&L) introduced his

The DAU /BMPCOE Strategic Partnership

The education and training mission of the Defense Acquisition University (DAU) is to provide the acquisition, technology, and logistics (AT&L) community with the right learning products and services to make smart business decisions and deliver timely, cost-effective products to our warfighters. Since 1993, DAU has maintained a partnership with the BMPCOE. This collaboration has included curriculum development; incorporation of BMPCOE materials in Communities of Practice; DAU faculty participation in BMP surveys; BMPCOE staff instruction in DAU courses; and teaming on consulting (direct performance support) projects requested by DoD program management offices. In 2001, the DAU president directed the establishment of a BMPCOE satellite center at the DAU Capital and Northeast Region campus at Fort Belvoir, Va.

top five priorities for the next 18 months. The updated goals were to:

- Continue progress with the original five goals.
- Re-engineer AT&L.
- Develop acquisition plans for all major weapon systems.
- Complete plans for a future logistics enterprise.
- Accelerate flow of technology to the warfighter.

He stressed to the conference attendees that their work as PMs had “never been more important or anticipated” in fielding affordable, high quality, technologically superior advanced weapon systems.

In today’s environment of highly sophisticated and complex warfare, where a single failure can destroy combat resources, bring about undesirable political consequences, and—most important—imperil human life, it is vital that program management functions be performed to the highest standards of excellence, using the best practices available. PEO IWS 3A is already addressing additional challenges of working with suppliers to reduce hardware cost; preserve its vendor base; and evolve both the STANDARD Missile and Vertical Launching System capabilities to meet increasingly sophisticated threats. The directorate remains committed to excellence in communication and to exchanging best practices with other program offices and the entire U.S. industrial base.

Editor’s note: For more information, contact Bill Motley: bill.motley@dau.mil.