2005 SECRETARY OF DEFENSE ENVIRONMENTAL AWARDS
DEFENSE LOGISTICS AGENCY
DEFENSE NATIONAL STOCKPILE CENTER
ENVIRONMENTAL QUALITY TEAM AWARD

Abstract

Throughout 2005, the Defense National Stockpile Center (DNSC) has been transforming into a smaller organization with fewer employees and facilities. These changes have put an even greater premium on efficiency and effectiveness leading the DNSC to look at its processes and seek out ways to improve them further. Currently the DNSC has a workforce of 140 people working at the Headquarters and eight staffed depots. By October 2007, the workforce will be reduced to approximately 45 people working at the Headquarters and three staffed depots. At the same time, the number of non-staffed storage sites will be reduced from 18 to 8. Funding cuts are also evident. Just three years ago, the DNSC had an annual operating budget in excess of $76 million. In the 2005 fiscal year, that budget was reduced to less than $60 million with a projected budget decline to less than $40 million by 2008.

Looking to its Environmental Management System (EMS) to provide the tools to support its transformation, the DNSC environmental leadership developed the Process Management and Optimization Project (PMOP), an innovative component of its EMS that focused on even greater streamlining, accountability, and efficiency. The Plan–Do–Check–Act cycle of the EMS was used in the development of improved mission performance.

The EMS-PMOP Team

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Program Management

The DNSC is responsible for providing stewardship for strategic and critical materials in the United States National Defense Stockpile (NDS). The NDS mission when it was created before World War II was to acquire and store metals, minerals, and agricultural supplies. The stockpile of materials was intended to decrease dependence upon foreign sources of supply during a national emergency.

DNSC manages diverse commodities including over nine million pounds of elemental mercury, titanium, diamonds, cobalt, tin and millions of pounds of metal ores stored at 27 locations nationwide. Since 1993, DNSC sales have totaled more than $5.9 billion dollars. The remaining commodities are valued at $1.5 billion.

Ferrochrome Ore stored at DNSC Point Pleasant Depot, Point Pleasant, West Virginia.

DNSC's elemental mercury is stored in depots in Indiana, Ohio and New Jersey.

In 1992, the Congress of the United States authorized the DNSC to sell commodities that are excess to Department of Defense (DoD) needs. With 99% of stockpiled materials determined to be excess, DNSC is aggressively selling the materials, closing storage sites, and reducing manpower.

Environmental management is one of DNSC's key areas that are integrated with Stockpile Operations and commodity sales. DNSC has maintained an excellent record of environmental compliance with no notices of violations. This key emphasis resulted in an early decision to develop and implement an EMS that provides a basis for improved mission accomplishment.

In September 2003, DNSC became the first Field Activity within the Defense Logistics Agency (DLA) to implement a conforming EMS. DNSC enjoyed immediate success with its EMS particularly with a manganese ore project at Henderson, Nevada. Integrated planning and improved environmental management in that effort resulted in DNSC finding a beneficial use for the ore while assisting a Federal Activity and avoiding approximately $1 million in disposal costs.

Since then, the DNSC team has focused on using its EMS to further improve mission performance. The success of the Henderson project prompted DNSC leaders to look at its plans and processes for closing storage sites and depots to find greater efficiencies for the changing organization.

The PMOP, with its focus on reducing waste and streamlining redundant tasks and functions, is a crucial part of accomplishing the DNSC's mission and goals. The PMOP places primary

emphasis on the business practices most important to the DNSC's transformation plan with an emphasis on commodity relocation within or between depots and depot site closure procedures.

The team developed the EMS-PMOP in several stages, including planning, implementation, and assessment. Currently in the implementation stage, the EMS-PMOP team is instituting new standard operating procedures (SOPs) and best business practices related to commodity relocation and site closure. Developed with working groups composed of a cross-section of DNSC employees and leadership, the project has successfully achieved top-down buy-in and integrated cross-departmental management.

Already, a number of these Optimized SOPs have been implemented, including:

- Planning processes for commodity relocation,
- Acquisition and purchase request processes,
- Commodity relocation processes, and
- Site closure processes (from closing a single building to closing an entire site)

In addition, documented requests for information rather than undocumented verbal requests now provide an authoritative trail indicating the roles, responsibilities, and accountability of the requestors as well as the responder. All of these factors were already established in the DNSC EMS which allowed easy application to mission areas. Formal documented SOPs, checklists, and process instructions replaced verbal instructions and guidelines thereby decreasing the potential for misunderstanding requirements and for incorrect or incomplete recordkeeping.

In 2005 alone, the DNSC team completed Phase One of the EMS-PMOP, reviewing processes and developing new SOPs, and began Phase Two, formalizing and incorporating these new practices into its EMS and obtaining employee buy-in at every level.

Technical Merit

Two projects prompted the DNSC Administrator to review the organization's business practices. A talc disposal project involved the opening of large storage tanks and resulted in the release of a significant dust cloud. The project was shut down and subsequently delayed for nine months until controls were established and a risk analysis was completed. The second was a lead ingot removal project where a lack of planning led to significant contamination and a $60K warehouse cleanup that could have been avoided. The EMS-PMOP has added an ESOH risk analysis in the planning stage that would prevent these unforeseen events.

Essentially, the EMS-PMOP is a systematic management approach that provides a method for continual improvement throughout the entire DNSC operation. It emphasizes reducing the risk of environmental incidents, the risk of health and safety accidents, and the overall time needed to complete specific processes. The net result reduced cost due to comprehensive risk management, greater collaboration between directorates, and common goals. The PMOP uses numerous techniques to analyze and improve each business process. These include, among others:

- Process Mapping,
- Internal Customer Requirement Identification,
- Value-added Analysis,
- Process Failure Analysis, and
- Cycle Time Assessment

The first step includes developing a process map of the current working process and isolating information by identifying individual tasks and individuals or offices that perform them. This step closely follows the planning that was done in developing the EMS. From this, the team was able to critically review how its processes supported DNSC strategic goals. The team was then able to answer questions such as what are the process results, what should be monitored or measured, how could this task fail, and how can failure be prevented? By answering these sorts of questions, the DNSC team has been able to implement controls at key points in each process to prevent failure, provide accountability, and eliminate redundancy. This review included many of the elements already included in the DNSC EMS such as document control, emergency response plans, recordkeeping, improved communication, and operational controls. Further, certain pilot projects were used in the development of objectives and targets in the DNSC EMS. Metrics were determined for each desired process result so that progress could be measured and evaluated. This effort resulted in new, more efficient SOPs and better business practices.

The two focus areas, commodity relocation and site closure, require DNSC employees to accomplish a multitude of tasks and processes, and the PMOP is able to apply techniques that create custom-tailored process improvements. With the PMOP's objective evaluation system in place, the DNSC leadership is positioned to monitor goal achievement and performance. This is analogous to measuring environmental performance in the EMS and evaluating areas of continued improvement. Because these mission tasks are the responsibility of multiple departments and offices, the EMS-PMOP team can then identify communication breakdowns in the process and ensure goals become aligned between all departments and functions generating new organizational efficiencies.

Currently, the team is incorporating the new SOPs and associated documentation into its EMS providing a formal framework for document control and auditable processes. A cross-reference document which identifies the processes and their applicable primary and secondary requirements will be included. Advanced consideration is now given to risk assessment, regulatory requirements, costs and liability when planning commodity relocation, depot consolidations, and closure. By concentrating on obtaining the desired results from processes and basing those results on mission needs, the DNSC is already showing improvement in communication and collaboration among departments and functions, with better alignment of interdepartmental objectives.

One example of this is the improved communication between the DNSC's environmental and contracting offices. In the past, when an environmental employee sent a request to the contracting office, timely fulfillment was rare. Essentially, the contracting and environmental offices were speaking different departmental languages. A lack of interdepartmental understanding led to miscommunication and confusion. Often, the request would be returned to the environmental office for further interpretation or clarification resulting in more lost time and frustration. Through the PMOP, however, these sorts of tasks have been optimized to enhance communication. PMOP working-level teams were able to develop a cross-functional relationship between departments. The environmental office now uses checklists when submitting requests to ensure all of the contracting office's needs are fulfilled and all requirements are met. Simply by learning what those requirements involve and incorporating them into their own business practices, the environmental office has reduced the amount of time wasted in dealing with contracting requests and confusion allowing the staff to focus on other areas. In keeping with the PMOP's commitment to continual improvement, the environmental

office has established a baseline of time spent on contracting problems prior to optimization and is comparing it to the time spent currently. Early results indicate the time to process a contract has reduced from 6-8 months to 3 months. This is a direct result of using and improving the EMS.

Metrics and baselines have been developed to mark the decreases in environmental or health and safety incidents, project completion times, and transportation costs.

Additional metrics will be implemented as the PMOP moves forward and begins to target other process areas. These metrics will be incorporated and integrated into the EMS as well to ensure improvements are auditable. In time, DNSC leadership expects that the benefits of these first PMOP phases will affect the entire stockpile organization leading to greater cross-functionality in all areas. The PMOP has become one of the most powerful tools of the EMS, setting a standard for a continual cycle of process analysis, improvement, and assessment.

Orientation to Military Mission

The EMS-PMOP team has already made a number of changes to DNSC processes resulting in several organizational benefits which support the DNSC's mission. The new SOPs include streamlined approaches to all tasks associated with commodity relocation or site closure which save time, money, and resources. Already, a number of these SOPs have been implemented including the optimized planning processes for commodity relocation, acquisition and purchase request processes, commodity relocation processes, and all site closure processes. In every case, the team has succeeded in significantly reducing the number of steps involved in each task since implementation of the PMOP.

At DNSC, the EMS has also resulted in significant cultural change and education of employees and how the employees plan and perform their work. The maturing EMS has been utilized to focus on one area of mission performance in the PMOP and is already showing more efficient business practices than ever before. The new SOPs save both employee time and agency funds allowing the DNSC to increase its effectiveness across the board. Early indications are that operations are being maintained at prior year levels using about 30 percent less resources. The PMOP offers greater efficiencies and improvements in every process and task that supports the agency's larger goals.

Transferability

Though the EMS-PMOP team is currently focused in the two areas considered critical to the DNSC's transformation effort, the successes already being accomplished in these areas may lead to a wider application of process optimization within DLA. The PMOP has been included in process review briefings within DoD and has drawn interest from the DoD EMS Working Group.

Because the PMOP works with and improves the existing EMS, it is a viable tool for any agency with an EMS in place. Because it is linked to an agency's EMS, any process optimization innovations are also able to outlast the original teams or individuals that initiate them.

Stakeholder Interaction

One of the key benefits of the EMS-PMOP is the cultural change it is creating for DNSC employees as the project's stakeholders. Again, this element builds on the implementation of the EMS, which resulted in a cultural change where employees learned that environmental management included everyone, not just the environmental staff. The interdepartmental aspect of the PMOP is part of what makes it so successful.

Prior to the PMOP, business tasks were carried out within specific departments that had little understanding of what happened when they handed the task off to another department. Planning was done solely by senior leadership, with each manager then working independently in his or her functional area. Relationships between departments and offices were minimal resulting in miscommunication, redundancies, and process failures.

The EMS-PMOP team has created planning innovations that address these limitations. Small working-level groups, representing an organizational cross-section, evaluated the current business practices to determine redundancies or unnecessary steps. These groups were then able to refine task processes so that the right people and activities were involved at every point, resulting in task completion on time at the lowest cost and with the highest quality. Since the employees had already established inter-departmental collaboration in their EMS implementation, this focus became easier to accomplish and was similar to what was already being done.

Understanding how work flows between and among departments and functions enhances communication within the DNSC. Therefore, the requirements of the "internal" customer and the importance of meeting those requirements ensure collaboration within the DNSC. In an environment of downsizing and transformation, traditional management approaches invariably fail. The processes required to achieve both mission and transformation goals were studied by PMOP teams, composed not of senior leaders alone, but of working-level supervisors and process facilitators. Long-standing bureaucratic procedures were dissected and revised to eliminate redundancies and obstacles in the process. The streamlined processes achieved the intended goals of refocusing the workforce on procedures that make sense, reduce frustration, and help get the job done more efficiently. The basis for looking for improved mission performance had already been established in the DNSC EMS.

By communicating with and including all DNSC employees in this way, the team ensured full organizational understanding and buy-in for the new and changing processes. By working with the people who are responsible for actually carrying out these tasks, the DNSC team was able to find true best business practices that support its EMS and environmental goals along with its greater military mission. The EMS-PMOP is resulting in DNSC doing more with less.