Defense Standardization Program

JOURNAL

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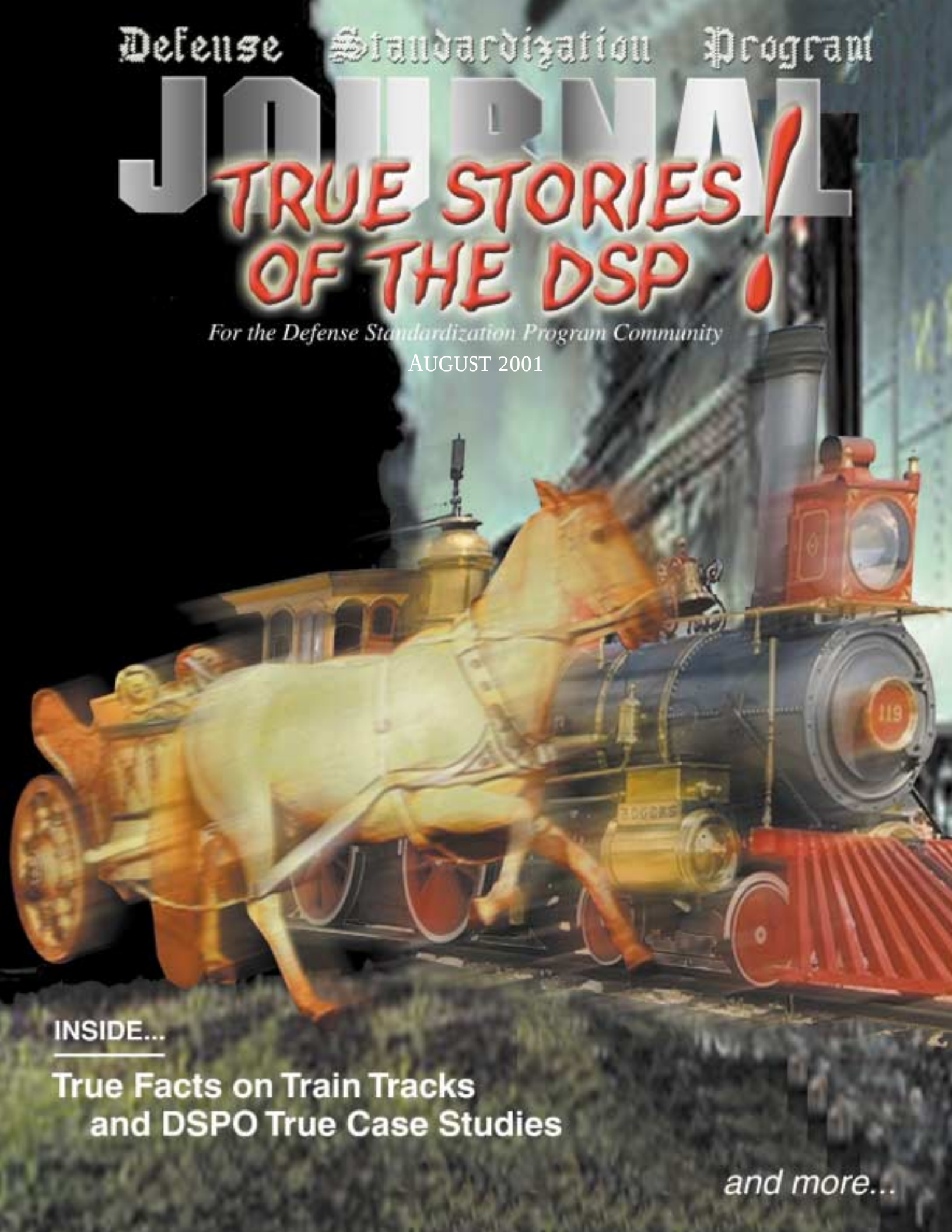
For the Defense Standardization Program Community

AUGUST 2001



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Defense Standardization Council
Department of Defense
Louis A. Kratz
Department of the Army
Renata F. Price
Department of the Navy
Christine Stelloh-Garner
Department of the Air Force
Dr. Don Daniel
Defense Logistics Agency
Thomas Ridgway
Defense Information Systems Agency
Vacant
National Security Agency
Glenn Plonk

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Defense Standardization Program Office
Acquisition, Technology and Logistics
8725 John J. Kingman Road · Suite 4235
Fort Belvoir, Virginia 22060-6221
(703) 767-6870 Telephone
(703) 767-6876 Facsimile
http://www.dsp.dla.mil
sharon_strickland@hq.dla.mil

Gregory E. Saunders
Director, Defense Standardization Program Office
Sharon Strickland
Editor, Defense Standardization Program Journal

Typesetting and design by New Century Solutions
Lisa_Connelly@Post.Harvard.edu

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DEFENSE STANDARDIZATION PROGRAM

JOURNAL

For the Defense Standardization Program Community
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DoD policy is to promote standardization of materiel, facilities, and engineering practices to improve military operational readiness, reduce total ownership costs, and reduce acquisition cycle time.

DSP Mission: Identify, influence, develop, manage, and provide access to standardization processes, products, and services for warfighters, the acquisition community, and the logistics community to promote interoperability, reduce total ownership costs, and sustain readiness.

Standardization Lightning – Interoperability Thunder

The Director's Forum

Gregory E. Saunders
Director, Defense Standardization Program Office

Mark Twain once observed that while thunder is impressive, it is the lightning that does the work. By this, he meant that even though most people are taken back by the loud crack of thunder, the thunder doesn't happen without first having the lightning. A similar relationship exists between interoperability and standardization. While the focus is correctly on the operational warfighting capabilities that interoperability provides, it is the process for arriving at standardization decisions and documenting those decisions in standards that can make interoperability possible.

At the end of May 2001, the Navy held an interoperability conference, which had an impressive list of senior level speakers not only from the Navy, but from the other services, OSD, and major defense companies as well. The conference addressed a wide variety of interoperability issues, but some resonated more than others from a Defense Standardization Program perspective.

It was significant that nearly every uniformed speaker mentioned the importance of and need for standards. While none of the speakers dwelled on the subject of standards, as they shared operational problems and challenges, it seemed apparent that having the "right" interface standards available, current, visible, and organized around mission need requirements, would have gone a long way to solving some of the interoperability issues.

The reason the word "right" appears with quotations is to highlight a common complaint at the conference that there is no shortage of technical architectures that identify interoperability standards. The criticism is that these architectures often represent a data dump of standards which seem more directed at satisfying the owners of the technology rather than the stakeholders of the weapon systems and the stakeholders of the different mission capabilities. While everyone recognizes that architectures to identify interoperability standards are essential, the real question is how much interoperability is needed? If a technical architecture prescribes too much interoperability, it can become technically difficult or impossible to achieve, and it can become unaffordable. What most of the stakeholders at the conference seemed to suggest was that technical architectures need to be centered around essential mission capabilities (e.g., air defense, anti-submarine warfare, reconnaissance, etc.) and that identification of interoperability standards needs to go beyond the engineering community and include the mission stakeholders. Implied in these discussions was that standards must be more than bureaucratically produced documents if they are to gain widespread acceptance. Successful standards must have well identified users who can readily see the economic and operational benefits from using a standard and they must involve the interests of key stakeholders.

Another common concern at the Navy conference was that military operations in the last decade showed a growing disparity in the interoperability capabilities between the U.S and our NATO allies. This disparity is the result of two trends. First, while the U.S. defense budget has been cut dramatically in recent years, the European defense budgets – which were smaller to begin with – have been cut even more. So as the U.S. upgrades its existing military equipment, our European allies are becoming out-of-sync. Secondly, our NATO allies are expanding their own military industrial base in some areas. Today, a large degree of interoperability is achieved because our allies use U.S. weapon systems. For

Continued on next page...

example, today the F-16 is the fighter aircraft of choice for many of our European allies. But with the introduction of the EF-2000 Typhoon aircraft produced by a consortium of European nations, it is predicted that by 2015, only Belgium, Denmark, the Netherlands, and Norway will be flying significant numbers of U.S. fighters, and the interoperability challenges will become more difficult.

A Rand report published last year entitled "Interoperability: A Continuing Challenge in Coalition Air Operations" echoes many of the allied interoperability concerns expressed at the Navy conference. (A copy of this report may be downloaded at *http://www.rand.org/publications/MR/MR1235.)* The Rand study suggested that given the current budgetary restraints on both sides of the Atlantic, a relatively lower-cost solution to the interoperability problems among the allies would be implementation of unified NATO standards, organizational reform, and joint systems based on existing technology. The Rand study does not suggest the unbridled development of NATO standards, but does suggest that standards can be of great value in promoting interoperability if they "codify an existing (or a negotiated) consensus on an operational condition."

A final point repeatedly made at the Navy conference was that interoperability is much more than just communications or information exchange, and this point was good to hear. While C4I interoperability is absolutely essential for military operations, standardization of other non-C4I capabilities is also essential. At the Air Force Association's Air Warfare Symposium held on February 14-15, 2001, General Gregory S. Martin, commander of the U.S. Air Forces in Europe, identified several non-C4I interoperability needs that had to be addressed to close the growing gap in capability between the U.S and its NATO allies, including aerial refueling, stealth technology, precision attack, and the ability to operate in a chemical/biological environment.

Unfortunately, there seems to be a widespread belief in the Defense Department that interoperability and standardization are unrelated. Some view interoperability as being restricted to making C4I systems work together, and standardization to producing carbon copies of parts and components. Such a view is incorrect and puzzling. NATO describes standardization as the process for achieving and maintaining the most effective levels of compatibility, interoperability, interchangeability, and commonality for materiel, operations, and administration.

Interoperability and standardization are connected just as thunder and lightning. Lightning causes thunder, and the "right" type of standardization and standards result in the interoperability the warfighter needs to win on the battlefield. The challenge for the Defense Standardization Program will be to improve our processes, communication, and tools to generate the proper level of standardization lightning for the interoperability thunder we want to hear.

Just What is a Yankee Doodle?

So "Yankee-Doodle went to town." And just why should anyone care? Why would anyone ever sing such goofus-like lyrics? "Stuck a feather in his cap and called it macaroni." Really? You must be kidding!

In fact it's ironic that Americans proudly sing a song that originally mocked them and their notion that they should be free and independent. It originated as a 14th century nonsense song in Holland about a silly character named "Yankee-Doodle." English school children adopted it to make fun of Oliver Cromwell. In the same spirit, the British troops fighting against the colonists in the American Revolution poked fun at their adversaries with the song. But wouldn't you know it! The Americans not only shot from behind trees at the Redcoats marching in the open formation, they also turned their own song against the British troops, making of them not macaroni but mincemeat.

(Source: JUST CURIOUS, JEEVES by Jack Mingo and Erin Barrett)

Developmental Test Command Employee Earns Award for Standardization Program that Saves Millions of Dollars

by **Mike Cast,**
U.S. Army Developmental Test Command

The following article, reprinted by permission, appeared in the May 24, 2001, edition of the "APG News," a weekly Aberdeen Proving Ground newspaper. The article describes Herb Egbert's outstanding efforts, which resulted in his being selected as the year 2000 winner of the Defense Standardization Program Distinguished Achievement Award. Congratulations!"

The Defense Department program that develops, manages and promotes standardization throughout the military recently awarded a Developmental Test Command employee for his work in standardizing environmental-safety test procedures for rockets, missiles and ammunition. Herb Egbert of DTC's Directorate for Test and Technology received recognition in April as an Army winner of the Honorary Defense Standardization Program Achievement Award for 2000. He was also chosen from among seven winning organizations to receive the Distinguished Accomplishment Award for 2000 for work that is expected to save the Defense Department millions of dollars. Only one such award is presented yearly and carries a $5,000 prize for the winner.

"Picking one of these winners as more deserving than the others was daunting," wrote Gregory Saunders, director of the Defense Standardization Program (DSP) Office, in the Defense Standardization Program Journal Update, a periodical published by that program. "But after careful examination, we selected Herb Egbert, from the Army Developmental Test Command, as the winner for his work in NATO that dramatically improved and standardized on munitions safety testing."

The DSP provides access to standardization processes, products and services for everyone from service members in the field to managers of acquisition programs, with the aim of promoting interoperability and reducing costs throughout the life of systems. Based on test costs, the efforts of Egbert and a NATO subgroup are expected to result in a $147.3 million savings in test costs for the Patriot Advanced Capability-3 (PAC-3) missile program. The anticipated savings in test costs for the Theater High Altitude Area Defense (THAAD) missile program is about $271.8 million.

....after careful examination, we selected Herb Egbert, from the Army Developmental Test Command

The NATO subgroup developed five safety test methods that standardize environmental-safety tests for munitions and explosives throughout the U.S. military and among nations allied with the United States. Egbert, who was also recognized for his publications on environmental testing and tests related to munitions, said he worked in collaboration with the NATO Group on Safety and Suitability for Service of Munitions and Explosives. One NATO group focused on testing to ensure the safe transportation of hazardous munitions, he explained, while another group focused on test procedures for "insensitive" munitions, those that Egbert described as having "a minimized response to unplanned stimuli, thus improving the survivability of personnel and equipment." He said the standardization efforts, which began about two-and-a-half years ago, should result in substantial savings by standardizing the types of tests done for the two categories of munitions and eliminating duplicative or nonessential testing.

"To perform all of the required tests for both (categories of munitions), it would take about 30 separate tests," he said. "We brought the technical experts together and got them to go through test procedures line by line, letting us know what procedures they could accept working toward the essentials.

"An example of potential savings would be the PAC-3 missile that costs about $2 million per copy to test, and with standardized testing we get the tests down to three test items, which is a considerable savings," Egbert added. "Each THAAD that must undergo these tests costs about $8 million per copy, so we're saving significantly by reducing the number of tests for that program."

Environmental-safety testing on munitions, ammunition and rockets involves procedures such as subjecting them to fuel fire, bullet and fragment impacts, and slow heating, as well as testing them to determine if they would be prone to "sympathetic reaction" if munitions stored nearby detonate or burn, and dropping items onto a metal plate from a minimum height of 40 feet.

STANDARDS ENGINEERING
THE JOURNAL OF THE STANDARDS ENGINEERING SOCIETY

Participation By Federal Agencies In Voluntary Consensus Standards Bodies

By Paul Gill, William W. Vaughan, and Stephen Lowell

Introduction

The information presented in this paper is based on the contents of the Office of Management and Budget's Circular A-119 "Federal Participation in the Development and use of Voluntary Consensus Standards and in Conformity Assessment Activities," February 10, 1998. (Ref. 1,2) The Circular establishes policies consistent with Section 12(d) of Public Law 104-113, the "National Technology Transfer and Advancement Act of 1995." (Ref. 3). The policies address, among other matters, Federal participation in non-Government voluntary consensus standards bodies. Participation includes activities involving all non-Government voluntary consensus bodies even if they do not develop standards, such as the American National Standards Institute or American National Metric Council, which influence standards but do not actively develop them.

The Federal Government policies given in the referenced documents are intended to reduce to a minimum the reliance on Government unique standards. Many non-Government voluntary consensus standards are appropriate or adaptable for Government purposes. The use of such standards in procurement (and regulatory) activities, when feasible and appropriate, is intended to achieve the following goals:

a. Eliminate the cost to Government of developing its own standards and decrease the cost of goods procured and the burden of complying with Agency regulations.

b. Provide incentives and opportunities to establish standards that serve national needs.

c. Encourage long-term growth for U. S. enterprises and promote efficiency and economic competition through harmonization of standards.

d. Further the policy of reliance upon the private sector to supply Government needs for goods and services.

It has been asked to what degree should Agency actions be taken to achieve these results. Each Agency must develop and promote these Federal Government policies in accordance with the Agency's mission relative to the use of standards in its regulatory or procurement responsibilities. While OMB Circular A-119 establishes the basic policies and guidance for Agencies, each Agency is responsible for implementing the intent of PL 104-113 and OMB Circular A-119 within the scope of applicable laws or unless otherwise impractical relative to the Agency's mission, authorities, priorities, and budget resources.

The motivation for this paper is the authors' experiences in awareness presentations to Agency employees (including management), contractors, and other professional groups plus discussions with non-Government voluntary consensus standards body members. During these presentations and discussions, it became apparent that Federal employees and contractors do not clearly understand or have an awareness of the key policies concerning their participation in non-Government voluntary consensus standards bodies that are expressed in OMB Circular A-119. The purpose of this paper is to highlight those key policies, and where appropriate, provide some additional guidance based on experiences from the past two years of trying to implement the OMB Circular A-119.

The number in parenthesis beside each section identifies the section of OMB Circular A-119 that addresses the point(s)

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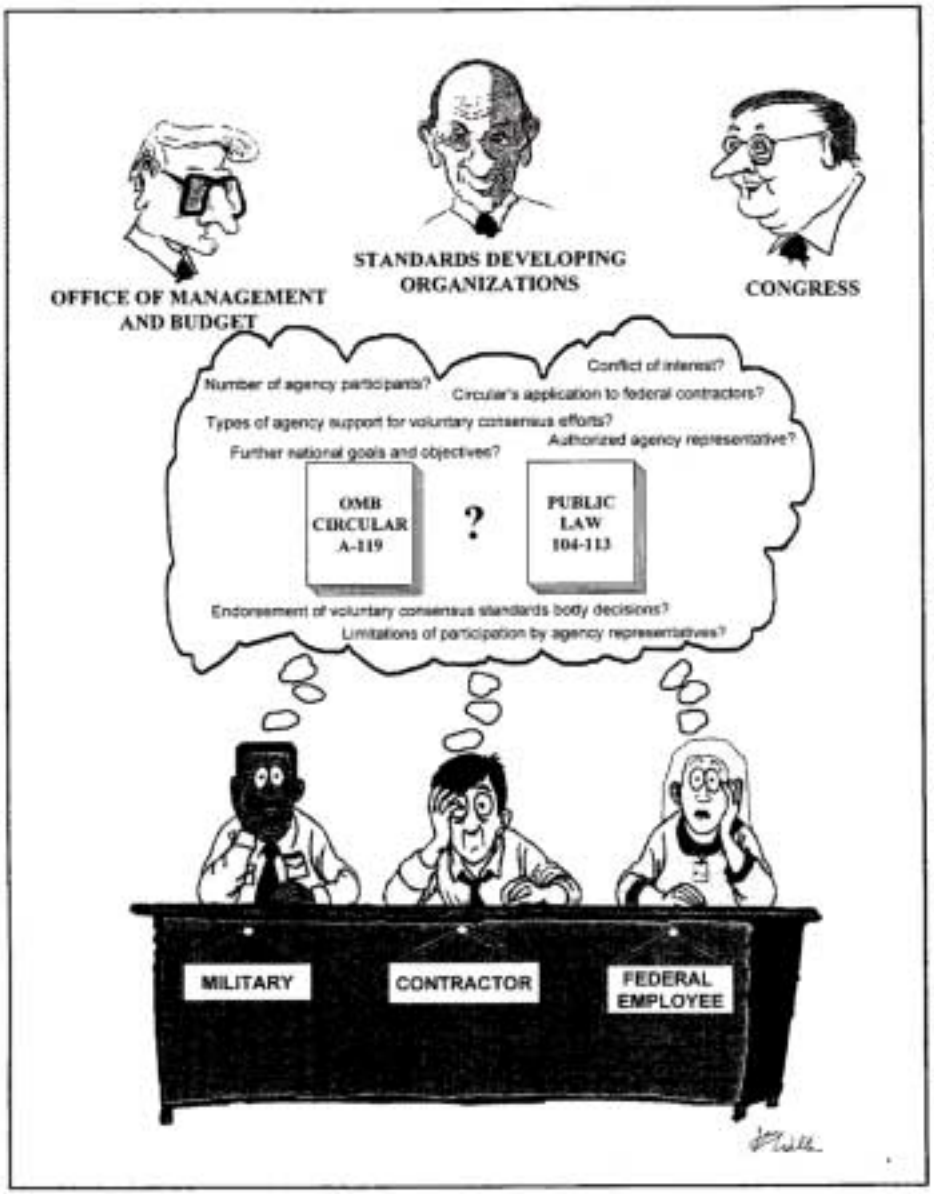
made, except where otherwise noted. Underlining is by the authors. The examples given are from the authors' experiences during interactions with colleagues and associates.



Summary Of Some Key Federal Government Agency, Employee, And Contractor Responsibilities

Agencies are required to consult with non-Government voluntary consensus standards bodies and participate in their activities to eliminate the development or maintenance of separate Government-unique standards. Thus, the initiative for communicating with these non-Government standards bodies exists with the Agency desiring to develop a new standards product or maintain an existing Agency standards product.

Federal employees who accept an invitation to participate at Government expense in a non-Government voluntary consensus standards body standards activity must do so as a specifically authorized Agency representative. In other words, the employee represents the Agency and its view when participating and not the employee's own personal view. Employees are required to ascertain the views of the Agency on matters of paramount interest and express views consistent with established Agency positions. This is a point not fully recognized by either the Federal Government employee, Agency, or the non-Government voluntary consensus standards body.

Federal Government employees must refrain from involvement in the internal management of such non-Government standards bodies and must not dominate such bodies or present the appearance of undue influence relating to the Agency representation and activities in such bodies. This can be a difficult responsibility for an employee whose Agency is contributing financially or "in-kind" support of a non-Government voluntary consensus standards body.

While Federal contractors do not fall within the definition of an Agency, if a Federal contractor participates in a non-Government voluntary consensus standards body on behalf of an Agency, i.e. the contractor's participation is being paid for by the Agency contract, then the contractor must comply with the "participation" policies of the OMB Circular A-119 applicable to Federal employee participation in such bodies. This is a fact not entirely recognized by Agencies or their contractors or by the non-Government standards bodies involved.

Policy For Participation In Non-Government Voluntary Censensus Standards Bodies

Agencies must consult with non-Government voluntary consensus standards bodies, both domestic and international, and must participate with such bodies in the development of voluntary consensus standards when consultation and participation is in the public interest and is compatible with the Agency's mission, authorities, priorities, and budget resources. (7)

Consultation by Agencies with non-Government voluntary consensus bodies, while improving, appears to have been limited by budget resources more so than any other reason. This consultation and participation responsibility does not place more preference on participation at the international level

versus the national level. The key regarding participation is the "public interest" and employee's "Agency mission." Also, there is nothing within OMB Circular A-119 that specifically prohibits Federal employees from participation in consortia standards development organizations such as the Internet Society. This question has been raised in discussions with Federal employees.

Purposes Of Agency Employee Participation

Agency representatives should participate in non-Government voluntary consensus standards activities to accomplish the following purposes:

a. Eliminate the necessity for development or maintenance of separate Government-unique standards.

b. Further such national goals and objectives as increased use of the metric system of measurement; use of environmentally sound and energy efficient materials, products, systems services, or practices; and improvement of public health and safety. (7a)

The question has come up as to whether a Federal employee should refrain from participation in a non-Government voluntary consensus standards body activity that does not support national goals, such as use of the metric system or environmentally sound materials. The answer is, "it depends." Some national goals and objectives are more guidelines than firm requirements. If they can be achieved while meeting the public interest and the Agency's mission, then the Federal employee should encourage supporting these goals and objectives during the committee meetings, but not make compliance a condition of participation.

For example, it is a goal of the Federal Government to increase usage of the metric system of measurement. While the Agency representative should seize opportunities to promote metric, many U.S. industrial sectors, such as aerospace, are almost entirely inch-pound. In this case, it would not be sensible for a Federal employee to insist upon conversion of an entire industry to the metric system before the Agency would participate in the standards development activity. On the other hand, there are sometimes environmental, health, or safety issues, where national goals and objectives cannot or should not be compromised. In these cases, a Federal employee's participation may be contingent upon a non-Government voluntary consensus standards body agreeing to support these goals and objectives.

Obviously, there is no single or easy answer to this question. The only guidance that can be offered is that Federal employees must make participation decisions based on a "sound" business and technical evaluation of whether participation supports the public interest and the Agency's mission.

General Principles That Apply To Agency Support

Agency support provided to a non-Government voluntary consensus standards activity must be limited to that which clearly furthers the Agency's missions, authorities, priorities, and is consistent with budget resources. Agency support must not be contingent upon the outcome of the standards activity. Normally, the total amount of Federal support should be no greater than that of other participants in that activity, except when it is in the direct and predominant interest of the Government to develop or revise a standard, and its timely development or revision appears unlikely in the absence of such support. (7b)

Types Of Support That May Be Provided

Agency support may include the following:

a. Direct financial support, e.g., grants, memberships, and contracts.

b. Administrative support, e.g., travel costs, hosting of meetings, and secretarial functions.

c. Technical support, e.g., cooperative testing for standards evaluation and participation of agency personnel in the activities of voluntary consensus standards bodies.

d. Joint planning with voluntary consensus standards bodies to promote the identification and development of needed standards.

e. Participation of Agency personnel. (7c)

Authorization For Participation Of Agency Personnel

Agency employees who, at Government expense, participate in standards activities of non-Government voluntary consensus standards bodies on behalf of the Government must do so as specifically authorized Agency representatives. Agency support for, and participation by Agency personnel in, non-Government voluntary consensus standards bodies must be in compliance with applicable laws and regulations. For example, Agency support is subject to legal and budgetary authority and availability of funds. Similarly, participation by Government employees (whether or not on behalf of the Agency) in the activities of voluntary consensus standards bodies is subject to the laws and regulations that apply to participation by federal employees in the activities of outside organizations. (7d)

While it is anticipated that participation in a committee that is developing a standard would generally not raise significant issues; participation as an officer, director, or trustee of an organization would raise more significant issues. Federal employees who are representing their Agency must do so at

Federal expense. The Agency should involve its Agency ethics officer, as appropriate, before authorizing support for or participation in a voluntary consensus standards body. (7d)

The question has also been raised whether to be on the safe side as a Federal employee, should the employee always involve the Federal employee's Agency's ethics officer before agreeing to participate in a non-Government voluntary consensus standards body? It is the authors' opinion that such consultation is not necessary provided the Federal employee understands the letter and spirit of OMB Circular A-119. As long as Federal employees are only involved in the technical activities of a non-Government voluntary consensus standards body, they are on safe ground. They should not become involved in boards or groups that direct such functions as budget, personnel, and other administrative functions, unless they clear such participation through their Agency's Ethics Office or General Counsel to ensure there is no real or perceived conflict of interest.

Agency Participation In And Endorsement Of Decisions Reached By Non-Government Voluntary Consensus Standards Bodies

Agency participation in voluntary consensus standards bodies does not necessarily imply Agency agreement with, or endorsement of, decisions reached by such organizations. (7e)

It should also be noted that a Federal employee's (and thus Agency) participation does not constitute assurance that the employee's Agency will adopt the resulting standard developed by a non-Government voluntary consensus standards body.

Agency Participation Relative To That Of Other Members

Agency representatives serving as members of non-Government voluntary consensus standards bodies should participate actively and on an equal basis with other members. This participation should be consistent with the procedures of those bodies, particularly in matters such as establishing priorities, developing procedures for preparing, reviewing, and approving standards, and developing or adopting new standards. Active participation includes full involvement in discussions and technical debates, registering opinions, and, if selected, serving as chairpersons or other official capacities. Agency representatives may vote, in accordance with the procedures of the voluntary consensus standards body, at each stage of the standards development process unless prohibited from doing so by law or by the Agency. (7f)

Limitations Of Participation By Agency Representatives

In order to maintain the independence of non-Government voluntary consensus standards bodies, Agency representatives must refrain from involvement in the internal management of such organizations (e.g., selection of salaried officers and employees, establishment of staff salaries, and administrative policies). Agency representatives must not dominate such bodies, and are bound by voluntary consensus standards bodies' rules and procedures, including those regarding domination of proceedings by any individual. Regardless, Federal employees must avoid the practice or the appearance of undue influence relating to the Agency representation and activities in voluntary consensus standards bodies. (7g)

What constitutes "domination" of a non-Government voluntary consensus standards body within the meaning of OMB Circular A-119? The OMB Circular A-119 is not very clear on this point. Indeed, there are sections of the Circular that encourage Federal employees or their Agencies to take the lead, and by definition, "taking the lead" would seem to imply some dominance. For example, paragraph 7b states that it is acceptable for Federal support to exceed that of other participants when the Government has a predominant interest to develop or revise a standard. Doesn't primary support and predominant interest constitute domination, whether direct or indirect? Paragraph 7f encourages Federal employees to chair committees within non-Government voluntary consensus standards bodies. Since the chair controls discussion and can set agendas, doesn't this constitute domination? What if a Federal employee indicates during technical discussions that if a particular requirement is not changed or added to a standard, then his Agency will not adopt the standard? Wouldn't this threat of non-use constitute domination and undue influence?

These are all fundamental issues concerning a Federal employee's actions while participating in a non-Government voluntary consensus standards body's activities. While the OMB Circular A-119 has created a number of questions about what constitutes dominance, the best advice for Federal employees is to use some common sense. Every participant—whether from the private or public sectors—is expected to express and try to garner support for the views of their organization when participating on a non-Government voluntary consensus standards committee. Trying to persuade others to share your views and assuming positions of leadership is not dominance. That is part of being a responsible and active participant in the standards development process. Dominance is when you use the clout of your Agency to force standards decisions when it is clear that there is little or no support, and perhaps even resistance, from the private sector. Such efforts undermine the goal of the OMB Circular A-119 to encourage the development of standards that will benefit and will be used by both the private and public sectors. If a situation arises where

there is some question about dominance, the Federal employee should consult their Agency's Ethics Office.

Limits On The Number Of Agency Participants In Non-Government Voluntary Consensus Standards Bodies

The number of individual Agency participants in a given non-Government voluntary standards activity should be kept to the minimum required for effective representation of the various program, technical, or other concerns of the Agency. (7h)

Action If A Non-Government Voluntary Consensus Standards Body Is Likely To Develop An Acceptable, Needed Standard In A Timely Fashion

If a non-Government voluntary consensus standards body is in the process of developing or adopting a voluntary consensus standard that would likely be lawful and practical for the Agency to use, and would likely be developed or adopted on a timely basis, the Agency should not develop its own Government-unique standard. Instead, the Government should participate in the activities of the voluntary consensus standards body. (7j)

While this is a key point, from experience it has been difficult for an Agency to be knowledgeable of all the standards under development by the some 600 domestic non-Government voluntary consensus standards bodies nationally, much less on an international basis. Therefore, some responsibility must exist for these bodies to inform those Agencies most likely to have interest in the new standards being developed. Just how this can be achieved is not completely evident except by notification to the respective Agency's Standards Executive as established per OMB Circular A-119.

Other Guidance

The OMB Circular A-119 policies do not provide guidance concerning the internal operating procedures that may be applicable to non-government voluntary consensus standards bodies because of their relationships to the Agency. Agency participants should, however, carefully consider what laws or rules apply in a particular instance because of these relationships. For example, these relationships may involve the Federal Advisory Committee Act, as amended (5 U.S.C. App.I), or a provision of an authorizing statute for the Agency. (7l)

The Agency representative who participates in a voluntary consensus standards body will, to the maximum extent possible, ascertain the views of the Agency on matters of paramount interest, and will, as a minimum, express views that are consistent with established Agency views. The representative will also ensure that participation in voluntary consensus standards bodies is consistent with the Agency's missions, authorities, priorities, and budget resources. [15.b(1),(Ref. 2)]

Questions have developed on this point and, in the authors' opinion, probably reflects one of the responsibilities least understood or known by Federal employees, or by non-Government voluntary consensus standards bodies. Federal employees participate at Government expense as representatives of their Agency, not as just individual technical experts.

In compliance with the policies of OMB Circular A-119, the Agency will develop and implement an Agency-wide directory identifying Agency employees participating in voluntary consensus standards bodies and the identification of voluntary consensus standards bodies. [15,b(5)]

Federal contractors do not fall within the definition of an Agency. However, if a Federal contractor participates in a voluntary consensus standards body on behalf of an Agency (i.e., as an Agency representative or liaison), then the contractor must comply with the "participation" policies in Section 7 (What is the Policy for Federal Participation in Voluntary Consensus Standards Bodies?) of OMB Circular A-119. (Ref. 2, Sec IV, 6)

As with Federal employees as noted above, Federal contractor employees are lacking in their awareness and understanding that they also, when funded by a Federal contract, participate on behalf of the Agency according to OMB Circular A-119.

Paul Gill is Manager, Technical Standards Program, NASA Technical Standards Program Office, U.S. National Aeronautics and Space Administration, MSFC-ED41, Huntsville, Alabama 35812; +1 256 544 25 57 (phone); +1 256 544 41 31 (fax); paul.gill@msfc.nasa.gov

William W. Vaughan is a consultant in engineering standards and Professor of Atmospheric Sciences, University of Alabama -Huntsville, Huntsville, Alabama, c/o 5606 Alta Dena Drive, Huntsville, Alabama 35802-1612; +1 256 881 06 28 (phone); bill.vaughan@atmos.uah.edu

Stephen Lowell is Program Analyst, Defense Standardization Program Office, U.S. Department of Defense, 8725 John Kingman Road, Room 4235, Attn: DLSC-LM, Ft. Belvoir, VA 22060-6221; +1 703 767 68 79 (phone); +1 703 767 68 76 (fax); stephen_lowell@hq.dla.mil

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Electronic Proving Ground Successfully Launches 'Starship' to Support Testing of Developing Army Technologies

Mike Cast
U.S. Army Developmental Test Command

Innovative software developed by computer programmers at the Army's Electronic Proving Ground (EPG) at Fort Huachuca, Arizona, is saving manpower, resources and money. It does this by remotely and efficiently controlling test instrumentation and receipt of data at numerous sites during exercises and tests of state-of-the art military systems. For the past year-and-a-half, the EPG has been using an exercise or test simulation "engine" called Starship to help the Army conduct live and virtual tests of command, control, communications, computer and intelligence equipment such as the Army's Enhanced Position Location Reporting System and the Unmanned Ground Vehicle (UGV).

Operating on a Windows NT platform, Starship allows EPG test officers to direct and monitor a variety of sophisticated test instrumentation for EPG. It not only allows for remote control of test instrumentation, but continually provides information about their status, alerting testers to problems if instrumentation is not functioning properly.

"Three programmers at EPG worked jointly to develop the program, a Windows-type software that requires very little in the way of unique hardware," said Daniel Searls, Chief of EPG's Test Support Branch.

"You can control anything you can define," Searls said, explaining that the program enables EPG to have "smart" test instrumentation. "Starship has become a very valuable tool, not only for the testers, but for the people in the field," he said. "It offers another example of how to collect more and better-quality data with fewer people."

In addition to its role in supporting tests at EPG, Starship has been used to support Unmanned Ground Vehicle (UGV) analysis and simulations via the Developmental Test Command's Virtual Proving Ground. It was used in that exercise to link various UGV components at Fort Huachuca, the Redstone Technical Test Center at Redstone Arsenal, Alabama, and Dugway Proving Ground in Utah and to display the status of the exercise rather than control equipment. "It will be used in future UGV exercises to start and control "entities" such as test instruments, UGVs or simulations," said Janet McDonald, Virtual Electronic Proving Ground program manager at EPG.

Searls said the program was developed using a "plug and play" approach that makes it relatively simple to add new "controllable entities" such as test instrumentation and alarms, or alter them. "Starship is extensible and adaptable," he said, so it can be expanded or customized to accommodate added instrumentation and types of data input. It is scalable, allowing the system to expand in size and configuration, not only to accommodate a greater number of instruments, but also a larger number of users.

Starship was developed so that its components can be distributed across separate networked computers, to reduce the data load on a single computer and meet the ever-growing processing demands of future tests and exercises. It also allows variable user settings that can accommodate changing test or exercise conditions and scenarios.

Searls said the program's user interface is very flexible and configurable, much like the Windows-based software familiar to today's computer users. Starship users can also easily group test instruments to respond to the needs of a particular test or exercise scenario. The program includes a scenario recorder and player that can log and replay any part of a test or exercise in real, or multiples of real, time.

Starship can communicate over different network types and network protocols. It is designed to interface with other programs via two communication protocols in use by the military for modeling and simulation: Distributed Interactive Simulation (DIS) and High Level Architecture (HLA). DIS, a protocol that enables separate modeling and simulation programs to cooperate and process interactive input from various sources in real time, has been replaced by HLA as a Defense Department and NATO standard. HLA is an internationally used software architecture for modeling and simulation programs and is designed to support interoperability and reuse of simulations. Members of the Army's test team at EPG hope to provide greater capability to customers in less time and at a lower cost by using and further developing project management technologies such as Starship. The intent is to support testing, training, and military acquisition through continued innovation, adaptability, and cost-effectiveness.

References from page 10 article Participation By Federal Agencies....

1. Office of Management and Budget Circular A-119 "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities," February 10, 1998.
2. Federal Register/Volume 63, No. 33/Notices/Part IV, Executive Office of the President, Office of Management and Budget OMB Circular A-119 "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities;" Notice, Thursday, February 19, 1998.
3. Public Law 113-104 "National Technology Transfer and Advancement Act of 1995," May 7th, 1996.

Diminishing Manufacturing Sources and Material Shortages (DMSMS) Management Practices

by Henry Livingston

Diminishing Manufacturing Sources and Material Shortages (DMSMS) is an increasingly difficult problem for DoD weapon systems because the manufacturing lives of many critical items get shorter while the life cycles of military weapon systems keep increasing. Traditionally, efforts to mitigate the effects of DMSMS have been reactive; that is, the effects are addressed only when they are seen. This reactive approach to DMSMS solutions leads to decisions that put a premium on faster solution paths with attractive short-term gains in order to avoid system inoperability, while ignoring the long-term solution paths that would lead to generic families of solutions or larger-scale solutions with the capability of avoiding future DMSMS issues. In order to solve DMSMS issues with lower overall cost, DMSMS solutions must change from reactive to proactive. The building blocks of effective proactive management of DMSMS are established during the design and development of systems. If systems are designed with the inevitability of DMSMS in mind, early solution paths with large-scale solutions can be started at an appropriately early time to enable intelligent choices without the imminent threat of system inoperability. Such generic large-scale solutions and a consensus on where DMSMS threats are most prevalent can be better forecast by the use of a standard set of DMSMS management practices used by the foremost members of industry.

The Government Electronics and Information Technology Association (GEIA) G-12 Solid State Devices Committee developed a set of DMSMS management practices that can be used by original equipment manufacturers (OEMs) during the design and development of electronic systems to mitigate the effects of DMSMS. A technical paper presenting an overview of EIA Engineering Bulletin GEB1, Diminishing Manufacturing Sources and Material Shortages (DMSMS) Management Practices is available at…*http://www.geia.org/sstc/G12/geb1.html.* GEB1 includes proactive DMSMS mitigation methods, such as technology independence (e.g. use of VHDL, software portability,), technology road mapping, technology insertion, planned system upgrades, life-cycle analysis and DMSMS monitoring. While proactive mitigation methods are the primary focus of the G-12 committee's work, GEB1 also addresses traditional responses to DMSMS events, such as alternate sourcing, substitution, redesign/design modification, reverse engineering and reclamation.

GEB1, Diminishing Manufacturing Sources and Material Shortages (DMSMS) Management Practices is available through Global Engineering Documents at... *http://global.ihs.com*

For further information on the G-12 Solid State Devices Committee and GEB1, contact chairman Michael Cooper (Mike.Cooper@gd-cs.com) or visit the G-12 web site at…*http://www.geia.org/sstc/G12/*

About the Author

Henry Livingston has over twenty years of engineering and engineering management experience in the Aerospace Electronics industry. He manages Component Engineering at BAE SYSTEMS Information and Electronic Warfare Systems. Henry is Vice-Chairman of the Government Electronics & Information Technology Association (GEIA) G-12 Solid State Device. The G-12 Committee develops solutions to technical problems in the application, standardization, and reliability of solid state devices. Henry received the Electronics Industries Association Engineering Department Distinguished Contribution Award for exemplary leadership and outstanding contributions to the defense electronics industry, to the Defense Department, and the Electronics Industries Association in the field of solid state devices. Henry is the third recipient of the GEIA E. J. Nucci Memorial Excellence Award for Engineering Excellence for his many years of dedicated service to G12 and the high reliability solid state devices industry. Henry is a member of the IEEE Components, Packaging, and Manufacturing Technology Society, the IEEE Electron Devices Society, and IEEE Reliability Society.

New Under Secretary of Defense for Acquisition, Technology and Logistics Sworn In

Edward C. "Pete" Aldridge, Jr., was sworn in on May 8, 2001, as the Under Secretary of Defense for Acquisition, Technology and Logistics. Prior to this position, he served as chief executive officer of the Aerospace Corporation, a non-profit organization dedicated to solving critical national problems through science and technology.

Previous positions include the Secretary of the Air Force (1986-88) and President of McDonnell Douglas Electronic Systems (1988-1992). He has received awards from numerous societies, including Rotary National Award for Space Achievement in 1994. He is affiliated with numerous associations and societies, including the American Institute of Aeronautics and Astronautics, where he served as President from 1997-98.

In the 1980's, Aldridge was at one time an astronaut-in-training in preparation for his participation as a payload specialist on the first planned mission from Vandenberg Air Force Base, Calif., which was canceled because of the Challenger accident.

Aldridge was born in Houston, TX, in 1938 and spent his youth in Shreveport, LA. He earned his Bachelor's Degree in aeronautical engineering from Texas A&M University in 1960, and a master's degree in aeronautical engineering from Georgia Tech in 1962.

In his role as Under Secretary of Defense for Acquisition, Technology and Logistics, Aldridge will be the principal advisor to the Secretary of Defense for all matters relating to the acquisition of weapons and materiel, including research and development, testing and evaluation, production, logistics, military construction and procurement.

Defense Standardization Program Office Announces Fall Symposium for November 27-29, 2001

A Fall symposium will be held November 27-29, 2001, at the Omni Shoreham Hotel, Washington, D. C. This symposium is a joint partnership between the Defense Standardization Program Office (DSPO) and the Government Electronics and Information Technology Association (GEIA) and will be open to goverment and industry attendees. Watch the DSPO Web Site for further information concerning registration, fees, topics and other items of interest. The web site is located at: *www.dsp.dla.mil*

Although the agenda and specifics are still being worked, the theme of this educational symposium is "The Shape of Things to Come: Acquisition & Logistics Excellence Through Standardization." Topics will include major DoD acquisition and logistics initiatives impacting the DSP, current DSP policies and procedures, implementation of the DSP Strategic Plan, International Standardization, and new/future automation tools. When the final agenda is set, the information will be posted on the DSP Web Site.

Also, read the next Journal Update for final agenda information, or call or write with any questions to Sharon Strickland at 703-767-6870 or *Sharon_Strickland@hq.dla.mil.*

Roman Chariots, Railroad Tracks, MilSpecs, and Urban Legends

by Stephen Lowell, Defense Standardization Program

Every culture has its urban legends. While myths, fairy tales, folklore, and traditional legends are generally considered fictional, allegorical, or exaggerations of the truth, urban legends are reported as fact and are widely believed to be factual among the masses. Urban legends are extremely difficult to combat even when evidence exists to disprove them because they seem reasonable, they fit comfortably into an individual's personal beliefs, and most people are not inclined to go in search of "the truth."

American history is especially full of urban legends. Most Americans think they know about such things as the Pilgrims landing on Plymouth Rock[1], U.S. Independence Day[2], the Liberty Bell[3], and hundreds of other "historical facts." What most Americans know, however, are the urban legends.

The world of standards and standardization also has its share of urban legends, which seem to be on the increase because of the Internet and email. One standardization urban legend that has been making the rounds over the last seven years or so deals with the connection between Roman chariots, railroad tracks, and MilSpecs. The story begins with a question asking why the U.S. standard railroad gauge (the distance between rails) is 4 feet 8-1/2 inches, which seems an odd number. The answer given is that English expatriots built U.S. railroads, and 4 feet 8-1/2 inches was the standard railroad track gauge in England because the railroad tracks were built on top of road ruts created by the Romans to accommodate their war chariots. Supposedly, the Romans had a MilSpec that set the wheel spacing at 4 feet 8-1/2 inches for their war chariots, and that the wheel spacing was based on the hind-ends of two Roman war horses. Eventually, railroad tracks were laid on top of the road ruts. The final punch line is that the U.S. standard railroad gauge derives from the original MilSpec for an Imperial Roman army war chariot proving that MilSpecs and bureaucracies live forever.

The only problem with this story is that none of it is true, except the fact that the standard U.S. railroad track gauge today is indeed 4 feet 8-1/2 inches. Over the years, I estimate that people have sent me over 200 email messages transmitting this story, and I have heard it repeated at many conferences. I would like to try to counter this urban legend with some historical facts.

For starters, the Roman army did not use chariots for warfare. Chariots were technologically obsolete by 600 BCE, centuries before the rise of Rome. While chariots were a technological leap when they came into use around 1800 BCE, they were far from the ideal weapon portrayed by Hollywood. Chariots were unstable and restricted in use to open and flat terrain. They were also expensive and difficult to make and maintain. The armies of the ancient world used chariots because the horses available to them were too small to carry a mounted soldier in armor and with weapons. Once horses were introduced that were large enough to carry a fully equipped soldier, cavalry quickly replaced charioteers. Cavalry was far more mobile, easier to maintain, and made more effective use of manpower since a chariot required a driver and fighter, whereas a single soldier could ride and fight on horseback.[4]

The Roman legions that conquered the ancient western world were made up primarily of armored infantry supported by cavalry, light infantry, archers, and engineers. The Roman legions never used the technologically inferior chariot. Chariots were very popular in the Roman circus games and for ceremonial processions, but they were not used militarily or commercially. The suggestion that the Roman army developed a MilSpec for chariot wheel spacing that necessitated the placement of road ruts at 4 feet 8-1/2 inches is pure fiction.

The other aspect of this standardization urban legend that is pure fiction is the suggestion that the standard track gauge in the

The most significant contribution of the government for standardizing track gauges, however, was to serve as a catalyst in bringing together industry to promote railroad cooperation during the Civil War.

U.S. has always been 4 feet 8-1/2 inches. At the beginning of the American Civil War in 1861, there were more than 20 different railroad track gauges in the U.S. ranging from 3 feet to 6 feet.[5] In fact, 5 feet was by far the most prevalent gauge in the South[6], so if the Confederacy had won the war, the standard size in the U.S. might be different today. The table below shows some of the variety of gauges in the U.S. and Canada at the beginning of 1861.[7]

Track Gauge	Miles of Railroad Track	Percentage of Total Mileage
4' 8-1/2"	*17,712*	*53.3*
4' 10"	*3,294*	*9.9*
5' 0"	*7,267*	*21.8*
5' 6"	*2,896*	*8.7*
6' 0"	*1,777*	*5.3*
Others	------	*1.0*

Variety of Railroad Track gauges in the U.S. and Canada at the beginning of 1861.

Probably more than any other single event, the American Civil War is why the U.S. has the one standard track gauge today. The Civil War was the first war in which railroads played an important part in transporting troops, equipment, and supplies. The variety of track gauges forced army units to unload and then reload cargo at the junction point between lines with different gauges. Such delays were inconvenient, expensive, and annoying for civilians during peacetime, but for an army to experience such delays sometimes meant the difference between victory and defeat.

While the U.S. government did not mandate conversion to a standard track gauge, it did take steps that accelerated standardization towards the 4 foot 8-1/2 inch gauge. In 1862, the United States Military Railroad Organization was created to address a number of rail transportation issues, including standardization of track gauges. Since the 4 foot 8-1/2 inch track gauge accounted for more than half the track in the U.S., it made sense from a military and economic viewpoint to promote this as the standard gauge. More than 4,000 miles of new track was laid down in the North during the war, most of which conformed to the 4 foot 8-1/2 inch track gauge.[8] In some cases, the Union forces altered the track gauges of captured Confederate rails. For example, the 5-foot gauge of the Norfolk & Petersburg rail was changed to 4 foot 8-1/2 inch gauge.[9] In other cases, the government succeeded in convincing nonstandard Northern railroads, such as the New York Central, to change their track gauge.[10] Finally, the Pacific Railway Act of 1864 mandated the standard 4 foot 8-1/2 inch gauge for the Transcontinental Railroad.[11]

The most significant contribution of the government for standardizing track gauges, however, was to serve as a catalyst in bringing together industry to promote railroad cooperation during the Civil War. In February of 1862, Secretary of War Stanton and other government leaders met with the owners of the major railroads to discuss a number of issues, including standardization of track gauges.[12] These meetings continued throughout the Civil War. Following the war, industry continued to meet, and on September 18, 1867, representatives from twenty-nine railroads formed the Master Car Builders Association. At the top of their agenda was the standardization of track gauge in the U.S. It would take another nineteen years, but through the cooperative efforts of industry brought together initially by government, commercial railroad track gauges in the U.S. were at last standardized to 4 feet 8-1/2 inches in 1886.[13]

The original question of just how did such an odd track size of 4 feet 8-1/2 inches come to be still remains. The truthful answer is that no one really knows. Some people believe that train tracks were merely laid on top of road ruts left by wagons and that the width of the wagons were determined by the width of two horses side by side hauling the wagon. While it does seem reasonable that train tracks were often laid on top of wagon wheel ruts, the distance between wagon wheel ruts was not universal.

Everyone seems to agree that this odd track size did originate in England from a railway pioneer named George Stephenson who used the 4 feet 8-1/2 inch track gauge when building the first public rail line, the Liverpool & Manchester Railway, in 1830. Why he chose this odd size is a matter of conjecture. Some historians maintain that the rails were originally laid 5 feet apart on top of wagon wheel ruts, but because the early edge rails were 1.75 inches across the top and early trains ran on the inside edges, Mr. Stephenson had to subtract 3-1/2 inches for the railroad car wheel spacing making them 4 feet 8-1/2 inches. As railroad track technology improved so that the train wheels ran on top of the tracks, the tracks were moved closer to fit the rail car widths. Still others maintain that Mr. Stephenson origi-

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nally designed the track gauge to measure 4 feet 8 inches, but during construction, he added in an extra half inch to allow for a little more leeway between rails and wheel flanges.

However, the 4 foot 8-1/2 inch track gauge happened, it's clear that the Roman Military Specification for Chariots, War, Two-Horse had nothing to do with it. While many things "standardized" today were first documented in either Military or Federal specifications – four-inch spacing of faucet's for lavatories, standard sizes for floor tiles, rules for statistical sampling – someone else gets credit for track gauge spacing. Many believe that once an urban legend makes it to the Internet, it can never be undone. Perhaps. But we in the standards community have a reputation for requiring data to support contentions, and then challenging the data. So challenge the legend – when confronted with the chariot story, email back the truth. Just maybe we can knock this one legend off the tracks – whatever gauge they may be.

Steve Lowell is a Program Analyst in the Defense Standardization Program Office

References

[1] *The two publications written by the Pilgrims themselves about their arrival in the New World, William Bradford's 1620 journal and a book published in 1622 known as Mourt's Relation, never mention any rocks. The urban legend of Plymouth Rock supposedly has its origins in 1741 when a 95-year old man named Elder Faunce, distressed over the town's plan to build a wharf over the rock, began a public campaign to block construction by proclaiming that his father had told him that this granite rock is where the Pilgrims first set foot in the New World. His emotional appeal struck a chord with the public, and despite a lack of supporting evidence, the Plymouth Rock became part of American history.*

[2] *Americans celebrate July 4th as Independence Day, but the historical records and newspapers clearly show that the Continental Congress declared independence on July 2nd. The reason Americans celebrate July 4th is because it is the date on the Declaration of Independence. The document announcing independence came to overshadow the act of declaring independence.*

[3] *Because of a fictional story written by George Lippard in 1847 about an old bellman ringing the Liberty Bell at the moment that the Continental Congress declared independence, the Liberty Bell has become a venerated icon of the American Revolution. In fact, it was not called the Liberty Bell until 1837, when the bell became the symbol of the abolitionist movement because of the inscription on the bell taken from Leviticus: "Proclaim Liberty throughout all the Land unto all the inhabitants thereof." The historic fact is that the Liberty Bell symbolized the quest for liberty for enslaved African-Americans and not the colonists. But once again, the urban legend prevailed.*

[4] *Martin Van Creveld, Technology and War from 2000 B.C. to the Present, Collier Macmillan Publishers, 1989, pp. 12-17; and John Keegan, A History of Warfare, Key Porter Books, 1993, pp. 257-263.*

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[6] *Thomas E. Griess, ed., Atlas for the American Civil War, The West Point Military History Series, Avery Publishing Group, Inc., Atlas Map No. 2.*

[7] *Frey, op. cit., p. 343.*

[8] *Thomas Weber, The Northern Railroads in the Civil War, 1861-1865, King's Crown Press, 1952, p. 15.*

[9] *Allan Nevins, The War for the Union: War Becomes Revolution 1862-1863, Charles Scribner's Sons, 1960, p. 462.*

[10] *Allan Nevins, The War for the Union: The Organized War 1863-1864, Charles Scribner's Sons, 1971, p. 23.*

[11] *Achsah Nesmith, "A Long, Arduous March Toward Standardization," Smithsonian Magazine, March 1985, p. 83.*

[12] *Phillip Shaw Paludan, A People's Contest, The Union and Civil War 1861-1865, Harper & Row Publishers, 1988, p. 141.*

[13] *Frey, op. cit., p. 333.*

President and CEO of the American National Standards Institute (ANSI) Announces New Appointment

Ray Kammer

Mark Hurwitz, President and CEO of the American National Standards Institute, has announced that ANSI has established a consulting relationship with **Ray Kammer**, former Director of NIST, effective June 1, 2001. Ray will serve as "Counselor to the President/CEO." In his new capacity, Ray will work with ANSI to help the new Administration understand the vital role that standards play in trade, safety, and the environmental issues. He will be able, from first-hand experience, to advocate the need for a strong public-private partnership to advance U.S. interests internationally.

Ray's extensive experience working with Members of Congress and high level government officials, his in-depth knowledge of the complex issues facing our community, and his history of strong support for the National Standards Strategy will make him an invaluable asset to ANSI.

Mark W. Hurwitz *President/CEO, ANSI, 1819 L Street, NW, Washington, DC 20036 202-331-3605 mhurwitz@ansi.org*

New Navy Standardization Executive

Ms. Christine Stelloh-Garner

Ms. Christine Stelloh-Garner was selected as the Navy's Acquisition Reform Executive (ARE) in May 2001. She reports directly to the Navy Acquisition Executive and is the focal point for matters pertaining to the management and execution of the Navy Acquisition Reform Program. Ms. Stelloh-Garner is also the Department of the Navy's Standardization Executive and the Executive Director of the DON Acquisition Reform Senior Oversight Council (NARSOC).

Ms. Stelloh-Garner was born at the Millington Naval Air Station in Memphis, Tennessee, and spent her youth in the United States and Japan before joining the Naval Air Systems Command as a clerk-typist in 1974.

As an upward mobility program trainee, she transitioned to program and management analysis, serving in positions involving various facets of program and facility management. Additionally, she served on the Command Federal Women's Program Committee. Program management assignments included the joint-service V-22 Deputy for Program Appraisal, Caribbean Regional Operations Center Upgrade Program Manager, and Program Manager for the AH-1 Night Targeting System.

Briefly leaving the Naval Air Systems Command in the mid-1980s, Ms. Stelloh-Garner remained active in naval aviation as a Booz-Allen & Hamilton consultant at the Naval Aviation Depot in Cherry Point, North Carolina, and as family readiness advisor for Marine Medium Lift Helicopter Squadron (HMM) 264. She also represented Advanced Technology, Inc., as a program consultant.

Ms. Stelloh-Garner joined the staff of the Program Executive Officer (PEO) for Tactical Aircraft Programs as a Deputy for Acquisition before assuming responsibility as Deputy Program Executive Officer for Air Anti-Submarine Warfare (ASW), Assault and Special Mission Programs in March 1998. In this capacity, she provided oversight and insight for over 150 efforts from the following program teams: Maritime Surveillance Aircraft (P-3, S-3, EP-3, ES-3, VPU), Multi-mission Helicopters (CH-60, SH-60, HH-60), MH-53, Air ASW Sensors and Sonobuoys; Marine assault aircraft (AV-8, AH-1, UH-1, CH-53, V-22); Executive Helicopters (VH-3, VH-60), T-45 Training System, and E-6 Airborne Command Post.

Ms. Stelloh-Garner serves as the Defense Acquisition Management Functional Advisor, a responsibility that she assumed in early 2000. A graduate of the Defense Systems Management College Program Manager's Course, Ms. Stelloh-Garner also holds a Bachelor of Arts in Business Administration from Mount Vernon College.

Naval Air Systems Command, PAX River, Scores Big at the 2000 Honorary Defense Standardization Program Achievement Awards

At the April 12, 2001, Honorary Defense Standardization Program (DSP) Achievement Awards ceremony at the Pentagon, the Naval Air Systems Command (NAVAIR), Patuxent River, Maryland, received four of the seven DSP awards for the year 2000. NAVAIR teams won three awards, one each for development of a standardized digital communications system; for a standardized aircraft Ground Proximity Warning System (GPWS); for standardization of a Transponder Set Test Set; and a fourth award as the lead organization in a Department of Defense joint service team that developed a standardized set of procurement specification guides.

Each winning team demonstrated an accomplishment that solved a problem brought on by a lack of standardization among the military services--problems that caused additional expenditures, created lag times in the development of needed equipment or processes, and increased concerns about the safety of people and equipment.

The awards were announced by the DSP, and Mr. Lou Kratz, Principal Deputy Under Secretary of Defense for Logistics Plans and Programs, made official presentations during a ceremony held in the Pentagon.

The NAVAIR Air Combat Electronics Team developed, fielded and supported an ARC-210 Electronic Protection Radio that is in use on more than 40 types of aircraft, ships, and ground-based platforms. The team, under the Program Management Air (PMA) 209, Common Avionics, included members Ron A. McIntire, Joe A. Paglierani, James R. Goodwin, Robert Nelson, and Joseph E. Cooper. Capt. Walter L. Rogers is the Program Manager for PMA 209. Standardization resulted in cost savings, cost avoidance and space and weight savings estimated at more than $790 million in total life cycle costs.

The Air Combat Electronics Team that produced the standardized GPWS addressed an issue that was the leading cause of aircraft mishaps between 1991 and 1998. The team, also from NAVAIR PMA 209, included Thomas Anderson, Annette Barnhart, Jessica Blackwell, Paula Jackson, and Charles Shaffer. The team overcame the difficulty of developing a standard set of system solutions that worked in each type model and series of aircraft, taking into account the unique mission requirements, architecture, and design constraints. The GPWS is scheduled for installation in 3,500 aircraft throughout the armed services, saving the lives of pilots and crews, and saving as much as $200 million per year in aircraft replacement costs.

Each winning team demonstrated an accomplishment that solved a problem brought on by a lack of standardization among the military services

The standardization of the AN/APM-480 Transponder Set Test Set was accomplished by PMA 260 at NAVAIR, the Common Aviation Support Equipment, Communication/Navigation Integrated Product Team. Michael Flynn, John Hester, Ed Snyder, Jim McConnel, Elaine Lovering, Wladyslaw Dzwonkowski, John Redmond, and Dwayne Schnakenberg produced the Test Set that addressed a need for an all-encompassing system that would be vital to the survivability of armed forces in the probable co-location of multiple platforms in the battlefield of the future. The unit would be smaller, more rugged, more highly adaptable and more mobile. Leveraging the recent advances in semiconductor electronics technology for cell phones, the AN/APM-480 provides a cost-effective and capable replacement solution for a number of pieces of equipment nearing the end of their service life. Savings and cost avoidance is expected to exceed $270 million per service by supporting every conceivable aircraft, ship, submarine, landing vehicle, air defense system, unmanned aerial vehicle, as well as systems currently under development.

The Joint Service Specification Guide (JSSG) Development Team consisted of members from the Navy, Air Force, Army and Industry that produced a set of tri-service, performance-oriented specification guides to be used by Government and Industry Program Offices. Team members Harold Hinkle (NAVAIR, JSSG Team Leader),

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Thomas Broadhurst (NAVAIR), Robert A. Gibler (Air Force), Donald J. Sedor (Air Force), Timothy Hughes (Army), Harlan Hammond (Lockheed Martin), and Gordon Neary (Boeing) managed the development of a set of eight separate guides addressing Air Systems, Air Vehicles, Avionics, Engines, Air Vehicle Subsystems, Vehicle Control Management Systems, Structures, and Aircrew Systems. The team harmonized common key aviation system and subsystem requirements across the Services. In doing this, they identified the detail requirements typically used by the three Services and Industry and translated these requirements into generic performance terms. The team published the resulting requirements in a manner that allows program teams to extract and tailor the generic requirements into program-unique specifications. Use of the JSSGs will enable Government and Industry program teams to develop procurement specifications that foster industry innovation in meeting essential military aviation requirements.

In April 2001, The Office of the Under Secretary of Defense (Acquisition, Technology & Logistics), Logistics Plans and Programs, released "MilSpec Reform Final Report, An Ending: A New Beginning." This publication can be fully downloaded from the web at http://www.dsp.dla.mil. Make sure to read the report!

ASSIST Fun Facts

The next time there is a lull in the conversation around the dinner table or on a date, here are some fun facts about ASSIST that are sure to spice things up.

1. Between Oct 23, 2000, and Mar 18, 2001, there were 594,357 logins to ASSIST.
2. Three of the top 25 documents most requested by users to be alerted of changes are cancelled documents (MIL-STD-105, MIL-STD-973 and MIL-I-45208).
3. The most popular Standardization Area/FSC requested by alert service users is QCIC.
4. There are 195 preparing activities in ASSIST.

Voluntary Consensus Standards Win Over the Department of Defense

Most people in the standards community would agree that making "standards" sound sexy or even interesting to outsiders is a great PR challenge. And yet, the results of standards programs—increased cooperation, higher profits, reduced spending and waste, and enhanced performance—grab headlines in many of the most widely read business journals.

"It's frustrating," admits Gregory E. Saunders, ANSI board member and Director of the Defense Standardization Program Office (DSPO), the organization within the Department of Defense (DoD) credited with working with the private-sector to convert thousands of military specifications or MilSpecs (a government term for standards) to voluntary consensus standards. "Standards people are not recognized for their contributions to industry or their country. We initiated the Defense Standardization Program Achievement Awards to honor those individuals and groups whose work has led to greater mission readiness, improved operational capability, and reduced costs for the U. S. military and its allies."

The winners of the 2000 Defense Standardization Program Achievement Awards were honored for their contributions to national security during a ceremony on April 12, 2001, at the Pentagon in Washington, D. C. Meeting the award criteria required a significant contribution to enhanced technical performance while simultaneously reducing government spending. The Specifications Development Team of the Defense Supply Center, Philadelphia, was one of the winners that met this complex and lofty goal. They did so by converting 868 government standards to voluntary consensus standards and inactivating over 2,000 MilSpecs, which led to an estimated savings of $32 million USD for the DoD—and taxpayers.

An award of this caliber to a military agency that used voluntary consensus standards as a formula for success emphasizes the government's increasing reliance on private-sector standardization to realize two of the primary objectives of the DSP—reduced spending and enhanced performance. "The value of converting MilSpecs to voluntary standards," explains Saunders, "is that it achieves integration within the commercial marketplace and allows the DoD to draw its needs from a commercial industrial base rather than a DoD-funded base. Working with industry on performance-based standards helps to relieve the engineering crunch that we face. Moving documents for common products to the public sector benefits everyone in that both government and contractor leverage their technical resources by working in the same forum."

Standardization is one of the tools that the DoD uses to ensure a level playing field for competition among independent contractors. In order to buy from a commercial marketplace more effectively, the DoD had to work with the private-sector contractors to streamline its standards and make them consistent across government and private-sector lines.

Saunders pointed out that achieving these goals is the work of very special people who are not only technically competent, but their specialized work demands that they be "persuasive, concise, diplomatic, persistent and patient"—attributes that, while not sexy, are certainly worthy of interest and recognition. And, at least a headline or two.

They did so by converting 868 government standards to voluntary consensus standards and inactivating over 2,000 MilSpecs, which led to an estimated savings of $32 million USD for the DoD—and taxpayers.

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Defense Standardization Program Office Case Studies

by Trudie Williams,
Defense Standardization Program Office

The Defense Standardization Program Office (DSPO) recently completed six case studies aimed at demonstrating the benefits of standardization practices. These case studies, targeted for educational and promotional purposes within DoD, encompass such vital standardization issues as non-government standards use, market research exploration and strategic standardization application. These case studies can be accessed at the DSPO Web Site (www.dsp.dla.mil) or you may contact Judy Ireland to request printed copies by calling 703-767-6888, or e-mailing judy_ireland@hq.dla.mil

Conversion of MIL-STD-100 to a Non-Government Standard

Discusses the development of a non-government standard to replace MIL-STD-100, Engineering Drawing Practices. Development of a fully acceptable replacement standard required interaction among the Military Services, non-government standard bodies, industry, and other government agencies. The replacement of MIL-STD-100 demonstrates the complex process that is necessary to realize the goals of acquisition reform. The greatest obstacle was the natural human aversion to change, requiring persuasion and compromise to reach a broad consensus. This conversion illustrates important lessons in building a partnership between the military and industry to find a mutually satisfactory solution.

Aircraft Batteries and Components

Illustrates how the Naval Surface Warfare Center (NSWC), Crane Division, achieved cost avoidances throughout the Military Services by applying design improvements across several aircraft battery systems and related equipment. At the same time, this effort contributed to aircraft reliability and mission readiness.

NAVSTAR Global Positioning System (GPS)

Demonstrates the far-reaching benefits of strategic standardization. One military system, the NAVSTAR (Navigation Satellite Timing and Ranging) GPS helped transform military strategy and logistics, affected many commercial industries, and became the worldwide standard for navigation. GPS, the largest avionics procurement and installation program in DoD's history, illustrates how strategic standardization can have global impact.

Joint Air-to-Surface Standoff Missile

Illustrates the application of important standardization practices including strategic standardization, market research, and item commonality. This study exemplifies how the Air Force and Navy worked together to apply innovative technology to produce a next-generation missile, the Joint Air-to-Surface Standoff Missile.

Navy Self-Contained Breathing Apparatus

Points out how the Navy applied market research to achieve significant qualitative and quantitative benefits by using a standard commercial product for self-contained breathing apparatus acquisition.

Mechanically Attached Pipe Fittings

Demonstrates how the Navy's mechanically attached fitting (MAF) life-cycle manager chose to work with industry to develop a single non-government standard for MAF testing which increased competition, stimulated innovation and helped drive down unit costs in the shipboard piping system arena.

DSPO plans on continuing to focus on standardization activities that demonstrate how our program assists in achieving improved productivity, greater cost reductions, and enhanced interoperability. Within the next few weeks we will begin reviewing current standardization award winners for possible case study development. Since award winners are only one source for study candidates, please let us know of a noteworthy standardization effort that is fertile for further review.

Keeping Cool In The Military

Gerald W. Thomas, CNIN, NSWC Crane Division, Navy

Have you ever walked through a spray mist cooling station at an amusement park, fair, or outdoor summer festival? Spray cooling of electronic components works in much the same way.

The use of Commercial off-the-shelf (COTS) electronics in military systems has become a fact of life. Because the military has become such a minor customer, it has lost most of its leverage to drive design of these products. There has been a large reduction in the number of manufacturers willing or able to supply "ruggedized" electronics that will meet the stringent environmental, reliability and space/size requirements of military programs, yet the military must still deploy the most capable systems possible in these harsh environments. So we have had to look for innovative ways to meet the demands with the components that are available.

Military system designers use two basic techniques to deal with the problem. One is to seek out vendors who offer ruggedized products that are designed to meet the harsh requirements and build the system in a traditional enclosure. This approach often works, but there are many limiting problems, such as very few sources for critical parts, tight design tolerances, and mechanical/material issues. Enclosures for these systems offer some protection from the external environment, but are often limited to the level that the ruggedized components can tolerate.

The other approach is to design enclosure-based protection for the off-the-shelf products so that the demanding external environment doesn't affect the more delicate internal electronic parts. The enclosure, in this case, becomes more than just a box to hold the parts together and serve as a static heat sink. This enclosure functions as a key element of the total system solution.

One of the major challenges in designing such an enclosure is thermal management. As FIGURE 1 shows, there is a trend for increasing power densities in emerging electronic technology. However, traditional cooling techniques greatly limit the choice of components available to the military system designer.

There are some enabling technologies on the horizon that look promising for COTS insertions in military systems. The Defense Standardization Program Office (DSPO) has initiated an investigation of a promising technology called spray cooling. Spray cooling is a technique where a mist of inert liquid coolant is directed upon the components inside a sealed enclosure by pumps and nozzles. The vapor generated after the liquid contacts the hot components can be condensed on the chassis walls, or in a remote heat exchanger. Heat removed to the chassis walls is externally carried through natural or forced convection. In the case of a remote heat exchanger, air is forced over the heat exchanger core in order to reject the heat. See FIGURE 2

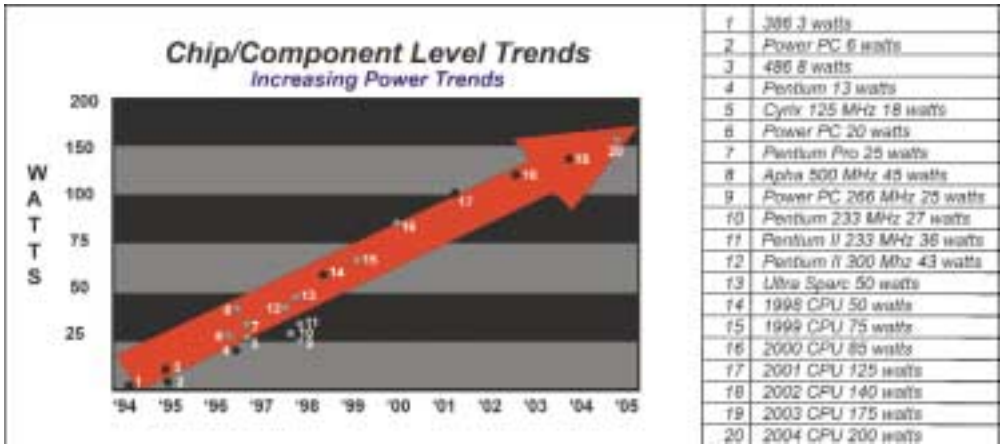


FIGURE 1. Chip/Component Level Trends

for a typical system diagram.

One of the promising attributes of this system is that a COTS module can be used with no special modifications required. In some cases, board designers have taken advantage of this technology and eliminated redundant items such as heat sinks and on-component fans, adding the additional benefit of size and weight reduction of the system.

The DSPO has tasked Naval Surface Weapons Center (NSWC), Crane Division, to evaluate the suitability of this technology in military systems. A market survey by NSWC, Crane, identified one source, Isothermal Systems Research (ISR), in Clarkston, WA, as the only provider of spray cooling systems that has a production capacity. This poses some risk as far as systems availability is concerned. However, ISR has in place a risk mitigation plan that covers the possibility of a production shortfall. They are able to subcontract for the necessary surge production capacity to meet a sudden demand for this technology. The company has progressed from an initial R&D project with the Air Force in 1998, to supplying products for government agencies including National Security Agency (NSA), Defense Advanced Research Projects Agency (DARPA), Navy, National Science Foundation (NSF), and National Institute of Standards and Technology (NIST). They have also acquired major Small Business Innovation Research (SBIR) contracts with the Marine Corps AAAV (FIGURE 3) and EA6B programs.

NSWC, Crane, began their

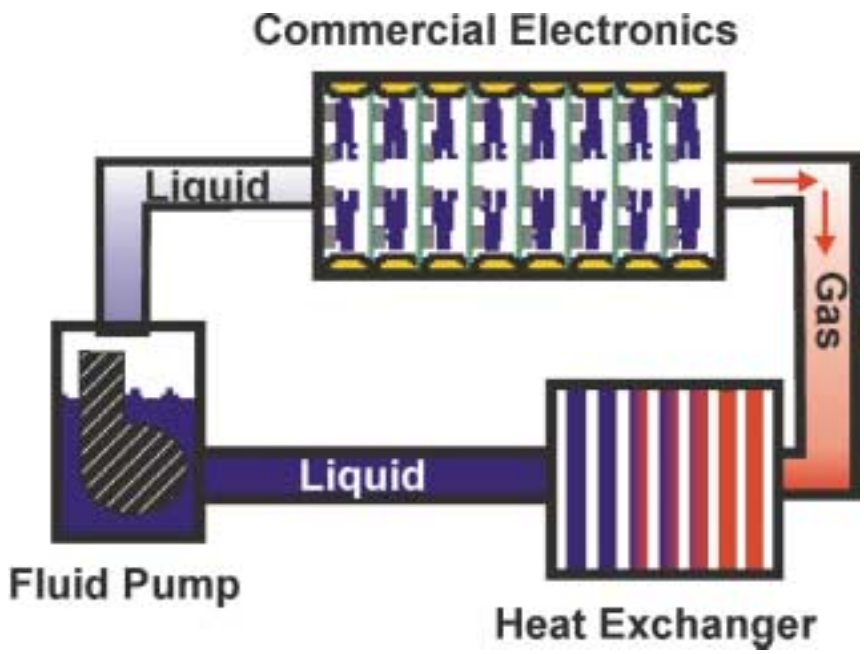


FIGURE 2. Closed-Loop Spray Cooling System.

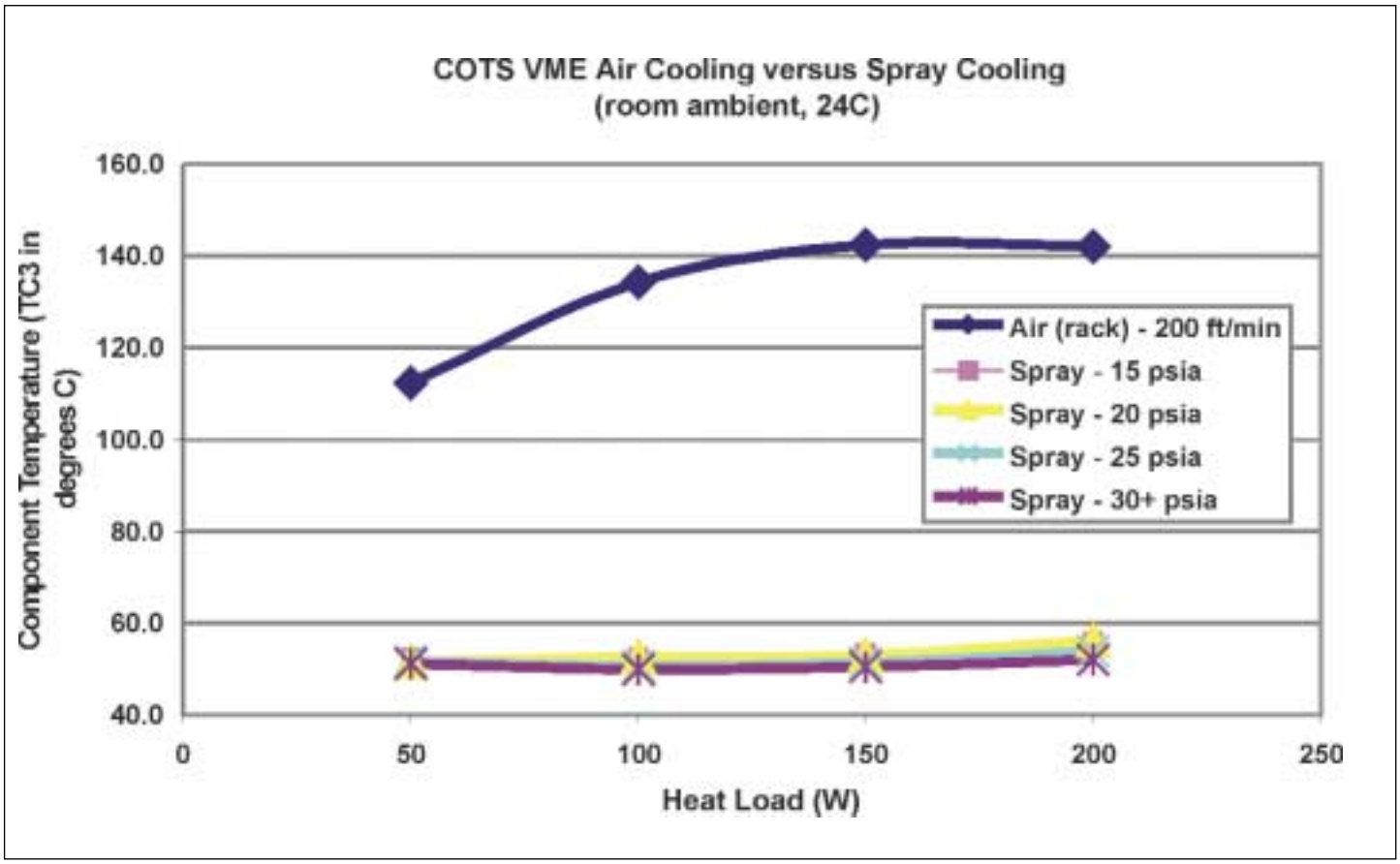
FIGURE 3. Marine Corps Spray Cooled Chassis/Advanced Amphibious Assault Vehicle.

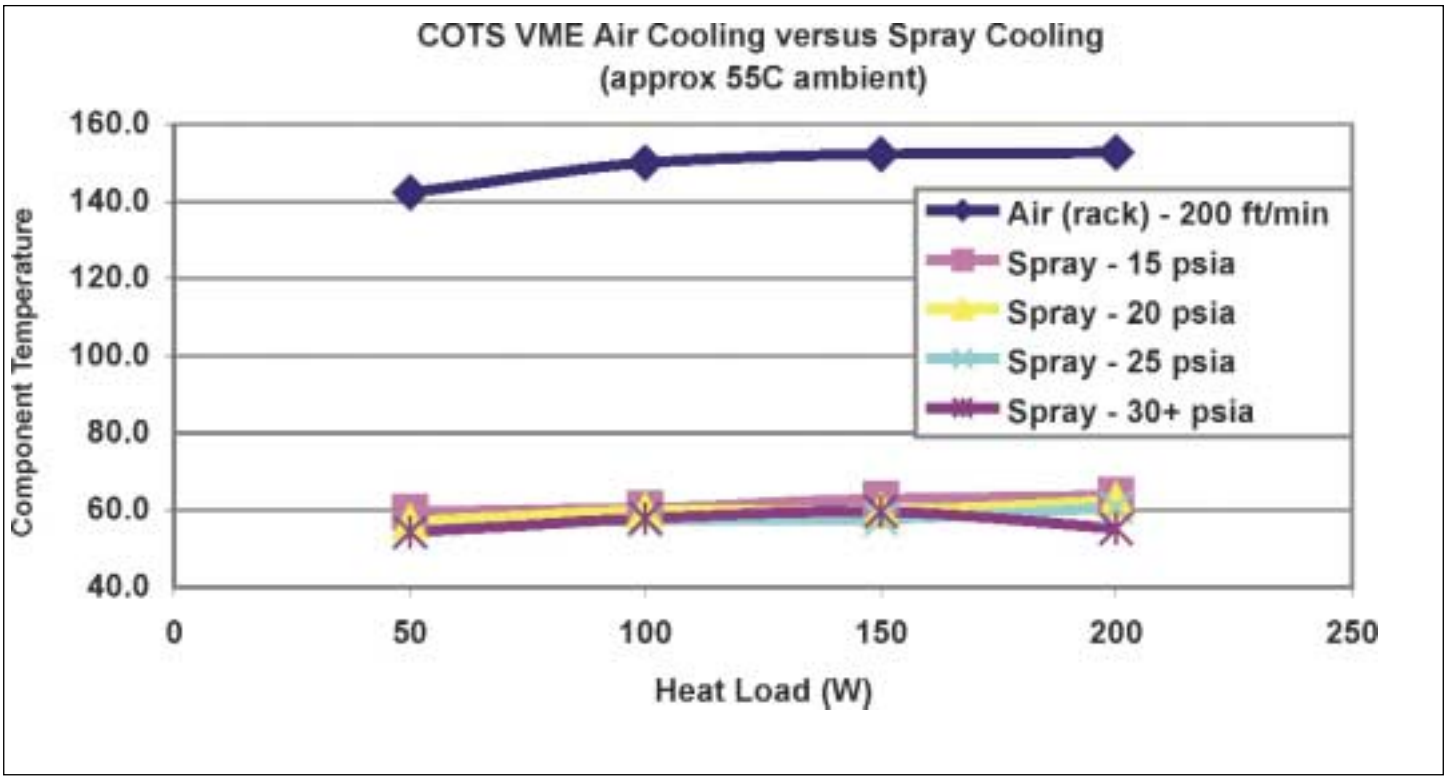
evaluation phase by acquiring a portable spray-cooled laboratory unit (see FIGURE 4) from ISR.

The objective of this phase was to evaluate the thermal performance characteristics of spray cooling in comparison with a standard air-cooled VME setup. Early test results indicate a significant heat removal gain is achieved by employing ISR's spray cooling technology as compared to air-cooling the same modules. The following two graphs reflect the overall comparisons at 24 and 55 degrees C room ambients.

The next area of investigation undertaken by NSWC Crane was to evaluate the effect spray cooling has on component reliability. Traditional reliability predictions conducted in accordance with MIL-HDBK-217, "Reliability Prediction of Electronic Equipment," use computed or measured value for temperature of heat producing parts such as microcircuits and discrete power semiconductors. Components such as passive parts that produce little or no heat are assumed to operate at the ambient temperature of the module or system. In the spray-cooled environment, the operating temperature of the non-heat producing components is actually elevated to the spray temperature. While spray cooling provides a more uniform temperature distribution and a decrease in the temperature of the active components, the increase in operating temperature of the pas-

FIGURE 4. Portable Spray-Cooled Laboratory Unit.





sive parts will impact reliability. Although the effect of increased temperature on the passive components will yield a decrease in mean time between failures (MTBF) at the component level, it is yet to be determined how this will effect the overall module reliability. NSWC Crane component/reliability experts are in the process of modeling the reliability of COTS modules slated for deployment in a spray-cooled military application. The purpose of this reliability prediction exercise is to quantify the effect on system reliability of a constant operating temperature provided by spray cooling. This report will be available through the DSP by late July. The technical point-of-contact for this project is Gerry Thomas, NSWC, Crane (812-854-1797).

Gerry Thomas may be contacted at Thomas_G@crane.navy.mil, or at 812-854-1797

Acquisition Logistics Excellence (ALE) Week Begins September 10, 2001, at Fort Belvoir

The Defense Standardization Program Office (DSPO) is fully participating in the events of ALE week, starting with the big event at the campus of the Defense Acquisition University, Fort Belvoir, Virginia, on September 10. All DoD employees are encouraged to visit the displays and exhibits that will line Belvoir Road in front of the main DAU building.

The DSPO will host an exhibit of the new Spray Coolant System, developed by the Navy at their Crane, Indiana, facility (see previous article). Also exhibited will be a laptop presentation of the new Item Reduction Website Capability System (IRWSC). The IRWSC enhances the review, coordination, and evaluation processes that will result in item reduction studies being completed faster and with more reliable auditable history records. It is estimated that the DoD will save $500,000 annually by eliminating paper output for item reduction studies.

We encourage everyone to come to the ALE Day at Fort Belvoir.

World Standards Day Paper Competition

The Standards Engineering Society (SES), in conjunction with the World Standards Day (WSD) Planning Committee, has announced the theme, awards, and rules for participation in the 2001 WSD Paper Competition. "Standards and the Environment" is the paper topic. All winners will be acknowledged and receive their awards during the annual WSD Dinner on Wednesday, October 10, 2001, in Washington, DC.

The author(s) of the first place winning submission will receive $2,500, along with a plaque; second and third place winners will receive cash awards of $1,000 and $500 respectively. The winning papers will be published in the SES Journal, Standards Engineering, and be posted to the SES website (http://www.ses-standards.org/). The first place winning paper will be published as a special article in the ANSI Reporter (online at: http://www.ansi.org/).

The paper competition, open only to US-based organizations and individuals, is intended to focus on the overall theme of the general topic and specifically illustrate issues, concerns, and applications of standards vis-à-vis our environment. While "the environment" often is viewed in narrow terms, e.g., air and/or water pollution, topics to be addressed can be much broader in scope. Papers may explore such ideas as: voluntary standards vs. government regulations; domestic standards in a global environment; environmentally friendly product/process/quality standards and their benefit or added cost to consumers; and economic impact of environmental standards upon industry. Other arguments related to the topic are welcome.

A panel of independent judges selected by SES and approved by the WSD Planning Committee will review the papers. The SES Executive Director must receive all submissions and accompanying official entry forms by August 31, 2001. Entry forms, along with a complete set of rules and eligibility requirements, can be obtained from the SES Office, 13340 SW 96th Avenue, Miami, FL 33176; (305) 971-4798; fax (305) 971-4799; email: hgziggy@worldnet.att.net or through the SES Home Page: http://www.ses-standards.org/

Established in 1947, the Standards Engineering Society is a not-for-profit professional membership society whose mission is to promote the use of standards and to enhance the knowledge of standardization. It is the member body for the United States and Canada in the International Federation of Standards Users (IFAN) and is accredited by the American National Standards Institute (ANSI). SES members are primarily involved in the application and use of company, government, national, regional, and international standards.

...intended to focus on the overall theme of the general topic and specifically illustrate issues, concerns, and applications of standards vis-à-vis our environment.

World Standards Day Paper Contest entry forms and requirements, can be obtained from the SES Office, 13340 SW 96th Avenue, Miami, FL 33176; (305) 971-4798; fax (305) 971-4799; email: hgziggy@worldnet.att.net or through the SES Home Page: http://www.ses-standards.org/

David Karmol Appointed to Lead ANSI Public Policy and Government Affairs Activities

By Stacy Leistner, ANSI

Press Release, Washington, DC, June 15, 2001: The American National Standards Institute (ANSI), a private non-profit organization that administers and coordinates the U.S. voluntary standardization and conformity assessment system, has announced the appointment of Mr. David Karmol as the Institute's new director of public policy and government affairs.

Mr. Karmol comes to ANSI from his position as general counsel and director of public affairs at the National Spa and Pool Institute (NSPI), a position he held for more than ten years. Prior to his tenure with NSPI, which is also an ANSI member and accredited-standards developer, he served as press secretary and special assistant to the director of the United States Mint; general counsel for the Can Manufacturers Institute; associate counsel to the U.S. House of Representatives Judiciary Committee; member of the Ohio House of Representatives, and assistant prosecuting attorney in Ohio.

"David is a highly talented and motivated individual," noted ANSI president and CEO, Dr. Mark W. Hurwitz, CAE. "He brings to ANSI a thorough knowledge of the issues important to the standards and conformity assessment community and an intimate understanding of the system and its procedures. His track record of success working on policies, strategies and programs in close liaison with federal, state and local governments will be a definite asset as ANSI strengthens its public-sector outreach and moves forward with implementation of the U.S. National Standards Strategy."

Commenting on his appointment, Karmol said, "I am very excited about joining ANSI and am looking forward to the challenges and opportunities of better educating staff in the government at all levels on the value of the voluntary consensus standards system and helping ANSI to advance the National Standards Strategy."

Mr. Karmol, who received his J.D. from the Ohio State University College of Law and is admitted to practice law in Virginia, the District of Columbia and Ohio, will join ANSI staff effective July 10, 2001. He will be located in the Institute's Washington, DC headquarters, and will lead and coordinate the efforts of an expanded advocacy team consisting of two public policy consultants, Ms. Jane Schweiker and Mr. Ray Kammer.

ANSI's mission is to enhance U.S. global competitiveness and the American quality of life by promoting, facilitating, and safeguarding the integrity of the voluntary standardization system. ANSI is the official U.S. representative to the International Accreditation Forum, the International Organization for Standardization and, via the U.S. National Committee, the International Electrotechnical Commission. ANSI currently has offices in New York City and Washington, DC.

For more information, Stacy Leistner may be contacted at ANSI on 212-642-4931.

Distance Learning Course on DoD 5000

The Office of the Deputy Under Secretary of Defense for Acquisition Reform (DUSD (AR)) and the Defense Acquisition University have announced the availability of a distance learning course on DoD 5000. The course is designed to accelerate community understanding of the principles and practices associated with this recent major policy change.

Go to http://dod5000.dau.mil/ for a comprehensive overview of all the new policies. The course takes only a few hours to complete and may be credited toward the DoD acquisition personnel biannual professional development requirement.

Thunderbirds Celebrate 48 Years of Tradition

The Defense Standardization Program salutes the standardization community members that support the Thunderbirds. We thought we should provide some real facts about the fabulous Thunderbirds.

- The United States Air Force Demonstration Squadron thunderbirds will celebrate its 48th anniversary with a busy season. The team will perform more than 60 demonstrations in 29 states. The team will also return to the Pacific for the first time since 1994.

- The team's first performance was June 8, 1953, at Luke Air Force Base, AZ. Since then, the Thunderbirds have flown before more than 315 million people at more than 3,500 air demonstrations in all 50 states and 60 foreign countries.

- "Our job is to demonstrate the professional qualities the Air Force develops in the people who fly, maintain and support the aircraft," said Lt. Col. John Venable, the team's commander/leader. "We are a mirror-image of every other front-line fighter unit in the Air Force. Every member of the team is critical to the success of the mission."

- The Thunderbird diamond formation, flying an average distance between 18 inches and 3 feet apart, represents the skills and training of every U. S. Air Force pilot. "Because of the aircrafts' proximity to each other, there's little margin for error," explained Major Doug Larson, left wing. "With my canopy 18 inches below the leader's wingtip, I have to have tremendous confidence that he won't flinch during a maneuver."

- Watching a Thunderbird performance provides only a small glimpse into how 378,000 Air Force professionals perform every day. "It's an honor for us to represent the Air Force," said Chief Master Sgt. Michael Mlodzik, maintenance superintendent. "It means a lot to all of us representing the quality of the pilots, maintainers, and aviation support people who continue to make the U. S. Air Force the best in the world."

Blueprint to Military Transformation

By Jim Garamone,
American Forces Press Service

WASHINGTON, July 11, 2001 - If you read the newspapers or watch television you are hearing a lot about the Quadrennial Defense Review. What exactly is this QDR and how does it affect service members?

The QDR is the vehicle DoD will use to transform the American military. Defense leaders will use the information generated by the QDR to shape the budgets. Defense Secretary Donald H. Rumsfeld has sped up work on the 2002 QDR so officials can use the information generated by the massive study in building the fiscal 2003 DoD budget request.

In short, the QDR process will address U.S. strategy, force structure and efficient resource management for the long term.

The QDR as it is configured is a new creation. This is only the second time DoD has gone through the operation, but there have been similar studies before. During the first Bush Administration there was a review of the military that resulted in the "Base Force." In 1993, then-Defense Secretary Les Aspin ordered a "Bottom-up Review." Both these studies tried to envision the U.S. military as it confronted a post-Cold War world. From these came the two major regional contingencies model the services use as a force-shaping structure. The Military Force Structure Act of 1996 ordered the first QDR and the Fiscal 2000 National Defense Authorization Act made the requirement permanent.

Planning for the QDR in progress began last year. Service, DoD, Joint Staff and Joint Command officials began putting together the information used in the QDR analysis. The process slowed a bit while the Bush administration formed. The President charged Rumsfeld to conduct a strategic review of the Defense Department. The review is finished and the Secretary used the information from the reviews to set the terms of reference for the QDR.

The final QDR product is due to Congress by Sept. 30, 2001. The next QDR will be conducted in 2005.

Integrated Product Team News

Greg Saunders, Ray Aragon, and Bill Lee are shown at the Albuquerque, New Mexico, retirement party for Mr. Aragon, who recently retired as the DTRA Departmental Standardization Officer. Mr. Saunders and Mr. Lee were in Albuquerque as part of the Integrated Product Team ongoing work.

Editor's Corner

By the time this publication has been delivered to our readers and posted to the web, I will have celebrated three major American events – Memorial Day, Flag Day, and our own Independence Day. Because I am a real lover of Americana, we have a lot of flag "stuff" in our house (and outside the house on an exterior front side is a plaque designating our house as "Patriot House.") We truly honor the military men and women in our family that have served and are presently serving our wonderful country.

On Memorial Day, I celebrated with my family in a custom that is still around but doesn't get a lot of hype anymore. Our many family members gathered at our family cemetery in the quaint town of Hillsville, Virginia, and on Memorial Day Saturday we decorated the graves of our deceased loved ones. The warfighters buried in this wonderful three-century-old cemetery served their country in the Revolutionary War, the Civil War, two World Wars, the Korean War, and in Vietnam. I stood proudly on this hallowed ground and I thought of all these people and their bravery. I am free to stand in this very special place where my parents are buried, my grandparents, my great-grandparents, and my cousins and aunts and uncles and all the greats that go with having a large family. I am free to view the mountains and the beautiful sights that mark this special place and I can do this because family members freely served their country. I often think my work isn't really significant, but on this special day I truly reflected and thought of all the civilians like myself that work in the government and do the small things that make it possible for warfighters to win. I felt proud! Former president John F. Kennedy asked that we serve our country and in 1966, I heard that call and went to work for the Federal government. Thirty-five years later, I am still here and feel even better that the work I do does make a difference.

We are now moving towards Veteran's Day and as our standardization community members celebrate with their families, think about all the support we provide to the warfighters. We do make a difference and this Editor feels very proud to work in this wonderful community. Have a memorable Veteran's Day and I look forward to seeing everyone at the November 26-29 symposium.

Sharon Strickland
Editor, Defense Standardization Program Journal

Mind Your Life

"It's a very funny thing about life; if you refuse to accept anything but the best, you often get it."

—*William Somerset Maugham*

Passings

- Farewell to one of our own.
  The DSPO family recently attended the funeral of our own Thomas Ballantine, who died in early May. We were very saddened to learn that he was gone, but we will always remember his humor and the fun he brought to finishing a job well. Tom came to our office after serving in the Army Departmental Standardization Office and he left us with so many memories.

- The Defense Standardization Program Office was informed that Carl Berry, a long time co-worker and former member of the standardization and data management communities, passed away on June 10. He will be missed.

Points of Contact

Defense Standardization Program Office Heads

Service/Agency	Telephone	Facsimile
Army		
Karim Abdian	(703) 617-6096	(703) 617-8256
kabdian@hqamc.army.mil	DSN 767-6096	DSN 767-8256
POC: Lucille F. Thomas-Davis	(703) 617-5101	(703) 617-8256
lthomas@hqamc.army.mil	DSN 767-5101	DSN 767-8256
Navy		
CAPT(Sel) Mary Beth Newton	(703) 602-2123	(703) 602-4643
mnewton@ar.navy.mil	(No DSN)	(No DSN)
POC: Carlotta White	(703) 602-0136 Ext.117	(703) 602-5481
cwhite@ar.navy.mil		
Air Force		
John Heliotis	(703) 588-7848	(703) 588-0587
john.heliotis@pentagon.af.mil	DSN 425-7848	DSN 425-0587
Defense Logistics Agency		
William Lee	(703) 767-1641	(703) 767-2602
william_lee@hq.dla.mil	DSN 427-1641	DSN 427-2602
Defense Information Systems Agency		
Elaine Babcock	(703) 735-3305	(703) 735-3255
babcocke@ncr.disa.mil	DSN 653-3305	DSN 653-3255
POC: Mr. Gerald Ring	(732) 427-6800	(732) 427-6798
ringg@ftm.disa.mil	DSN 987-6800	DSN 987-6798
National Imagery and Mapping Agency		
Danny Gleason	(703) 262-4409	(703) 262-4401
gleasond@nima.mil	(No DSN)	
National Security Agency/Central Security Service		
Glenn Plonk	(301) 688-3586	(301) 688-6077
glenw@romulus.ncsc.mil	DSN 644-3586	DSN 644-6077
Defense Threat Reduction Agency		
Fernando Alvarado	(505) 846-8426	(505) 846-0078
fernando.alvarado@ao.dtra.mil	DSN 246-8426	DSN 246-0078

Standardization Executives

Service/Agency	Telephone	Facsimile
DoD (Council Chair)		
Louis A. (Lou) Kratz	(703) 614-6082	(703) 614-8339
louis.kratz@osd.mil	DSN 224-6082	DSN 224-8339
DoD (Council Vice Chair)		
Gregory E. Saunders	(703) 767-6888	(703) 767-6876
gregory_saunders@hq.dla.mil	DSN 427-6888	DSN 427-6876
Army		
Renata F. Price	(703) 617-9640	(703) 617-7640
rprice@hqamc.army.mil	DSN 767-9640	DSN 767-7640
Navy		
Christine Stelloh-Garner	(703) 602-0519	(703) 602-5481
cstellohgarner@ar.navy.mil	DSN 332-0519	DSN 332-5481
Air Force		
Dr. Don Daniel	(703) 588-7766	(703) 588-8430
don.daniel@pentagon.af.mil	DSN 425-7766	DSN 425-8430
Defense Logistics Agency		
Thomas Ridgway	(703) 767-2641	(703) 767-2602
thomas_ridgway@hq.dla.mil	DSN 427-2641	DSN 427-2602
Defense Information Systems Agency		
Vacant	(703) 735-3229	(703) 735-3575
	DSN 653-3229	DSN 653-3575
National Security Agency		
Glenn Plonk	(301) 688-3586	(301) 688-6077
glenw@romulus.ncsc.mil	DSN 644-3586	DSN 644-6077

July 2001

ANSI has moved its New York office to a new location, as of May 1, 2001:

American National Standards Institute (ANSI)
25 West 43rd Street, 4th Floor
New York, NY 10036

Log onto the DSP web site for current program information, the latest policy and news, and the most current listing of key standardization officials

Defense Standardization Program Web Site:

www.dsp.dla.mil