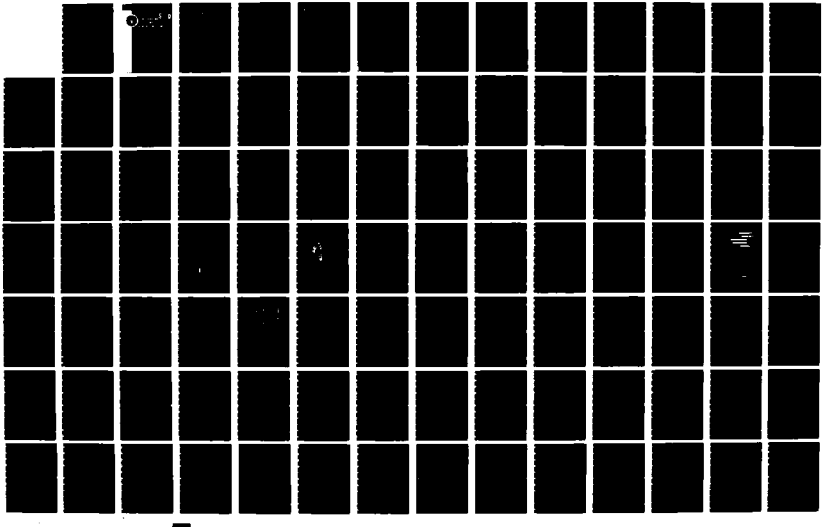
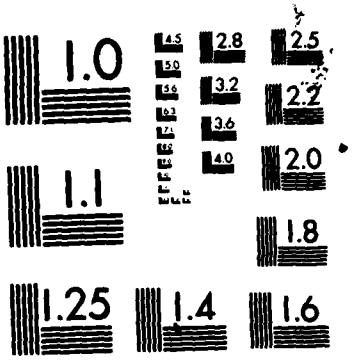
AD-A172 281 INTEGRATING THE ACQUISITION TEAM PROCEEDINGS OF THE CONFERENCE HELD IN AR... (U) ASSISTANT SECRETARY OF DEFENSE (ACQUISITION AND LOGISTICS) WA... 16 JUL 86 1/2

UNCLASSIFIED F/G 5/1 NL





1986 DoD
DEFENSE STANDARDIZATION
AND
DATA MANAGEMENT CONFERENCE

INTEGRATING THE ACQUISITION TEAM

CONFERENCE PROCEEDINGS

JULY 14-16, 1986

SHERATON NATIONAL HOTEL
AND CONFERENCE CENTER
ARLINGTON, VIRGINIA

DISTRIBUTION STATEMENT A

"Approved for public release; distribution is unlimited."

DISCLAIMER NOTICE

THIS DOCUMENT IS BEST QUALITY PRACTICABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

Defense Standardization Program Office
Two Skyline Place, Suite 1403
5203 Leesburg Pike
Falls Church, VA 22041-3466

FOURTH CLASS BOOK RATE

DEFENSE LOGISTICS AGENCY
CAMERON STATION
ALEXANDRIA, VIRGINIA 22314

OFFICIAL BUSINESS

1986 DoD Standardization & Data Management Conference Proceedings

THE OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301-8000

ACQUISITION AND
LOGISTICS

25 AUG 1986

(SDM/DSPO)

MEMORANDUM FOR CONFERENCE ATTENDEES

SUBJECT: DoD Standardization and Data Management Conference

On July 14-16, 1986, my office sponsored the DoD Standardization and Data Management Conference to address the Packard Commission recommendations and other broad Defense acquisition issues. The conference brought together members of the acquisition community to develop specific recommendations to help implement appropriate portions of the Packard Commission report, as well as other standardization and data management initiatives.

The attached report of the conference proceedings is provided for your information and planning. I hope that each of you will cooperate as we pursue each of the recommendations.

My action officers for this matter are Lee Rogers and Greg Saunders (AV 289-2340 or 703/756-2340).

Attachment

Peter Yurchsin
Director
Standardization and
Data Management

cc: Service and DoD Agency Standardization Offices
DoD Standardization Management Activities (SD-1)
DoD Data Management Focal Points
Conference Applicants

FOREWORD

The 1986 DoD Standardization and Data Management Conference on "Integrating the Acquisition Team" was held at the Sheraton National Hotel in Arlington, Virginia on July 14-16, 1986. The conference was attended by over 400 people from the acquisition community, including program managers, competition advocates, contracting personnel, engineers, data managers, standardization personnel, and representatives of the private sector.

These proceedings reflect, in part, the presentations made by numerous leaders and experts in the fields of acquisition, standardization, and data management, as well as many other related areas. The conference focused on current acquisition problems, provided a forum for program managers to relate acquisition "success stories," and examined the impact that the Packard Commission recommendations will have on future acquisition policies. A number of recommendations were made by the Session Panels, and the Director of Standardization and Data Management will ensure that the appropriate DoD offices address these recommendations.

The 1986 conference was successful and another such conference will be planned for 1988. Credit for this conference's success must go to the panel chairmen and their panelists who gave generously of their time and effort, to the participants who kept the discussions lively and meaningful, and especially to the Naval Facilities Engineering Command which provided the funding.

Questions or comments on the conference or these proceeding should be directed to Mr. Lee Rogers or Mr. Greg Saunders of the Defense Standardization Program Office on 703-756-2340 or Autovon 289-2340.

TABLE OF CONTENTS

TABLE OF CONTENTS (cont'd)

"Integrating the Acquisition Team"

Opening Speech by

Mr. John Mittino

Thank you ladies and gentlemen. Before I provide an overview of what we hope to accomplish over the next three days, let me take a moment to express my thanks to Tom Rutherford and the Naval Facilities Engineering Command for funding this conference. I think we all agree that conferences such as this are valuable and necessary, but without the financial support of the services and agencies, they just wouldn't happen. This is the third acquisition conference we have had. DLA funded the first acquisition conference in 1981, the Army funded the second one in 1983, and this year, the Navy took on the responsibility. I would say by the process of elimination, we can look forward to the Air Force funding the next conference in 1988.

Although this is our third acquisition conference, the audience demographics make this conference quite different from previous ones. Past conferences were dominated by standardization personnel, specification writers, data managers, catalogers, and logisticians. While these people are vitally important to acquisition, always having the same people attend narrowed our vision on problems and opportunities. We would "sing to the choir" while insulating ourselves from the program managers, contracting personnel, and other segments of the acquisition community. A frequent complaint was that our good ideas were never heard by the right people.

We set out to rectify this situation for this conference. Over 3,500 announcements were sent out, including 1,500 announcements to recent graduates of the program managers' school at the Defense Systems Management College. With only a limited number of slots available, I know many people were disappointed to not be selected, but we felt it was important to get a wide cross-section from the acquisition community. More importantly, we felt it was important to have people who are in a position to effect changes. We have two O-8s, two O-7s, 31 O-6s, 14 SESs, 35 GM-15s, and 78 GS-14s here today. We also have representatives from the major industry associations, from Canada, and for the first time, from the government offices of the state of Pennsylvania and the Commonwealth of Virginia. With the growing emphasis for all levels of government to take greater advantage of the commercial market place, I think it is increasingly important and mutually beneficial for the Federal and state governments to work more closely together, and I hope more state governments will participate in our future conferences.

Most of us are aware of a very strong perception in the public today that the defense acquisition system is sick. In studying the defense acquisition system as if it were a living organism, the Packard Commission concluded that the "horror stories" of overpriced spare parts, test deficiencies, and cost and schedule overruns were only symptoms of a more serious disease that was eating away at our ability to develop and produce weapons systems necessary for the defense of our nation.

To cure the defense acquisition system of its ills, the Packard Commission has prescribed perhaps the most far-reaching changes in management philosophy since the creation of the Department of Defense in 1947. Among the recommendations were: recodifying all federal laws governing acquisition into a single, simplified statute; relaxing civil service regulations to allow more flexible hiring of acquisition executives and professionals; authorization of multi-year funding for weapon systems; restructuring the Joint Requirements and Management Board to be co-chaired by a new Under Secretary of Defense for Acquisition and a new Vice Chairman of the Joint Chiefs of Staff; expanding the use of commercial products; and increasing the use of competition.

For the next three days, many of the panel sessions will emphasize the recommendations for increased use of commercial products and competition. There will be two panel sessions on subsystem/equipment standardization to discuss, in part, the use of nondevelopmental items as an alternative to developing unique items. While some people seem to believe that the idea to buy commercial, off-the-shelf products originated with the Packard Commission, DoD has long had such a policy in the Acquisition and Distribution of Commercial Products Program, or ADCoP. Tomorrow, there will be a panel session to look at ways to expand the program beyond such noncomplex items as t-shirts and Worcestershire sauce. One of the arguments frequently used against buying commercial is the feeling that commercial means lower quality. One way to overcome this attitude is to develop quality assurance systems to ensure the commercial products we buy meet our requirements. Tomorrow, there will be a panel session to examine the need for a national quality management system, and how such a system would help ensure the quality in the commercial products we buy.

I want to reemphasize something Pete Yurcisin asked of all of you in his welcoming remarks, and that's for everyone to become involved in this conference and not just sit back and listen. I expect you to ask questions, demand answers, and make recommendations. Next week, Rear Admiral Locke, who is one of our panel chairmen, and two members of my staff will be participating on the Defense Science Board's Summer Study on Commercial Acquisition. The recommendations from this conference could have a profound effect upon the Defense Science Board's results. The President, the Congress, and the highest levels of DoD are ready to work with you to improve defense acquisition, but we need your ideas. There's an old adage that says, "People don't want fertilizer, they want green lawns." If what we do here at this conference helps to produce better weapon systems on time and at less cost, then we can all point proudly to our green lawns. I sincerely hope that years from now we don't look back at this conference and all we can remember is the fertilizer that was discussed.

While most of the reforms recommended by the Packard Commission can be implemented by the President and the Secretary of Defense, some reforms will require legislation. The Packard Commission urged Congress to:

> "Recodify Federal laws governing acquisition in a single, consistent, and greatly simplified procurement statute; and remove those features of current law and regulation that are at variance with the expanded

acquisition of commercial products and the establishment of effective commercial-style procurement competition."

We are fortunate today to have as our keynote speaker Mrs. Colleen Preston. Mrs. Preston is counsel to the House Armed Services Committee and has been actively involved with the Packard Commission. Among other topics, Mrs. Preston will address legislative impediments to the Packard Commission's recommendations and what we have to look forward to from Congress. Ladies and gentlemen, Mrs. Colleen Preston.

Keynote Speech

DoD Standardization & Data Management Conference

Mrs. Colleen Preston

As you know from the introduction, I was not a member of the Packard Commission. You probably wonder why I'm keynoting the address on the Packard Commission recommendations, and I think part of the reason John asked if I would talk to you this morning, is simply to give you an idea of what the implementations of the Packard Commission recommendations have been so far. Where we stand with the Department of Defense Authorization Bill, which will be the vehicle for many of the Packard Commission reform legislative implementation provisions, is that we are in the process of mark-up. We hope to complete that mark-up by the end of next week and go to the floor. So when I speak of legislative provisions, they are simply proposed amendments to the DoD Authorization Bill or introduce legislation, none of which have been voted on by the House.

I think the Packard Commission recommendations are very important for a number of reasons, but many of you will note that they don't go into specific detail on implementation. And they did that on purpose. It's an example, I think, that many in Congress are beginning to follow, and that is to let those who manage the Department of Defense implement the recommendations in the best way possible. In that sense, the Packard Commission recommendations set a framework. They're a catalyst for change. They will only work to the extent that you who can implement them make them work. The same goes with legislation. The legislation is only as good, and the Members know that, as those of you who are implementing it.

The Packard Commission focused on several areas in the acquisition and procurement policy area. First of all, they emphasized planning. The Joint Requirements Management Board is a new board that will look at and attempt to, along with the reorganization of the Department of Defense, get better planning into the system. In the acquisition area, there are several important fundamental reforms. One is to require baselining in the major weapons systems programs to establish the program content, cost, schedule, and performance parameters. At that point, they would also recommend that Congress adopt a milestone authorization process in which programs will not be funded annually but will be funded on the basis of a decision at each milestone to proceed through the completion of that milestone.

What I'd like to do is, rather than going through the recommendations, tell you which ones will be implemented through legislative provisions right now. I mentioned DoD reorganization. I think the primary change in legislation is the creation of the position of the Under Secretary of Defense for Acquisition. That has already been created. It was attached as an amendment to the DoD Retirement Bill and has already been signed into law. So we have already created a position at a Level II, which is the equivalent of the Deputy Secretary of Defense.

Another provision is streamlining program management. The Packard Commission emphasized the idea that there needs to be strong, clear, short lines of authority, so that those in a position of responsibility can make those decisions without having those decisions then amended or second-guessed. I interpret that, and I think the way most people see it on the Hill, as saying what you need to do is invert the present decision-making process where a program manager or contracting officer makes a decision and that decision then is floated up through the various, as you may call them, advocacies. At that point, the decision is amended or reformed to reflect that person's view of the world. And so other people come in and advocate how they would like to see the decision amended. I think the Packard Commission was recommending, at least the way it's been interpreted by many on Capitol Hill, that you need to have that input early on in the process. That input should come into the decision-maker, the contracting officer, or the program manager, and whoever that decision-maker is, should then make a decision. That decision should not be second-guessed. It should be reviewed to make sure that it is consistent with the priorities that have been established by the Department, but the purpose is to have that input process occur earlier on in the process.

Finally, we have an amendment to be offered by Congressman John Casik which requires milestone authorization and baselining. In effect, what it says is, if you the Department of Defense are willing to sign up to a commitment as to what the program content will be, what the performance parameters will be, the schedule, and you're willing to own up to a cost cap, Congress will authorize that program throughout the completion of that milestone. It's going to be implemented on a test program basis initially with three programs per Service, starting with next year's budget. So in return for agreeing to some commitment as to how you think that program will perform, Congress will in turn say, "All right, we'll authorize you the money, you manage the program in the best way possible; we're not going to come back in and review that program until you complete that procurement phase, unless (and here's the kicker) you breach the program baseline." So once the parameters are set up, as long as the parameters are not breached, Congress will not then come in and continue to review the program. It does two things as far as Congress is concerned. One is, it's a way to approach the multi-year type issue with a smaller framework. As many of you know, the two-year budget has been debated, and many people have recommended that for years and years. It's just too hard and too complex a problem to address directly. This is a way to look at at least a portion of the budget and say we're going to look at the outyear cost of funding a program right now, and it makes the members focus on what those outyear costs will be in terms of a realistic budget number. It also forces the Services to come over with what will be a realistic number for that program in the initial funding year.

There are also some changes in areas that are related issues such as the Small Business Set Aside Program. I know many of you aren't involved with that directly, but I think it's something of interest. There will be an amendment offered to require, that under the Small Business Set Aside Program, a company is not eligible unless they will agree to perform at least 50% of the work by their own company, with their own work force. In

the case of a contract for manufacturing, they have to perform 50% of the manufacturing. If it's a contract for services, 50% of the value of the services has to be performed by that company. The intent is to stop small business set asides where a company is acting as a broker, acting as a front for a larger company, acting as a prime contractor subcontracting out either to large or small companies.

A second proposed requirement is that the Small Business Administration amend the size standards within six months of the enactment of the act to require that if more than 30% of the contracts in any industry category are set aside, that SBA will have to revise the size standards so that there will be fewer small business companies eligible for the Set Aside Program in that industrial category. For those of you who are involved primarily in the architectual engineering in the construction areas, that will make a big difference to you because, at the present time, approximately 80-90% of the companies in the business are characterized as small. With this change, only approximately 30% of the companies would be characterized as small, and it will significantly cut down initially on the number of contracts that will be eligible for set aside or for the 8A Program. Again, that doesn't impact you directly, but I think it's something significant that will have a major impact if it goes through.

Another change, and it's something that many of the program managers have been dealing with, is in the rights in technical data issue. As you know, Congress two years ago passed a provision requiring that the Department of Defense issue regulations to define the prospective rights in technical data. There are many who, looking at the proposed implementation of the Department of Defense and seeing how contract negotiations have gone on in the past two years, felt that it was important for Congress to clarify their intent. We have an amendment that will be offered by Chairman Aspin which will state emphatically and in the law, that if a contractor develops an item at private expense, the contractor's entitled to retain the rights to use, release, or disclose that data. If the Government pays for the development, the Government retains the right to use, release, and disclose that data. Either of those rights may be negotiated away during contract negotiations, and the Government will not be precluded from evaluating whether or not contractors are willing to give up their rights in technical data. However, the Government will be precluded from requiring as a condition of bidding, that contractors give up their rights. In terms of how that changes the law, I don't think it really changes the fundamental basis of the law at the present time. However, it does signal some change in emphasis. There's been a concern that primes are requiring subcontractors to give up rights in data to items that they developed totally at their own expense in order to participate in the prime contractor's bidding on a Government contract, simply because the evaluation criteria would reflect the amount or the percentage of items to which the contractor was willing to give rights in technical data. The report language accompanying that amendment, if it is adopted, will state that Congress intends for DoD to pursue competition and to preserve its right to compete in the future. However, the acquisition of rights in

technical data and unlimited rights in technical data is not seen as necessarily required in order to preserve the Government's right to compete in the future. There are many other techniques and ways in which the Government can do that through dual sourcing, through licensing procedures, and many other techniques that have not been utilized perhaps to the extent that they could.

Finally, I'd like to talk about one proposed amendment again by Congressman Casik, Congressman Courter co-sponsoring, and that is a preference for the use of functional specifications. As many of you know, the law already requires or states a preference for commercial products. When the Packard Commission initially made their recommendation that there should be established a preference for commercial products, many in Congress said, "But we already have that preference, it was passed two years ago and what's happened since then?" Really, not much. Again, it's an example of a situation where it doesn't make any difference what the law said. If it's not implemented, it's worthless at that point, and essentially nothing really happened in many people's minds to implement that requirement for a preference for commercial products. So we have the amendment this year that will establish the preference for functional specifications and require that, in terms of stating its requirements, the Department of Defense state its needs in such a way that commercial or nondevelopment items would qualify to be bid on that particular procurement. There's also a requirement that the Secretary of Defense analyze those impediments to commercial buying practices which exist, and I guess when I look at the commercial products issue, I see it really in two frameworks. One is, what impediments are there to commercial vendors or vendors providing commercial products to the Government because of the specifications, and the second phase of that problem is, what impediments are there because of the Government's buying practices that inhibit typically commercial vendors from bidding to provide goods to the Government? The Secretary is going to be required to identify all those impediments to vendors supplying commercial products to the Government. He is directed to remove those impediments that are within his control and to identify to Congress those which Congress needs to amend, or legislation which needs to be amended, in order to allow him to proceed with removing those impediments. This is a good example of a case in which Congress listened to those who said you shouldn't establish procedures in detail. What Congress has said in this amendment is you, the Department of Defense, go out and establish a program to create a preference. Within a year, we'll have GAO review that program. If sufficient progress has been made, Congress will not take further action. If they deem that sufficient progress has not been made, then they will reconsider whether such requirements as a mandatory preference that can only be waived would be then set up in the law. So I think the attempt has been made, at least from Congress' standpoint, to draft a provision which will give you the guidance and the authority that is needed to implement it while leaving alone the detail on the implementation.

If I could, I'd like to just throw out a couple of ideas about what some of the issues were that the Committee considered when looking at this problem. In terms of the specifications area, we tend to look at it in really three different circumstances. One is buying major weapons systems, and there the emphasis has been on buying off-the-shelf, the streamlining

initiatives, and buying nondevelopmental items. Then you've got your typical common commercial items, as you've said, the steel siding, the computer chips, where there is a commercial manufacturing standard that DoD can look to and that DoD can use in place of a military specification. And then you have the common commercial items, such as the ketchup, where you really have no commercial standard. In that case, DoD has to do something to ensure quality. I guess the Committee is of the belief that commerciality in and of itself does not assure a quality product. These are some of the problems that are going to have to be looked at in terms of implementing this preference for commercial and nondevelopmental items. In addition, if you mandate a preference for commercial items, and you only allow that to be waived in certain circumstances, who is it in the Department of Defense that would be qualified to make that decision? Do you want an item manager to make that decision? Is it something that can be made on a class waiver basis? Do you want to set up a system of waivers or preferences in the first place? It's a horrendous paperwork drill, and I don't think we want to do that. But so far, going from the stage of everyone saying we want commercial products and we want to expand the use of nondevelopmental items, to the day to day implementation has been a real problem. I hope that with the Defense Science Board recommendations that will come out at the end of the summer, you will come up with an implementation plan that will really work, that will look at additional training requirements to foster a good program. With that, I'd like to speak about one more provision, and then open up the floor to questions.

One final recommendation the Packard Commission made, which I think is very important, is that of increasing the professionalism of the acquisition work force. There are several provisions in Congress right now to do that. One would centralize acquisition under the Under Secretary of Defense for Acquisition in OSD, and another would simply take the China Lake experiment and expand upon that and provide that within certain pay grades, those within the Department of Defense would have the flexibility to award performance within those pay grades, notwithstanding the specific civil service levels.

So those are some of the many things that are being considered, and I can elaborate on that further if you wish, but what I'd like to do now is open up the floor to questions. If there is some issue that people are very concerned about, maybe I can talk about that a little bit.

"Integrating the Team"

Major General Peter W. Odgers

Normally films are shown at the conclusion of a talk, I show this one to begin the talk to put in your minds that we are dealing with a fully operational system. We have now delivered over a dozen aircraft out of the production run of 100 and simultaneously we have a very active R&D program going on. If you look at the Packard Commission recommendations of cost caps, baselines, strong program management, multi-year procurements and prototyping, I think you'll find pieces of all these recommendations have been firmly incorporated in the B-1 management structure. I will start with the B-1A program. Then I shall cover the commitment to reconstitute the B-1 program, followed by the execution phase which we are currently in, and end with a list of challenges and a summary.

If we look at the B-1A program, there were four test aircraft. They were built and all of them were assigned to Edwards AFB. The procurement program was the one that was cancelled. The program itself was 240 aircraft initially and if that program was executed according to the plan, the last of those aircraft at a production rate of four a month would have been delivered in January of this year. Notice the players for the B-1A program with particular attention to Boeing who was the system integrater for all avionics during the B-1A program. I'll mention that again because that responsibility changes as we move into the B-1B program. Note that we invested about $3.5 billion in the R&D program. As far as the production program went, long lead items and tooling were the only things that were procured.

Of those four test aircraft, number one and two started flying in 1974 while numbers three and four followed in 1975 and 1978, respectively. Notice the strong dominance of numbers three and four aircraft on avionics, both offensive and defensive. Of the 1,900 flight hours logged on the B-1A program, 1,200 hours were dominated with avionics testing. That becomes very important as we move into the B-1B program because decisions were made based on those hours.

Now let's look at the commitment. Those of you who are program managers sitting in the audience would love to have a commitment like this one from the President of the United States. It has always been very firm without deviation. The President stated that his main strategic program was the B-1B and that has not changed. That's a helpful commitment when leading a program of this size.

Now let's look at the acquisition strategy. What I want to take you through is the revitalization of the B-1 program, the strategies adopted by senior Air Force leadership, both civilian and military, and how we've embarked on this program using knowledge learned from the B-1A, plus what we're tasked by the President.

Policy. The first two things are kind of standard, somewhat like motherhood. You've built these four prototypes, so what are you going to change in the B-1B program to productionize it to make it easier to build

and maintain? New technologies? Of course, we are all familiar with how technology marches, so let's incorporate those new "off-the-shelf" technologies in the B-1B. During this period of idle time on the B-1 program, cruise missiles came into the inventory. We integrated them into the B-52, thus we would like to do that same thing on the B-1B and also take advantage of all the software and computers which are part of that total system. So we did that as well. So that was the general policy of how we embarked on the B-1B program.

The second portion of this is capping the funds. Twenty point five billion in FY 1981 dollars were allocated to the program for the 100 aircraft. You see how that translates into then-year dollars of $29.5 billion. That's the keel of the program, $20.5 billion FY 1981. It has never changed. As far as the Air Force is concerned, that is the money we need to execute the 100 B-1B program.

Now let's look how we budgeted by fiscal year. There are five lots equating to fiscal years, 1982-1986, and you'll notice this is our last procurement year, 1986. We went to fixed price, incentive contracts. Ceilings were established to cover contractor risk. However, we were never budgeted to ceiling -- only to most probable cost. We also added an undertarget share ratio of 50/50 to encourage underruns. Multi-year contracts; it was our intent to capture lots three, four, and five which constituted 92 of the 100 aircraft program on a multi-year procurement and save $800 million in base year dollars. A lot of people think that that is a commitment from Congress to fund annual budgets. It is not. It is merely a commitment to fund termination liability.

Now we change a bit on the B-1B program as the Air Force takes on the responsibility of being the integrater. I mentioned to you earlier on the B-1A program that the Boeing Company had this responsibility for integration of all avionics. That job is now the responsibility of the B-1B System Program Office. You'll see the contractors listed there and there were also potential break-out contractors. We've been successful in five areas of breaking things out, but this again was the strategy going in. It requires strong interface control documents to properly execute this integration responsibility, plus a strong partnership with contractors.

Baseline. A firm configuration baseline was established for the program. The signatures were AFSC as the procuring agency, SAC as the user; Air Force Logistics Command as the provisioner; Air Training Command as the trainer, and AFOTEC as the tester. A general officers steering group was formed to approve any proposed configuration changes. The Air Force DCS/Research & Development chaired that committee, but Mr. Weinberger was the real guru who approved any changes. As a result, very few were approved. Concurrent contracts in January 1982 were signed, both for R&D and production. A combined test force which is standard within the Air Force was formed at Edwards AFB to execute the development phases of the program.

Integrated logistics support. Two point nine billion dollars of the $20.5 billion cap were allocated for integrated logistics support. The way we do maintenance in the Air Force is by three levels -- organizational, intermediate, and depot. We established firm organic milestones, meaning

when our blue-suitors would assume the role of maintaining the aircraft, and pursued technology opportunities. Probably one of the most lucrative areas to pursue technology growth is in the logistics area. I'll talk about a few of those as we go along. The Site Activation Task Force is where we put specialists on every main operating base, such as civil engineers, support equipment people, spares people, as well as government people that can approve contract actions. We keep these specialists in the field until we activate the wings and they become combat ready. Then we pull them out.

Okay, that's the strategy, now let's look at the execution phase because that's the phase we're in right now, and that's the one that is important. That commitment has never changed from the Executive Branch of the United States Government. It has always been 100 B-1Bs, not 101, but 100 B-1Bs. In the Legislative Branch, it's been a strong program as well, where the congressmen support 100 B-1Bs, but I'll show you as I go through this briefing how the funds have been eroded. This erosion has created a high potential that we will not achieve the 100 aircraft program unless supplemental funds are added back to the $20.5 billion baseline.

Now this chart has a lot of words on it, but let me go through just a few items. On the airframe on top, you'll notice we went from a B-1A program of about 400,000 pounds maximum gross weight up to about 480,000 on the B-1B program. That was primarily due to the introduction of cruise missiles, both internal and external. When we established that weight growth, we did not recognize that substantial flight control changes had to be incorporated into the aircraft to accommodate this additional weight. Those changes are now in flight test. As we move down the chart, you'll also notice on the offensive avionics on the B-1A we used an F-111 radar. I said earlier that one of our key strategies was to take advantage of advanced technology. The offensive radar falls into this category. Rather than incorporate the F-111 radar into the B-1B, a brand new radar was selected -- a radar which uses a phased array antennae, plus shares ground mapping and terrain following through this common antennae. The last one, the defensive area, where we had bands 4-7 on the B-1A, we expanded to bands 1-8, added a tail warning function, plus numerous other complex techniques.

Now let's look at the multi-year contracts. I said earlier we had hoped to capture lots three, four, and five, equating to 92 aircraft. We were a little late with our contracts so for Boeing and Rockwell we missed lot three and 10 aircraft. All four of these contracts were negotiated in August 1985 and you'll see the total target price at the bottom was a little over $12 billion. The proposals from the contractors were close to $16 billion. Within the $20.5 billion baseline, we had money to support the target price plus 6%. We had nowhere near the money to support the contractors' proposals, thus negotiations went on for months and months trying to get down to the dollar amount where we could afford the program. We finally succeeded last August.

On the management side. As far as the United States Air Force goes, we've always had a general officer, at least a two-star, running the program. On the Rockwell side, the president of North American Aviation Organization is the B-1B Program Director. Boeing has a very strong, experienced manager. AIL's program manager is a vice president. We have excellent relationships with our contractors. We have had executive program

management reviews at least quarterly since the program started. We also meet with the CEOs of these four companies once a quarter where we discuss problems or emphasize things which we have to get done. It's a result of meetings like these that we got the multi-year contracts negotiated on time in August last year. I can't emphasize more that when the Air Force takes on the responsibility of the integrator for a complex system as the B-1B, the interface control is absolutely mandatory. It's worked very well and I would encourage this management approach for any major program in the future.

Firm configuration definition. That becomes a little easier when you have a program and 1,900 flight test hours behind you, particularly in the airframe side where you have so many long lead items. Now I mentioned that general officer steering group earlier that was headed by our chief of R&D, but primarily by Secretary Weinberger. A couple of configuration items were approved by this group. Nuclear certification was one. Certainly you cannot put a B-1B on alert unless you have certification of nuclear weapons. That is now behind us. Climatic testing was another. We now have an aircraft down at Eglin AFB in a climatic laboratory going through climatic testing. Some of the things which were taken to that board and disapproved were ENP testing and nuclear permissive action link.

Combined test force. Those are the players, the one on the left is Air Force Flight Test Center at Edwards and all the other key players in the Air Force who are now fully formed and integrated into a combined test force at Edwards. We fly approximately three to four missions a week on the aircraft assigned.

So that is the program. We started with concurrent full-scale development and production contracts. The flight test program was supposed to have terminated in June of this year. We have extended to March of next year because of three areas I mentioned to you earlier: flight controls, radar, and defensive system. The first B-1B will stand nuclear alert this September when IOC is met.

Now a couple of words on the flight test program. These are the aircraft involved, the one at the top is B-1A number four. It is the last survivor of the B-1A program. We have that aircraft dedicated to offensive and defensive avionics, two of our biggest challenges. That aircraft will be retired at the end of this fiscal year and go to the Air Force Museum so we're rapidly winding up that program. The next aircraft down is B-1B number one. It was the first B-1B built and it primarily does the classic aerodynamic testing as well as all the weapon separations and carriages. The third aircraft down is number nine. It is assigned to us because it is the first heavyweight aircraft that's capable of carrying cruise missiles both internal and external. It is in full flight status right now at Edwards. The next aircraft is number 10. It is tasked with climatic testing. It will be returned to the Strategic Air Command in September. The next aircraft is number 18. We do avionics compatibility as well as radar cross-section for a very short period of time. The last aircraft is number 28 which will also be a cruise missile test asset.

Now the real challenge of the program and the one that chews up most of the dollars is the rate production. We are building up to full rate

production right now. These are some of the challenges, the number of subcontractors, the parts and the people we have working the aircraft. On my left are the major fuselage pieces that are made throughout the country. Not only do we build major aircraft parts, but we also run special railroad cars and systems to move these major subassemblies throughout the United States into Palmdale for the assembly of the aircraft.

Now on my right is our build schedule. We have now delivered aircraft 14. I draw to your attention aircraft 11 on the bottom. That is an aircraft that was built in nine months at a rate of two aircraft per month. We accelerate to three-per-month rate in August and up to four per month in December of this year. Now that nine-month aircraft at the bottom shrinks down to a seven-month aircraft at the top with aircraft number 33. It's the same work force as we go from two-per-month rate today to four-per-month rate in December and compress the time by two months. So the real challenge to the program is being able to buy this program for the $20.5 billion and the production rate is key.

Integrating logistic support. When we field all the tech orders required for the B-1B, both at the field level and the depot level, we will own 1/6 of all the tech orders within the United States Air Force, so it is a major volume of tech orders we plan to field. You'll notice the number of spares and support equipment, both common and peculiar. Again I draw your attention to the $20.5 billion baseline -- $2.9 billion of that is given to this particular effort. Taking advantage of technology is something we are very proud of in the B-1B program. The central integrated test system is an on-board diagnostic system which samples over 600 parameters continuously during flight. Once maintenance is done on the aircraft, there are tapes which do similar type things of diagnosing the subsystems and telling you whether you pass or fail. When a crew returns from a B-1B mission, a tape is taken off the aircraft and placed in a ground processor for analysis. This analysis highlights failures requiring maintenance action. This tape also interfaces with other computer systems to maintain configuration control, order replenishment spares and task maintenance specialists. We are maturing this system currently. It will be another six months before we have it fully matured, but we are on track.

Funding. How do you reach the Fortune 500? The money we're spending right now is $527 million per month to bring this B-1B program in and that's a little over $21 million per work day. We don't count Sundays although most of our work force is working on Sundays. If you look on the left, you'll see the baseline of the program which in the center column is FY 1981. That's the $20.5 billion and that's what most people refer to. If you equate that to then-year dollars, the value is $29.5 billion. The second line was an adjustment in the funding primarily due to the reduced escalation rates and brought that $20.5 billion down to $19.9 billion. During the 1986 enactment process you can see what has happened to that $20.5 billion. It has been reduced to $19.1 billion. In effect, this dollar reduction has put us into a high-risk situation. I wouldn't want you to leave here today thinking that the B-1B program is going to close down tomorrow as that is not the case. We are currently solvent, but we also think that we will have to return to Congress to get some of those baseline funds reinstated.

These are my conclusions. The challenges of running a major program like this are many. Multi-year contracts were key. We feel we saved over $800 million by adopting that procurement strategy. The firm baseline is tough, but it works when people like Secretary Weinberger take an interest in it and the leadership of your particular Service are involved as well. Concurrency -- it's a tough thing to go on concurrency for a complex program like the B-1B. As I stated, a lot of things weren't thoroughly understood, such as airborne radar systems, repackaging defensive systems, and flight control changes. Had these things been thoroughly understood when we embarked on the B-1B program, I doubt that this would have been a concurrent program. Government as the integrator? Absolutely. We should take on that responsibility in every weapon system, in my view. We can do that job. We've proved it on the most complex airplane we've ever built in the Air Force, and we've done that job well. Integrating logistic support -- tough, tough area, but a lot of opportunities for innovation with technology. Congressional commitment -- kind of strange to watch that one. Everybody wants 100 B-1Bs, but for some reason they're not willing to stand up to the money it's going to cost. The outcome is build-to-rate. We are on our rate-bill schedule right now. We anticipate we will go up to three a month in August and hit four a month in December. We will stand nuclear alert in September this year just like we said four years ago.

"Competition & Standardization - Natural Partners"

Rear Admiral Stuart Platt

Let me give you some of my thoughts on standardization. I think it is axiomatic that standardization and competition are compatible and I don't think it is worth debating.

What we require is standard products, not standard contracts, or standard contractors.

If you have read the recent Packard Report, and I think you should, it is evident that we in the government are going to more "commercial-style" procurement. I think that this can lend itself to an increased use of standardized products.

Let me share with you some of the advantages I see in the increased use of standardization.

First, in the long run, we as Navy managers are concerned with the costs associated with fielding and maintaining our ships and airplanes. We see standardization as a tool to decrease the costs associated with provisioning a weapons system . . . simply said, it keeps our systems affordable.

Second, as we increase the use of standardization we should look for a corresponding decrease in our inventory costs because we are reducing the range of material that we hold in stock.

Next, as the use of standardization becomes more prevalent, the quantities of the same item we procure increase making it more attractive for contractors to bid. Volume buys and competition are most compatible.

We also should see a further increase in readiness because of an increased probability of having parts in stock when we procure larger standard quantities to support our wide range of systems.

To conclude, I see the use of standardization called for where it makes good business sense; this is probably more than we have done in the past. Those of us who manage complex programs need to give more thought to the use of incentives for contractors to incorporate more standard parts into the weapons that they are producing for us.

Subsystem/Equipment Standardization

1986 DoD Standardization & Data Management Conference

Synopsis of Panel Discussion

This panel was convened for the purpose of developing recommendations and a course of action to facilitate and promote the development and use of standardized subsystems and equipment. Parts I and II of this two part panel covered "lessons learned" from past and present subsystem/equipment standardization programs (both hardware and software) as presented by experienced program managers and their supporting engineers from both government and industry. Packard Commission recommendations to streamline the acquisition process and use non-developmental items, as an alternative to developing unique subsystem/equipment, were endorsed by the presentations. Part II continued the lessons learned activity and included the future applications of standardized subsystems/equipments (e.g. VHSIC, architectural standards, modular avionics, etc.). This session emphasized new ideas, new hardware, and new software concepts which are believed to be achievable and should provide a significant return on investment.

As a basis for developing recommendations and a course of action to be followed by the Department of Defense, twelve speakers presented their programs, their views, and described why their respective programs either succeeded or were impeded by "forces" within the current acquisition environment.

As the presentations were made, the panel was able to see several common characteristics of successful programs evolve and detect several common reasons why "good" programs floundered. These common generic qualities are well worth noting and should be firmly established in the minds of all standardization program managers and supervisory personnel.

The programs discussed ranged from a major weapon system program to very small piece-part programs. The complete spectrum of possible hardware program types were included in these discussions (e.g. NATO programs, joint programs, and single Military Department programs.)

Observations

The following conclusions reached by this panel were based on the common generic factors and "lessons learned" which evolved from the discussions:

o The panel members agreed that the benefits of standardization are significant, well documented, and should be obvious to all.

o We have very visible support from the Congress, Secretary of Defense, and now the Packard Commission.

o Making equipment standardization "happen" in the current acquisition environment is tough -- almost impossible -- without very high level support consistently backing you up and on call when you need it.

o Standardization direction down the organizational hierarchy to the field has sometimes been inadequate but sometimes when the direction is adequate, the field doesn't carry it out.

o Equipment standardization programs have increased competition since they combine the requirements of several users and tend to make the market size bigger and more lucrative to win.

o While current problems in equipment standardization have been properly and adequately identified in the past (e.g., studies, reports, standardization conference proceedings, Congressional concerns, etc.), and very good recommendations have been made -- including such things as rewarding managers of good standardization programs -- those recommendations have either not been implemented properly in the field or have not been effective in accomplishing any real change. Until some basic management issues are resolved, there is very little benefit to be derived from additional recommendations or restatements of old ones.

o When the standardization benefits and requirements have been properly identified and the contracts awarded to produce a standard subsystem, in most cases, there is no one directly responsible in the field for administering it into other applications and needs. In short, there are very few taking an active role at product acquisition levels to market the standard equipment developed and even fewer performing the role as an enforcer of standard products! This is the critical weakness in the DoD's equipment standardization program.

Recommendations

Although the following recommendations do not specifically identify an action office, they were made in the spirit of standardization improvement and should be documented.

o OSD high level management support is needed in the form of strong and visible standardization advocates for specific programs.

o We need to implement hardware standardization on a program by program basis (i.e. Pick a major weapon system program for implementation of the hardware and not necessarily a given time frame for use of the standard hardware.)

o Implementation of standardization needs to be across-the-board, enforced by an OSD standardization focal point, and reenforced by program managers and, if they exist, reenforced by equipment standardization advocates at product acquisition management levels.

o The standardization initiatives with major weapon system modernization programs.

o Use standardization cost avoidance savings to minimize the impact of Gramm-Rudman-Hollings budget deficit reductions.

o Whenever and wherever possible, evalute the use of non-developmental items (NDI) for the satisfaction of new operational requirements before awarding RDT&E and/or production contracts which will lead to the development of new and unique hardware. Do not reject the use of the NDI item if cost-effective modifications to the NDI item would result in satisfactory equipment solutions to the operational requirement.

Acknowledgements

Panel Chairman — Walker A. Larimer, COL, USAF (RET)

Panel Members

Walter Locke, RADM. USN (RET)	"Lessons Learned" from a major weapon system program.
William T. Robinson, LTC, USAF	"Lessons Learned" from single service equipment standardization programs.
Charles Epstein, Program Manager, USAF Armament Division, Eglin, AFB, FL	"Lessons Learned" from NATO equipment standardization programs.
David S. Grishop, COL, USA	Joint Service Review Committee (Overview and Objectives).
George Winters, COL, USAF	Discussion of how the Joint Logistics Commands support Tri-Service Standardization Efforts.
Dave Longinotti, OASD(C^3I)	Mark XV - NATO Identification System (NIS).
Charles S. Green, COL, USA	Mobile Electric Power - Component Equivalency Study.
William Freestone, LTC, USA	VHSIC - piece part standardization of hi-tech electronic devices.
David E. Brown, CWO2, USMC	Mobile Electric Warfare Support System (MEWSS).
Ben Swett, COL, USAF (RET)	Piece part standardization -- Recess Drive Fastener Study.
Gordon England, VP for Engineering General Dynamics/Land Systems Div.	A User's Experience and Perspective in the Use of Standards.
Nat Vivians, Technical Advisor, ASD-AFALC, Ohio	DOL-STD-1788: Why we need to implement this standard across the DoD.

Competition and Standardization - Natural Partners

July 14-16 1986

Synopsis of Panel Discussions

This panel was composed of four teams. Each team discussed a major program where standardization successfully provided the basis for improved competition. Each team involved two speakers; one was the technical person addressing the standardization concept, the other discussed the procurement/logistics and competition responsibility. Each panel discussed the problems encountered, the way they were solved, the lessons learned, and suggestions for improving standardization and competitive procurement actions. The four programs discussed were Tactical Shelters, Mobile Electric Power, Hose Assemblies, and Military Parts Control Advisory Groups (MPCAG'S). These are good examples of the dollar savings or cost avoidance that have been achieved as a direct result of standardization.

Tactical Shelters:

Thirteen tactical rigid wall shelters approved for DOD use under DODI 4500.37, standard family of tactical shelters, replaced more than 200 special nonstandard shelters to meet the needs of the services. There is a recent case of procurement of the shelter types for the fabrication of 1739 Army standard shelters at a cost of $99.3 million. Five bidders were qualified. The four lowest were within 15 percent of each other.

Mobile Electric Power:

This program is a prime example of successful standardization in that it provided all services with basically the same mobile generator sets built to well defined military specs and acquired by competitive procurement. A current step involves procuring what are substantially commercial products with limited specifications. There is very active participation by the competition advocate. In this case, standardization is being accomplished through the use of performance type technical data packages which enable competitive reprocurement.

Hose Assemblies:

The use of military and SAE standards on high pressure teflon hose assemblies used in aircraft is a good example of a partnership between the military and industry associations in developing standards. An interesting concept is the use of a combined military and SAE QPL for procurement. About half of the savings in this case was thought to be due to competition, which was enabled by adequate standards.

Military Parts Control Advisory Groups (MPCAG's):

The MPCAG function is to provide technical assistance to the military contractor as well as the services in the selection and use of military standards. By using the expertise available from MPCAG's in selection and use of parts, the part failure rate due to use of MIL specs is less than that of non-MIL parts. Nonstandard parts have substantial hidden costs. The example discussed was the F-16 weapon system which was developed under full parts control requirements. It is a model for successful acquisition streamlining - it has consistently met its cost goals, schedule, and performance requirements.

Observations

Based on the remarks by the speakers and questions raised from the floor, the following are our observations.

1. There are benefits to standardization and competition beyond cost savings: better and increased choice of sources, improved quality, more current "state of the art." Largest benefit is still the reduction in price.

2. When standardization does not exist, there is a proliferation of "source control documents" to cover devices which are not cost effective to DOD, not technically adequate, cause of logistics problems, poor quality and reliability. Without standardization and evaluation, there is a tendency for program procurement to gravitate to the least desirable parts available.

3. The drive to use commercial or industrial standards needs to have a clear definition as to what constitutes a suitable standard. Regardless of the source of the standard, the standard must not only be suitable for initial procurement of the devices by the user, but must be sufficiently self contained to permit the procurement of replacement parts both in the near and distant future. These criteria must be understood and applied by the competition advocate regardless of the form of standard used in any procurement or we have no basis for competitive bidding.

4. Harmonization of military specifications with commercially used specifications as recommended in the Packard report is a two way street. Many of the commercial and industrial specifications must be improved so that they are no longer considered as representing the lowest common denominator of the industry. They must contain the basics as previously described. As these improvements are made, and they are being made, increased utilization of commercial standards will be assured.

5. Early collaboration with industry in developing suitable standards is considered essential to any standardization program. Industry can assist the acquisition team by preparing industry standards or specifications with two or more sources for the products, and military drawings for the military-environment products. It would be highly desirable for the industry groups to have an effort parallel to MPCAG in recommending the use of the proper standard.

6. Clarification of such phrases as "functional," and "performance" is necessary, in order that they can be properly applied to the standards process. These generalizations create more confusion and should be addressed quickly or we will have opened a Pandora's box of definitions.

7. For major standardization programs, DOD should establish working groups with very clear definition and direction of their responsibilities, as well as with a complete understanding of the acquisition strategy. Adequate funding must be arranged. The working groups should include DOD personnel as well as industry representatives wherever possible.

8. Finally, the relationship between standards and competition can possibly be best summed up as follows:

   Unless there are suitable standards against which a product can be procured and verified, we will never know whether the product that is delivered will satisfy our requirements. Without this knowledge, we do not have competition, only a price for a product of unknown value. DOD is fortunate to have several paths it can follow in selecting the proper standard for the application. In some cases, it may be the military standard, in others the commercial or industry standard may be the correct choice. All of these standards can be partners in the acquisition process. The only thing remaining is to make sure that we select the right one for that particular application which satisfies the need, and at a price we are willing to pay.

Recommendations

1. DOD must very quickly issue an instruction clarifying such expressions as "functional," "performance," "commercial," "off-the-shelf" as applicable to specifications and the products they cover. Included in this instruction should be information as to what a Nondevelopment Item (NDI) is and how modifications should be controlled. Without this information each service and acquisition activity will provide their own interpretation creating a tremendous amount of confusion and reducing the acquisition process to shambles.

2. DOD must provide clear definition as to what constitutes a suitable standard, regardless of the origin of the standard, if the standard is to be used as part of the DOD acquisition process. As an example, it must describe the physical characteristics and dimensions, the desired performance levels, and how they are to be verified. It must contain reasonable quality assurance provisions for production acceptance. The standard must provide a common, consistent set of requirements to ensure fair and competitive bidding, as well as assuring a product that meets the requirements of the military application for which it is intended. It must be acceptable to both the user and the manufacturer.

3. The services must be directed to become more active and more consistent participants in the industry associations responsible for preparing standards having possible military applications. The standardization funding for this participation must be identified early, be adequate and assured to avoid the "stop and go" process which is the more familiar situation faced today. Without this continuous, active participation, the military too often finds the association standards inadequate for their needs, thus delaying their acceptance. Early collaboration with industry and their associations is considered essential to any standardization program involved with the acquisition process.

4. Industry associations can assist the acquisition teams by preparing specifications meeting the requirements specified in recommendation 2. above. Its standards should assure at least two, but preferably more, sources for the products covered. Various levels should be incorporated for different military environments. The standards should include part numbers and drawings for easy identification of a specific product. The military participants should be assured voting rights in the standards development. A program should be developed to accept industry associations' "qualified" or "approved" products as part of the acquisition process. A DOD instruction or letter should be issued covering all of these points as a basis for the acceptance of the industry standards.

5. With the increased use of industry standards, a system must be developed to assure adequate feedback on the performance of the products covered by industry standards in military applications.

6. In conjunction with the acceptance of industry standards, information on nongovernment standards group (NGS) now listed in the standardization manual should be expanded to identify the areas of interest of each NGS body. MIL-STD-143 (precedence of standards) should be updated as necessary.

7. For major standardization programs, DOD should establish working groups with very clear definition of the particular application and environment as well as the framework of their responsibilities and the timetable for completion. The working groups should be broken down into smaller task groups sized as necessary to address portions of the overall problem. The total life cycle competition strategy (TLCCS) covered under Army AR70-1 would be a good model for the program. It involves defining early and specific needs, system planning, detailed analysis of technical data, data rights, dual sourcing and planning of the acquisition method. It does not mean that everything must be competed, nor does it mean that all data and data rights must be acquired, only those which are absolutely essential. It does mean early specific planning, maximum feasible competition and buying what is needed. Industry representation and the competition advocate must be involved early on in the program and in each phase where their expertise would be helpful.

8. The various acquisition techniques, each of which is different, need to be simplified and clarified as to which may be properly used under what set of circumstances. These should be issued in the form of guidelines for the technical personnel who are rarely experts in procurement regulations.

Panel Members

Nat Kronstadt (Chairman)	President, NKA Incorporated
John F. Wheeler	U.S. Army Natick Research, Development and Engineering Center, Natick, MA.
Jack Siegel	U.S. Army Natick Research, Development and Engineering Center, Natick, MA.
Charles S. Green, Jr., Col., U.S.A.	DOD Project Manager, Mobile Electric Power, Ft. Belvoir, VA.
David J. Bryant, LtC, U.S.A.	Chief, Competition Management Office, U.S. Army Troop Support Command, St. Louis, MO.
David R. Bentley	Aerospace Program Manager, Society of Automotive Engineers, Warrendale, PA.
James H. Phillips	Defense Construction Supply Center, Columbus, Ohio.
Lawrence C. Milligan, Jr.	Supervisory Electronics Engineer, MPCAG Program, Defense Electronics Supply Center, Dayton, Ohio.
O. Walter Wood	Lead Engineer, Parts Engineering, General Dynamics, Ft. Worth, Texas.

DOD-Staff Consultants

John Tascher	Defense Product Standards Office, DOD, Falls Church, VA.
Robert Gagnon	Defense Product Standards Office, DOD, Falls Church, VA.

JACK M. SIEGEL & JOHN F. WHEELER

U.S. ARMY NATICK RESEARCH, DEVELOPMENT AND ENGINEERING CENTER

TACTICAL SHELTERS

DURING THE PAST DECADE THE DOD COMMUNITY HAS EFFECTIVELY ADDRESSED SHELTER STANDARDIZATION AND LOGISTICAL SUPPORT ISSUES RESULTING IN A STANDARD FAMILY OF DOD TACTICAL RIGID WALL SHELTERS THAT ARE BOTH ECONOMICALLY PROCURED AND FIELD SUPPORTABLE! THE JOINT COMMITTEE ON TACTICAL SHELTERS (JOCOTAS), WITH ONE PRIMARY REPRESENTATIVE FROM EACH SERVICE, HAS COORDINATED SHELTER R&D EFFORTS TO ASSURE NO DUPLICATION AND MAXIMUM BENEFIT IS GAINED FROM EACH GOVERNMENT DOLLAR SPENT! IN ADDITION, THIRTEEN TACTICAL RIGID WALL SHELTERS WERE APPROVED FOR DOD USE. PRIOR TO STANDARDIZATION, IN EXCESS OF TWO HUNDRED SPECIAL NONSTANDARD SHELTERS WERE REQUIRED TO MEET THE NEEDS OF THE SERVICES. THE JOINT LOGISTICS COMMANDER'S PANEL ON TACTICAL SHELTER ACQ AND SUPPORT (JP-TSAS) HAS INITIATED STANDARDIZATION OF JOINT TECH MANUALS FOR EACH SHELTER, A RAM DATA COLLECTION SYSTEM FOR USE BY ALL SERVICES, ETC. IN ADDITION, JP-TSAS HAS PREPARED AND RECEIVED APPROVAL FOR A JOINT SERVICE REG ON ACQUISITION AND LOGISTICS POLICY FOR SHELTERS.

A SPECIFIC EXAMPLE OF A RECENT ECONOMICAL PROCUREMENT OF THREE DOD SHELTER TYPES WAS THAT ADMINISTERED BY THE U.S. ARMY NATICK R, D&E CENTER FOR THE FABRICATION OF 1739 ARMY STANDARD TACTICAL RIGID WALL ISO SHELTERS AT A TOTAL COST OF 99.3 MILLION DOLLARS. NATICK COMPLETED DEVELOPMENT OF THE NONEXPANDABLE, ONE-SIDE EXPANDABLE, AND TWO-SIDE EXPANDABLE ISO SHELTERS IN OCTOBER 1983, AND IN APRIL 1984 AWARDED THIS CONTRACT TO THE LOWEST PRICE QUALIFIED BIDDER. THIS WAS THE FIRST PRODUCTION BUY OF THESE HONEYCOMB PANELED SHELTER DESIGNS AND MUCH PREPLANNING WAS DONE TO ASSURE GOOD COMPETITION FROM QUALIFIED SOURCES. A COMPREHENSIVE TWO-STEP IFB WAS USED IN THIS BUY. IN THE FIRST STEP TO ESTABLISH ACCEPTABILITY, THE BIDDERS WERE REQUIRED TO SUBMIT PROCESS SPECS, PANEL AND ADHESIVE SAMPLES WITH TEST REPORTS, ETC. AND THE GOVERNMENT MADE PLANT SURVEYS. IN ADDITION, DESIGN PROPOSALS FOR SPECIAL FEATURES WERE SUBMITTED. FIVE BIDDERS WERE QUALIFIED AND WERE ALLOWED TO SUBMIT PRICING IN THE SECOND STEP OF THE IFB. THE FOUR LOWEST BIDS WERE WITHIN 15% OF EACH OTHER. DELIVERIES COMMENCED IN DECEMBER 1985 AND WILL END IN DECEMBER 1988 WITH A MAXIMUM OF 60 SHELTERS PER MONTH. THESE SHELTERS WERE DESIGNED WITH BOTH DURABILITY AND MAINTAINABILITY OF PRIMARY IMPORTANCE. FIRST, THE MATERIALS AND PROCESSING SPECS TO FABRICATE HONEYCOMB SANDWICH PANELS EXHIBITING LONG TERM STRUCTURAL DURABILITY WERE PREPARED WITH INDUSTRY HELP UNDER THE AUSPICES OF AMERICAN SOCIETY FOR TESTING AND MATERIALS SUBCOMMITTEE E6.53. SECONDLY, ALL SHELTER PANELS ARE HINGED OR BOLTED IN PLACE FOR EASY REPLACEMENT IN THE FIELD AND THE USE OF STANDARD INTERCHANGEABLE COMPONENTS IS MAXIMIZED. THE ARMY STANDARD FAMILY OF ISO SHELTERS REPRESENTS THE STATE-OF-THE-ART IN MATERIALS AND DESIGN THAT SERVE BOTH AS SHELTERS AND SHIPPING

CONTAINERS. THEY MEET INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO) STRUCTURAL AND DIMENSIONAL STANDARDS FOR CARGO SHIPPING CONTAINERS AND THUS ARE COMPATIBLE WITH COMMERCIAL CONTAINERSHIP AS WELL AS RAIL, TRUCK, AND AIR TRANSPORT AND MATERIAL HANDLING EQUIPMENT.

SYNOPSIS

Competition and the Effectiveness of the Component Equivalency Program

Standardization of the DoD Mobile Electric Power Program is in large measure sustained through the use of complete and detailed technical data packages which enable the repetitive competitive reprocurement of family members. A key component of the reprocurement technical data package are engineering drawings which specify the source of many critical maintenance significant components. Initially, these components were selected by the manufacturer first asssembling the Generator Set and were qualified during first article testing. In an effort to contain cost and enhance competition, a program to qualify other sources for these components was established early in the Mobile Electric Power Standardization effort at the Belvoir Research, Development and Engineering Center.

In the 1983-84 timeframe there were allegations that the component equivalency program was restricting rather than enhancing competition. As a consequence of these allegations, a detailed analysis was made of Mobile Electric Power program acquisition and standardization strategies. Essentially, this analysis revealed the component equivalency program effective in fostering competition and that there were consistent reductions in Generator Set prices over time.

Colonel Charles S. Green, Jr.

U.S. ARMY TROOP SUPPORT COMMAND

COMPETITION AND STANDARDIZATION IN MOBILE ELECTRIC POWER

PROCUREMENT AND LOGISTICS BRIEFING

1. New Army Policy (AR 70-1), requires a Total Life Cycle Competition Strategy (TLCCS) for all systems.

a. Defined as early detailed strategy to maximize effective full and open competition throughout the life cycle to include end item and spares.

b. Requires up front detail planning and innovative thinking using available processes. Early specific planning on procurement methods.

c. Developed in concept operation phase with goal of maximum full and open competition. Doesn't mean we'll compete everything but does mean we make early specific decisions that will be approved in accordance with the law.

d. Development of TLCCS insured through Competition Advocate involvement in key planning and decision processes.

e. Solicitation and how we address production competition.

2. Competition in generator program - historical perspective.

a. Mobile Electric Power program is success story in competition and standardization.

b. Average unit price reductions overtime - 31%.

c. Intense competition:

(1) Increasing number of bidders.

LT. COL DAVID R BRYANT
COMPETITION MANAGEMENT OFFICE
U.S ARMY TROOP SUPPORT COMMAND
ST LOUIS, MO

1-91

(2) Small differences in bids.

(3) Component prices kept reasonable.

d. Component equivalency program - another success story.

(1) Facilitate/protects standardization.

(2) Technical data not an issue - form, fit and function.

(3) Average price reduction 47%.

(4) Gross savings projection 2.6 million per year.

(5) Savings average 500% higher than program costs.

3. Competition in generator program - current actions.

a. Evaluated full technical data and data rights approach. Much initial resistance.

b. Business decision - not time to compete the engine.

c. Alternative approach - require offers to provide second sources for selected components (except engines).

4. Competition in generators - future.

a. Continue component equivalency program.

b. Evaluate dual sourcing of engines.

c. Evaluate market segmentation approach.

d. Evaluate life of type buy concept.

e. Evaluate expanded acquisition of concurrent spares.

2 - 91

COMPETITION AND STANDARDIZATION-NATURAL PARTNERS

TEAM 3 HOSE ASSEMBLIES (COMPETITION)

I. APPLYING STANDARDIZATION DOCUMENTS

A. WHEN A STANDARDIZATION DOCUMENT IS PUBLISHED, PROCURING AGENCIES MUST APPLY IT AGGRESSIVELY.

B. STANDARDIZATION EFFORTS HELP WITH INCREASED COMPETITION ON GROWING NUMBER OF ITEMS.

C. CONTRACTORS CAN BENEFIT FROM BROADER STANDARDIZATION THROUGH EXPANDED PRODUCT LINES AND A BROADER MARKET.

D. DILIGENT RESEARCH BY ENGINEERING AND PROCURING AGENCIES CONTINUE TO FIND ITEMS THAT CAN BE PROCURED USING A STANDARD OR SPECIFICATION.

E. STANDARDS NEED TO BE APPLIED AT THE DESIGN PHASE OF PROJECTS RATHER THAN AFTER THE FACT.

II. BENEFITS OF COMPETITION

A. HAVING A GROUP OF SOURCES TO CHOOSE FROM CAN REDUCE DELIVERY TIMES.

B. STANDARDS PROVIDE A QUALITY GAGE TO FACILITATE BETTER COMMUNICATION BETWEEN PROCURING ACTIVITY AND THE CONTRACTOR.

C. COMPETITION LEADS TO PRODUCT IMPROVEMENTS WHICH HELPS MAINTAIN STANDARDS AT "STATE OF THE ART" LEVELS.

D. COST BENEFIT FROM INCREASED COMPETITION IS IN THE MILLIONS OF DOLLARS MAKING STANDARDIZATION EFFORTS WELL WORTHWHILE.

III. CONCLUSIONS

THE CLOSER WE CAN BRING MANUFACTURER AND USER TOGETHER, THE EASIER IT WILL BE TO PROCURE QUALITY, STATE OF THE ART ITEMS AT A REASONABLE COST. STANDARDIZATION IS THE TOOL THAT CAN BE USED TO DO THIS.

JAMES H. PHILLIPS

MIL-H-38360

HOSE ASSEMBLIES, TETRAFLUOROETHYLENE, HIGH TEMPERATURE, HIGH PRESSURE, 3000 PSI, HYDRAULIC AND PNEUMATIC

$45,000.00 IN FY 85 FOR 99 NSNs

EXPANDED COVERAGE

USING SAE AEROSPACE STANDARDS AS604 AND AS1339

MANUFACTURER	NR OF DASH NRS ON CURRENT QPL	PROJECTED DASH NRS ON NEW QPL			EXPANDED COVERAGE
		AS604	AS1339	TOTAL	
A	72	132	84	216	+300%
B	60	84	144	228	+380%
C	36	84	72	156	+430%

HOSE ASSEMBLY

4720-00-283-6413

COST BEFORE COMPETITION (SOLE SOURCE) $11.07

WRITTEN TO SAE J30 - FUEL AND OIL HOSES, AUTOMOTIVE APPLICATIONS

COST AFTER COMPETITION $ 6.36

			$ SAVED
QUANTITIES	1984	172	810.12
PROCURED	1985	263	1238.73
	1986 (TO DATE)	500	2355.00

HOSE ASSEMBLY

4720-00-879-6376

COST BEFORE COMPETITION (SOLE SOURCE) $ 80.93

WRITTEN TO MIL-H-25579 - MEDIUM PRESSURE TEFLON HOSE, AEROSPACE HYDRAULIC SYSTEMS

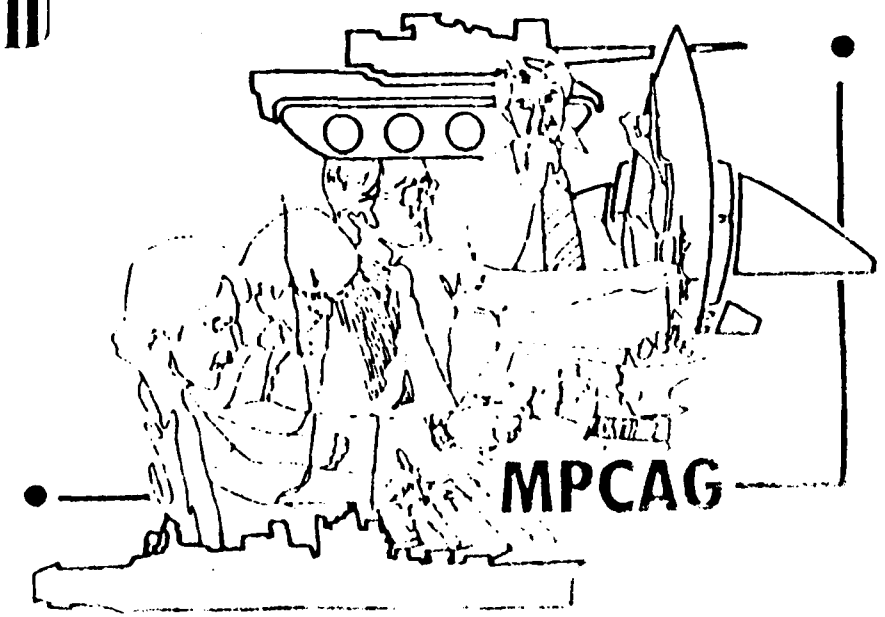
COST AFTER COMPETITION $ 14.40

			$ SAVED
QUANTITIES	1984	28	1862.84
PROCURED	1985	91	6054.23

DCSC VALUE ENGINEERING RECORDED SAVINGS

- 27 MILLION DOLLARS TOTAL SAVINGS FOR FY 85
- 13.1 MILLION DOLLARS (48%) OF THE TOTAL DUE TO INCREASED COMPETITION
- 3.6 MILLION DOLLARS (13%) OF THE TOTAL DUE TO USE OF DATA (I.E. SPECIFICATION, STANDARD OR DRAWINGS) TO MAKE ITEMS FULLY COMPETITIVE
- 152 NSNs CONVERTED TO FULLY COMPETITIVE STATUS

THE DEPARTMENT OF DEFENSE PARTS CONTROL SYSTEM

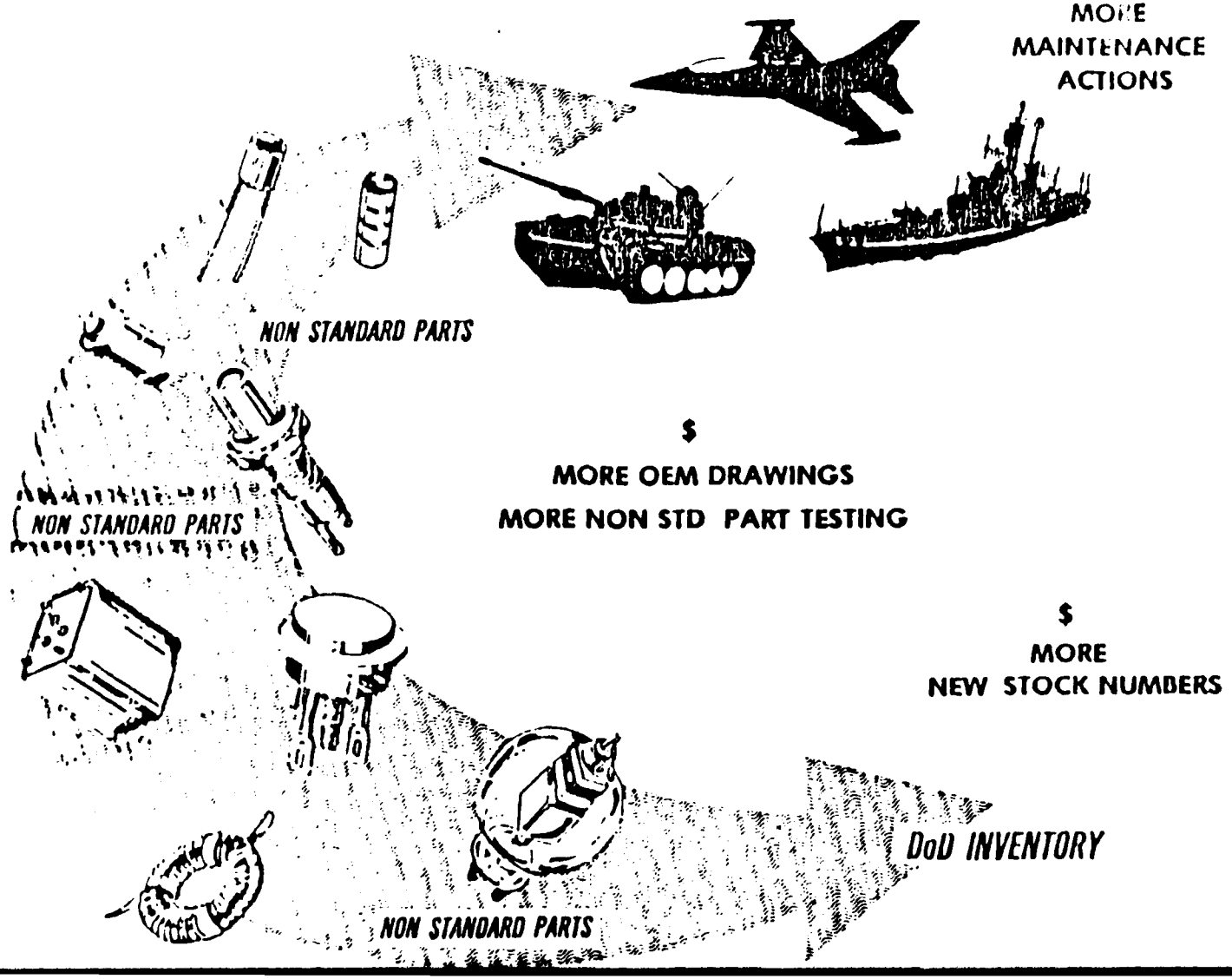


military parts control advisory group

DOD PARTS CONTROL PROGRAM

A PRACTICAL COST EFFECTIVE PROGRAM TO ENCOURAGE THE USE OF STANDARD PARTS OF LATEST TECHNOLOGY IN SYSTEM & EQUIPMENT ACQUISITIONS BY USING THE EXPERTISE AVAILABLE FROM ESTABLISHED GROUPS OF DOD PARTS ENGINEERS.

PROLIFERATION PROBLEMS



COMPETITION AND MILITARY SPECIFICATIONS

- ALLOWS FOR REAL AND OPEN COMPETITION
- ALLOWS COMPETITION AND QUALITY TO COMPLIMENT
- CORRELATION EXISTS AMONG MANUFACTURERS

BOTTOM LINE: WITHOUT SPECIFICATION / QUALIFICATION PROGRAM PROCUREMENT OFTEN WILL GRAVITATE TO THE WORST LEVEL OF PART AVAILABLE

MILITARY SPECIFICATION CONTROLS

SECTION 4 OF MIL SPECS INCLUDES THE EXAMINATIONS AND TESTS TO DETERMINE CHARACTERISTICS CONFORMANCE.

INDICATES ACCEPTABLE QUALITY LEVEL (AQL) OR LOT TOLERANCE PERCENT DEFECTIVE (LTPD) QUALITY LEVELS AS APPLICABLE.

"LOT" FORMATION DEFINED - DATE CODES REQUIRED.

GOVERNMENT RESERVES RIGHT TO PERFORM ANY OF THE INSPECTIONS IN SPECIFICATION WHE DEEMED NECESSARY.

WHAT HAPPENS WHEN STANDARDIZATION DOES NOT EXIST?

PROLIFERATION OF "SCD" DEVICES

- NOT COST EFFECTIVE TO DOD
- NOT TECHNICALLY ADEQUATE
- LOGISTIC NIGHTMARE
- POOR QUALITY AND RELIABILITY
- MINIMAL SURVEILLANCE OF TESTING

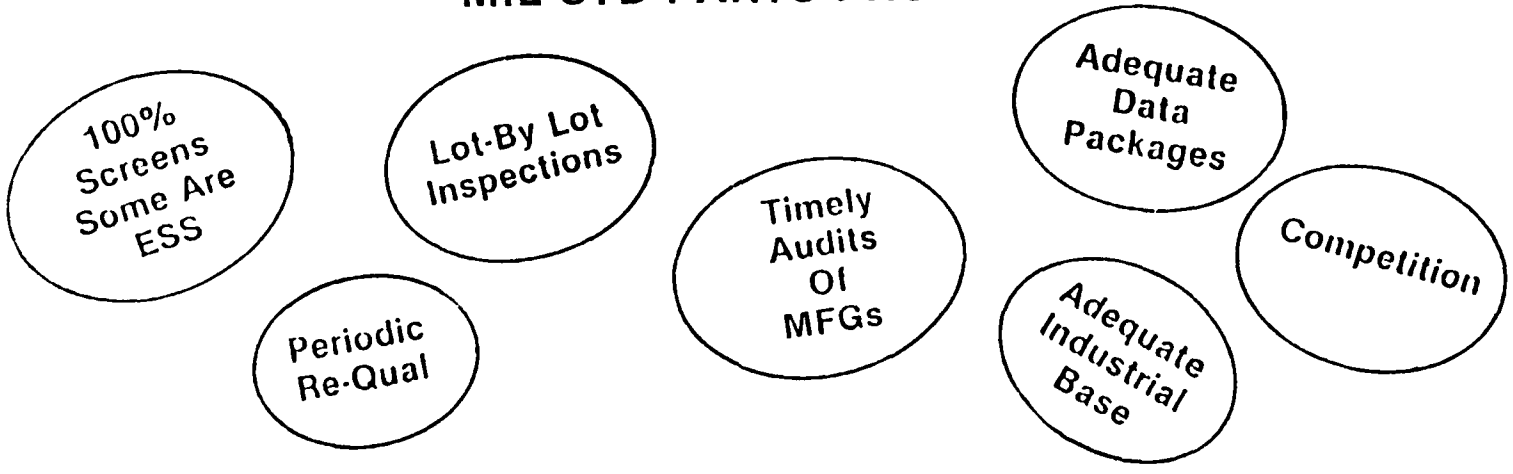
MANUFACTURERS PARTICIPATING IN SPECIFICATION PROGRAM

FSC	PRODUCT	MFRS PARTICIPATING
5905	RESISTORS	32
5910	CAPACITORS	38
5915	FILTERS	18
5920	FUSES	8
5925	CIRCUIT BREAKERS	9
5930	SWITCHES	30
5935	CONNECTORS	105
5945	RELAYS	12
5950	TRANSFORMERS - COILS	38
5955	CRYSTALS	12
5960	TUBES	33
5961	TRANSISTORS - DIODES	55
5962	MICROCIRCUITS - HYBRIDS	21
5985	WAVEGUIDES	6
5999	MISC ELECTRONICS (PCB)	350
GP60	FIBER OPTICS	Initiation Program In Process.

Enhance System Reliability At The Part Level

QUALITY: **Must Be Designed In And Built In**

MIL STD PARTS PROVIDE



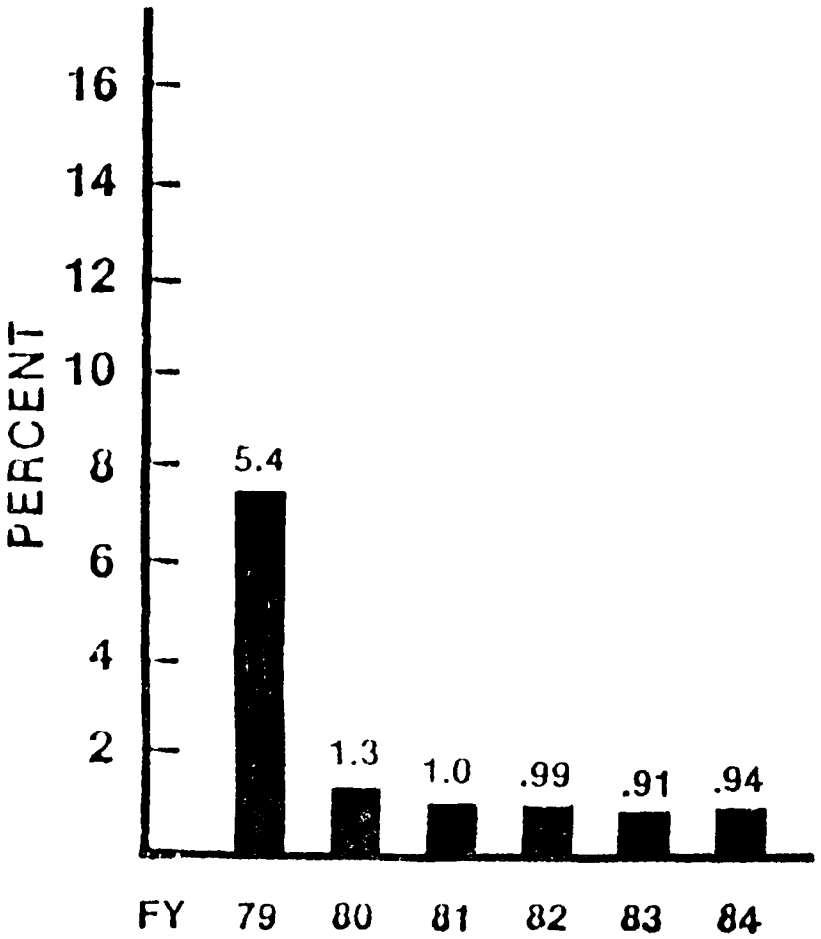
PRESENT QUALITY LEVELS

MIL-HDBK-217 MICROCIRCUIT π_Q QUALITY FACTOR

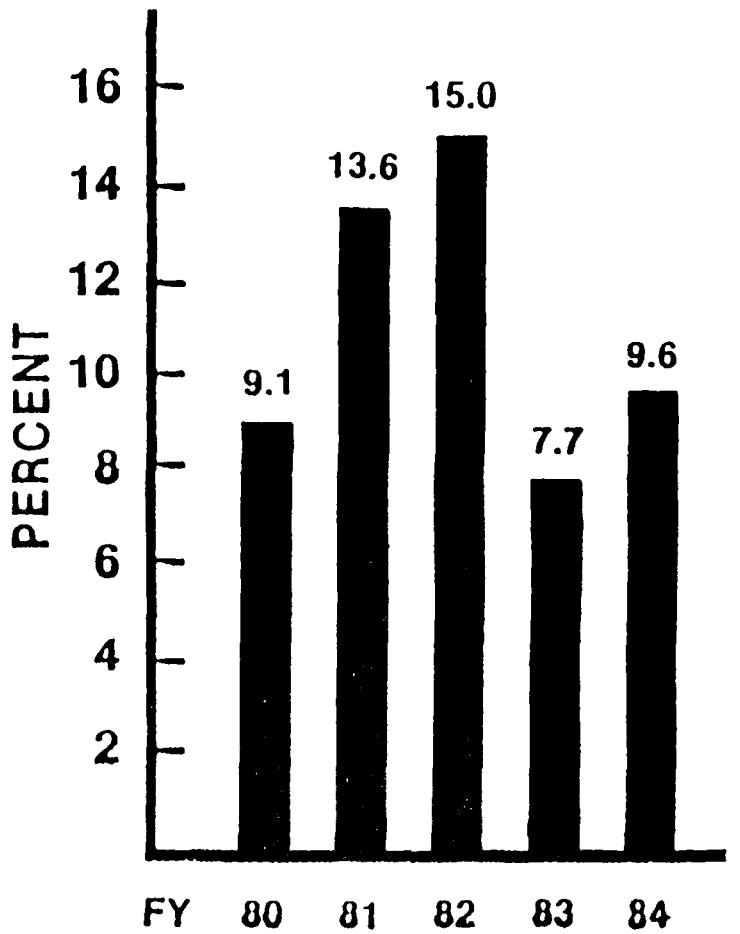
QUALITY LEVEL	DESCRIPTION	π_Q FACTOR
B	JAN (CLASS B)	1.0
B-1	DESC DRAWING	3.0
B-2	VENDOR EQUIVALENT	6.5
D-1	COMMERCIAL	17.5
D	COMMERCIAL	35.0

PRESENT QUALITY LEVELS

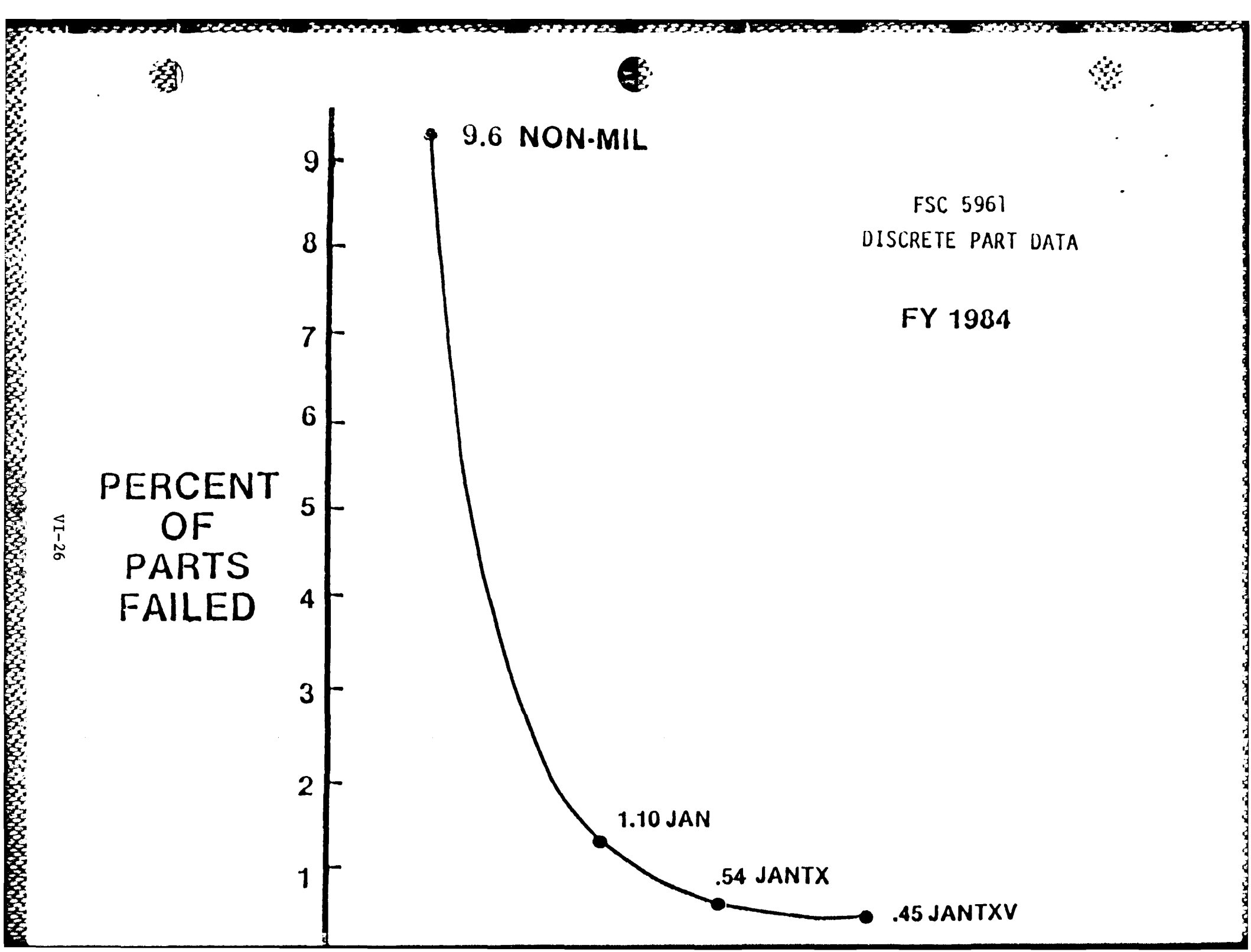
DISCRETE PART DATA — FSC 5961



MIL PART FAILURE RATE



NON-MIL PART FAILURE RATE

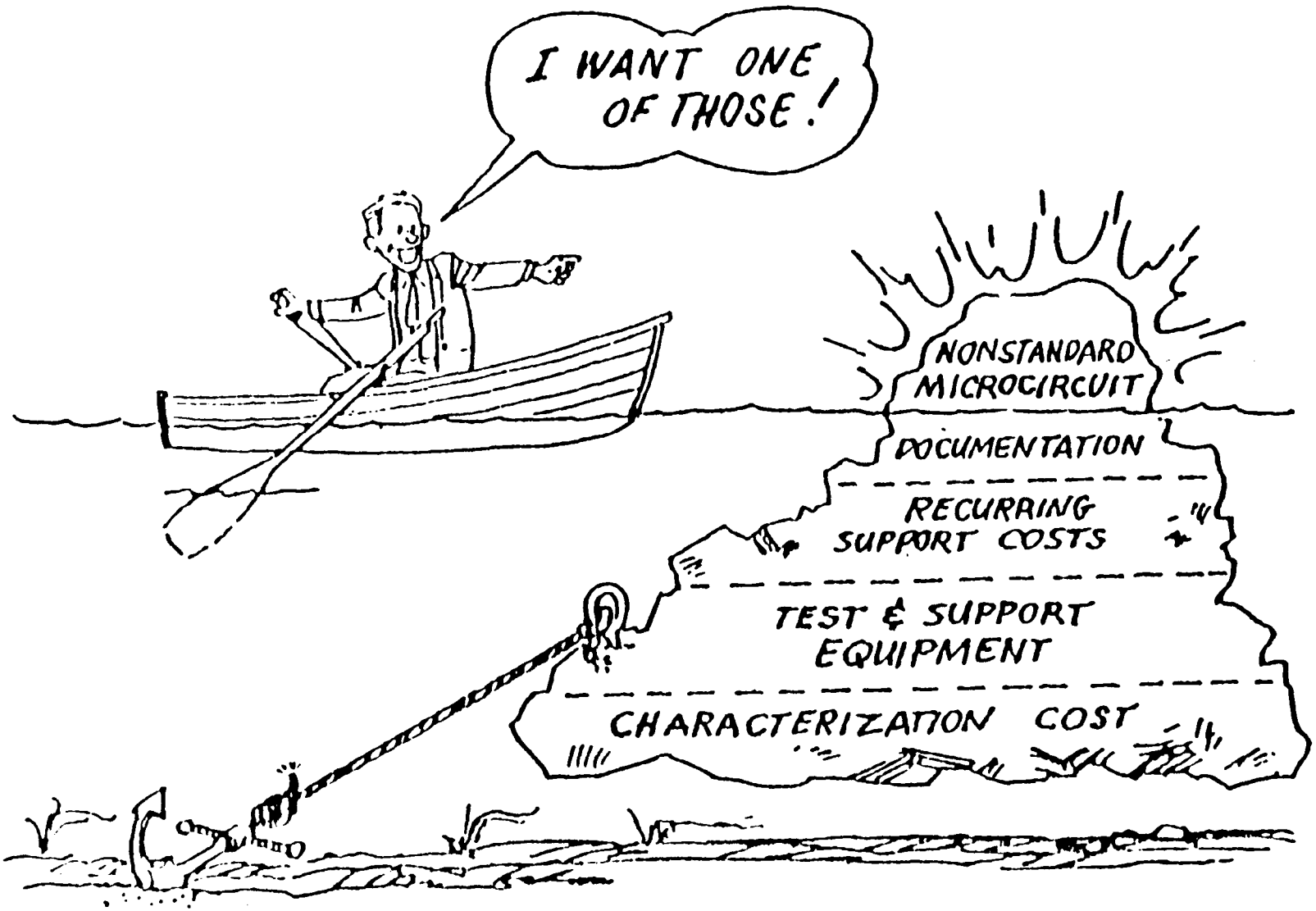

9.6 NON-MIL
FSC 5961
DISCRETE PART DATA
FY 1984
PERCENT OF PARTS FAILED
9
8
7
6
5
4
3
2
1
1.10 JAN
.54 JANTX
.45 JANTXV

DESC
PRESENT QUALITY LEVELS

FSC 5961

DISCRETE PART DATA

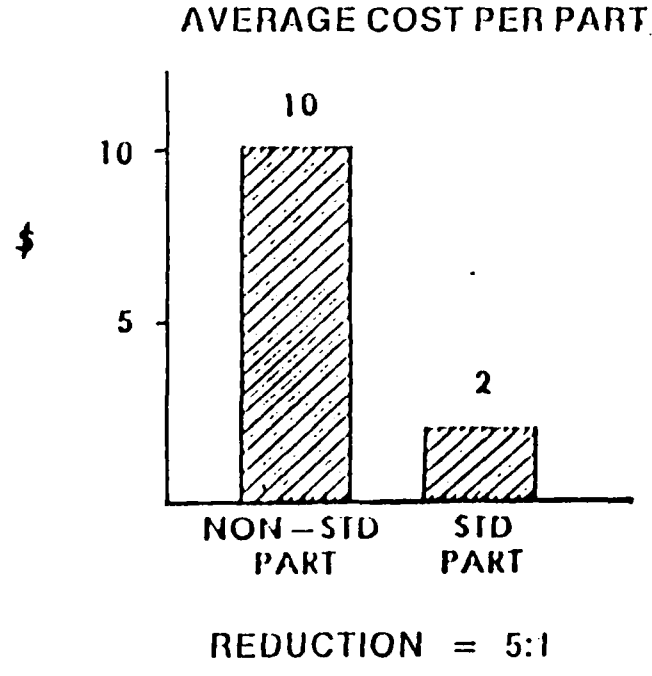
	JANTXV		NON-MIL	JANTXV		NON-MIL
	FY 1983			FY 1984		
NO. TESTED	3,837		9,331	2686		9171
NO. FAILED	20		717	12		881
% FAILED	.52		7.7	.45		9.6
RATIO	1	TO	15	1	TO	21


I WANT ONE OF THOSE!
NONSTANDARD MICROCIRCUIT
DOCUMENTATION
RECURRING SUPPORT COSTS
TEST & SUPPORT EQUIPMENT
CHARACTERIZATION COST

Example of One Mil Standard Part Type

Original Equipment Manufacturers Part #		One Military Standard Type
Bendix	1581950-1	M 38510/10101BXX
Control Data	8562-1600	
Emerson Electric	ES 3203	
Litton	971108	
Singer	905479	
Sperry	4001092	

Plus 32 Other Numbers



		38510	* JAN LOOK ALIKES	SCD (SOURCE CONTROL DWGS)
CY '83	$	22.90M	$ 66.97M	$ 85.51M
ACTUAL	UNITS	6.56M	U 15.98M	U 10.19M
	ASP	$3.49	ASP $4.17	ASP $8.41
CY '84	$	49.82M	$ 81.8 M	$ 60.3 M
ACTUAL	UNITS	5.89M	U 10.76M	U 4.1 M
	ASP	$8.46	ASP $7.60	ASP $14.89
CY '85	$	67.95M	$ 65.5 M	$ 60.4 M
ACTUAL	UNITS	8.26M	U 8.54M	U 3.83M
	ASP	$8.23	ASP $7.90	ASP $15.77

ASP = AVERAGE SELLING PRICE $ ÷ UNITS

* JAN LOOK ALIKES ARE ANY STANDARD COMPANY SCREENING THAT MENTIONS METHODS 5004, 5005, 5008. EXAMPLES WOULD BE SNJ, QB, 883, /B, /3, ETC.

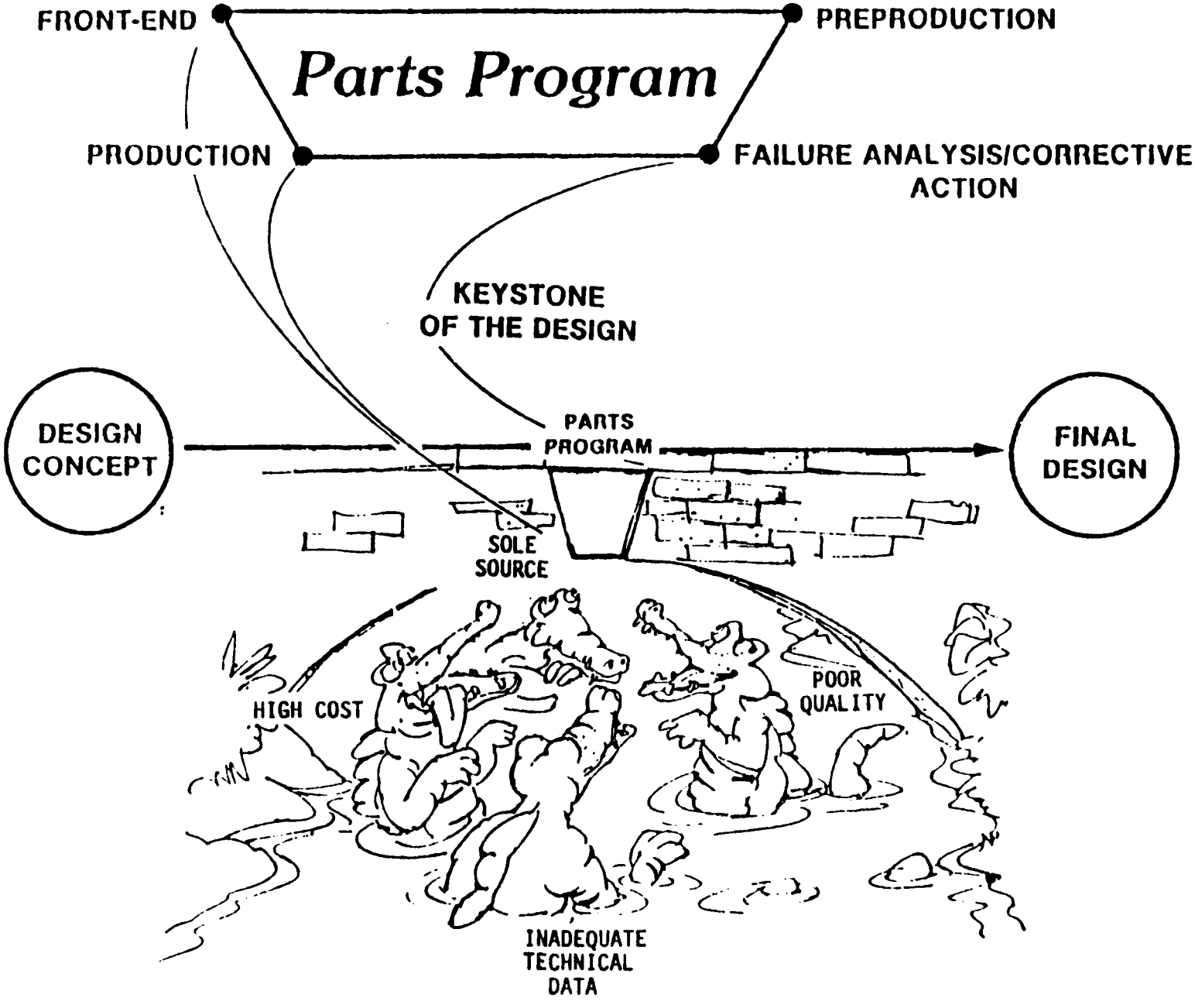
"THE BITTERNESS OF POOR QUALITY IS LONG REMEMBERED AFTER THE SWEETNESS OF LOW PRICE IS FORGOTTEN"

A WISE MAN

MILITARY SPECIFICATIONS' ROLE

NOT A PANACEA, BUT THEY:

- IMPROVE AVAILABILITY AND LEAD TIME
- IMPROVE QUALITY/RELIABILITY
  - OFFER BEST MECHANISM TO ASSURE REPRODUCIBLE TEST RESULTS
  - OFFER MOST COST EFFECTIVE APPROACH TO HIGH QUALITY/RELIABILITY
  - OFFER MORE SURVEILLANCE
  - OFFER MILITARY/INDUSTRY OVERVIEW OF TECHNICAL INPUTS
  - OFFER MORE TRACEABILITY AND CONTROL FOR PROBLEM
- INCREASE COMPETITION
- PROVIDE REASONABLE COST


FRONT-END
PREPRODUCTION
Parts Program
PRODUCTION
FAILURE ANALYSIS/CORRECTIVE ACTION
KEYSTONE OF THE DESIGN
DESIGN CONCEPT
PARTS PROGRAM
FINAL DESIGN
SOLE SOURCE
HIGH COST
POOR QUALITY
INADEQUATE TECHNICAL DATA

COMPETITION AND STANDARDIZATION

NATURAL PARTNERS

(USER VIEWPOINT)

OVERVIEW

- o BACKGROUND
- o COMPETITION AND STANDARDIZATION
- o PACKARD REPORT
- o ACTION ITEM E
- o ACTION ITEM F

BACKGROUND

- o THE F-16 WEAPON SYSTEM IS A SUCCESSFUL MODEL FOR THE "ACQUISITION STREAMLINING" CONCEPT PLUS IT WAS COMPETED AND WON IN A PROTOTYPE "FLY OFF" AS RECOMMENDED BY PACKARD REPORT.
- o THE ACQUISITION STREAMLINING MEMORANDUM AND THE PACKARD REPORT RECOMMENDED:
  - ✓ PROTOTYPE PHASE - "PROOF OF CONCEPT" USING MILITARY STANDARDS FOR GUIDANCE
  - ✓ FULL SCALE DEVELOPMENT - "PROOF OF DESIGN" USING TAILORED MILITARY SPECIFICATION WITH SUBTIER SPECIFICATION FOR GUIDANCE ONLY
  - ✓ PRODUCTION TO BASELINE SPECIFICATIONS WITH CONFIGURATION CONTROL
  - ✓ STANDARD PARTS AND EQUIPMENTS TO THE SPECIFICATION REQUIREMENTS
  - ✓ STANDARDS AND COMPETITION - NATURAL PARTNERS

RESULTS

- o THE F-16 WEAPON SYSTEM HAS CONSISTENTLY MET ITS' COST, SCHEDULE AND PERFORMANCE REQUIREMENTS AND HAS DEMONSTRATED A FIELD RELIABILITY THAT IS A CHALLENGE TO OTHER WEAPON SYSTEMS.

F-16 WEAPON SYSTEM

DEVELOPED UNDER FULL PARTS CONTROL REQUIREMENTS

- o MIL-STD-891 THEN MIL-STD-965 REQUIREMENTS
- o FORMAL PARTS CONTROL BOARD
- o FORMAL PROGRAM PARTS SELECTION LIST
- o FORMAL SUBMITTALS OF ALL NONSTANDARD PARTS AND SPECIFICATIONS
- o REQUIREMENTS APPLICABLE TO AIRCRAFT, SUPPORT EQUIPMENT
- o FORMAL PARTS SUBSTITUTION BOARD

F-16 PROGRAM SUMMARY

- PROGRAM HAS BEEN SUCCESSFUL BECAUSE OF THE INTEGRATED TEAM UTILIZING COMMON SENSE
  - ✓ F-16 SYSTEM PROGRAM OFFICE (SPO)
  - ✓ DEFENSE ELECTRONIC SUPPLY CENTER (DESC)
  - ✓ DEFENSE INDUSTRIAL SUPPLY CENTER (DISC)
  - ✓ DEFENSE GENERAL SUPPLY CENTER (DGSC)
  - ✓ DEFENSE CONSTRUCTION SUPPLY CENTER (DCSC)
  - ✓ ROME AIR DEVELOPMENT CENTER (RADC)
  - ✓ SUBCONTRACTOR
- IDENTICAL PARTS REQUIREMENTS IMPOSED ON CONTRACTOR AND SUBCONTRACTOR
- MAXIMUM UTILIZATION OF MILITARY STANDARD PARTS
- TEN YEARS EXPERIENCE IN COMPETITION AND STANDARDIZATION AND COMMON SENSE AS PARTNERS

STANDARDIZATION AND COMPETITION - NATURAL PARTNERS

- STANDARDS DEFINE THE PRODUCT AND ENSURE THAT ALL SUPPLIERS WORK FROM THE SAME REQUIREMENTS
- COMPETITION ENHANCES THE ACQUISITION OF HIGH QUALITY PRODUCT AT FAVORABLE COSTS AND SCHEDULE
- THE PACKARD REPORT EMPHASIZED REPEATEDLY THE NECESSITY FOR COMMON SENSE IN THE ACQUISITION CYCLE

CONCLUSION

- STANDARDS + COMPETITION + COMMON SENSE = COST EFFECTIVENESS
- A VIABLE STANDARDIZATION PROCESS WITH SUITABLE STANDARDS IS AN INTEGRAL PART AND PREREQUISITE FOR EFFECTIVE COMPETITION IN DESIGN, DEVELOPMENT AND PRODUCTION OF DEFENSE MATERIAL
- DR. WADE - "DOD USES STANDARDS IN THE ACQUISITION PROCESS AND THIS MEANS THAT WE NEED STANDARDS WHICH DESCRIBE PRODUCTS IN SUFFICIENT DETAIL TO BE USED AS CONTRACTUAL INSTRUMENTS."

STANDARDS + COMPETITION + COMMON SENSE

- NO SIGNIFICANT PROBLEM WITH STANDARDS THAT HAVE COMPETITION.
  - TRUE OF MILITARY STANDARDS
  - ✓ TRUE OF SPECIFICATION CONTROL DRAWINGS (SCDs)
- TAILORING OF SPECIFICATIONS/STANDARDS TO MATCH PROGRAM REQUIREMENTS IS COMMON SENSE
- COMPETITION (COMMON SENSE) MUST CONSIDER QUALITY, PERFORMANCE AND PRICE
  - ✓ TRUE OF MILITARY STANDARDS
  - ✓ TRUE OF COMMERCIAL STANDARDS

CONCLUSION

- CONTRACTS SHOULD STIPULATE THAT ALL PARTS HAVE TWO OR MORE SOURCES
- THE COMMERCIAL INDUSTRY THAT HAVE PRODUCT THAT MEET MILITARY QUALITY AND PERFORMANCE SHOULD PREPARE AN INDUSTRY STANDARD FOR THAT PRODUCT WITH TWO OR MORE SOURCES
- THE MILITARY DRAWING IS THE COMMON SENSE ANSWER TO THE PROBLEM

PACKARD REPORT

- "COMMON SENSE, THE INDISPENSABLE INGREDIENT FOR A SUCCESSFUL SYSTEM, HAS NOT ALWAYS GOVERNED ACQUISITION STRATEGIES."
- "DESPITE THE DIFFICULTIES, WE BELIEVE IT IS POSSIBLE TO MAKE MAJOR IMPROVEMENTS IN DEFENSE ACQUISITION BY EMULATING THE MODEL OF THE MOST SUCCESSFUL INDUSTRIAL COMPANIES"
- PACKARD FORMULA FOR ACTION
  - ✓ STREAMLINE ACQUISITION ORGANIZATION AND PROCEDURES
  - ✓ USE TECHNOLOGY TO REDUCE COST
  - ✓ BALANCE COST AND PERFORMANCE
  - ✓ STABILIZE PROGRAMS
  - ✓ EXPAND THE USE OF COMMERCIAL PRODUCTS
  - ✓ INCREASE THE USE OF COMPETITION
  - ✓ ENHANCE THE QUALITY OF ACQUISITION PERSONNEL

FORMULA SUMMARIZED

STANDARDS + COMPETITION + COMMON SENSE = COST EFFECTIVENESS

ACTION ITEM "E" - EXPAND THE USE OF COMMERCIAL PRODUCTS

1. RATHER THAN RELYING ON EXCESSIVELY RIGID MILITARY SPECIFICATIONS, DoD SHOULD MAKE GREATER USE OF COMPONENTS, SYSTEMS AND SERVICES AVAILABLE "OFF-THE-SHELF"
   - o MIL-STD-965 DEFINES "OFF-THE-SHELF ITEM - AN ITEM WHICH HAS BEEN DEVELOPED AND PRODUCED TO MILITARY OR COMMERCIAL STANDARDS AND SPECIFICATIONS, IS READILY AVAILABLE FOR DELIVERY FROM AN INDUSTRIAL SOURCE AND MAY BE ACQUIRED WITHOUT CHANGE TO SATISFY A MILITARY REQUIREMENTS"

2. DEFENSE ACQUISITION EXECUTIVE SHOULD DIRECT PROGRAM MANAGERS TO GET A WAIVER TO USE A MILITARY PRODUCT IF THERE IS A COMMERCIAL COUNTERPART
   - o WEBSTER DEFINES "COUNTERPART - A THING THAT FITS ANOTHER PERFECTLY"

3. THE EXPANDED USE OF COMMERCIAL ITEMS CAN APPLY TO A HOST OF NONTECHNICAL PRODUCTS

CONCLUSION

1. THERE ARE A HOST OF COMMERCIAL ITEMS THAT CAN BE USED BY THE MILITARY IN NONTECHNICAL APPLICATIONS (I.E., NONCOMBAT)

   COMMERCIAL STANDARDS + COMPETITION + COMMON SENSE = COST EFFECTIVENESS

2. THERE ARE A HOST OF COMMERCIAL ITEMS MADE TO MEET MILITARY ENVIRONMENTS THAT DO NOT HAVE COMMERCIAL STANDARDS

   MILITARY DRAWINGS + COMPETITION + COMMON SENSE = COST EFFECTIVENESS

3. THERE ARE A HOST OF MILITARY ITEMS THAT MEET MILITARY STANDARDS THAT ARE AVAILABLE FROM INDUSTRY

   MILITARY STANDARDS + COMPETITION + COMMON SENSE = COST EFFECTIVENESS

PACKARD REPORT STATES: "THE NEED FOR QUALITY AND RELIABILITY IN MILITARY EQUIPMENT IS AS GREAT AS EVER"

ACTION ITEM "F" - INCREASE THE USE OF COMPETITION

- FEDERAL LAW AND DoD REGULATIONS SHOULD PROVIDE FOR SUBSTANTIALLY INCREASED USE OF COMMERCIAL STYLE COMPETITION, EMPHASIZING QUALITY AND ESTABLISHED PERFORMANCE AS WELL AS PRICE
  - ✓ COMPETITION + QUALITY + PERFORMANCE + PRICE = COST EFFECTIVENESS
  - ✓ COMPETITION WITHOUT A STANDARD CANNOT JUDGE QUALITY, PERFORMANCE, OR PRICE
- THE THEME OF THIS CONFERENCE IS "INTEGRATING THE ACQUISITION TEAM"
  - ✓ INDUSTRY CAN ASSIST THE TEAM BY PREPARING INDUSTRY STANDARDS/SPECIFICATIONS WITH TWO OR MORE SOURCES FOR THEIR NONTECHNICAL PRODUCTS AND MILITARY DRAWING FOR THEIR MILITARY ENVIRONMENT PRODUCTS

FORMULA FOR ACTION

STANDARDS + COMPETITION + COMMON SENSE = COST EFFECTIVENESS

PACKARD COMMISSION CASE IN POINT - MICROCHIPS

HYPOTHESIS

- THE DoD BUYS ALMOST $2 BILLION WORTH OF MICROCHIPS/YEAR
- THE UNIT COST OF A MILITARY MICROCHIP IS 3 TO 10 TIMES THAT OF ITS COMMERCIAL COUNTERPART
- INDUSTRIAL CONSUMERS DEMAND EQUIVALENT STANDARDS, MANUFACTURING PROCESSESS AND STATISTICAL METHODS OF QUALITY CONTROL

CONCLUSION

- THE COMMERCIAL MICROCIRCUIT MANUFACTURERS ARE OFFERING TO SELL TO THE GOVERNMENT AND MILITARY EQUIPMENT MANUFACTURORS THE SAME QUANTITY AND QUALITY MICROCIRCUITS AS CURRENTLY BEING PROCURED TO MILITARY SPECIFICATIONS FOR A COST OF $0.2 TO $0.66 BILLION USING EQUIVALENT STANDARDS, MANUFACTURING PROCESSES AND QUALITY CONTROL.

INTEGRATING THE ACQUISITION TEAM
SESSION 2 PANEL A

PROGRAM MANAGEMENT TOOLS FOR ENSURING THE ADEQUACY OF TECHNICAL MANUALS/ORDERS

SYNOPSIS OF PANEL DISCUSSION

The panel presentation covered the Technical Manual Development Process, problems identified with that process, and suggested methods for improving the process and delivering a quality product through the universal application of front end quality control techniques and the enforcement of requirements for product validation against properly configured hardware.

The presentation by the panel addressed:

- O The TM/TO Product Description & Quality definition for TM/TOs
- O The TM Process
- O Operational Environment
- O Problems associated with the product development and attempting to satisfy the user in a timely manner
- O New Quality Initiatives
- O Government and contractor responsibilities
- O Strawman solutions involving
  - O Hardware set-aside
  - O Equal status with other ILS elements
  - O Contracting and delivery schedule improvements

Discussions during the course of the presentation covered the following topics:

- O The Impact of software configuration changes
- O The LSA process, how it applies to technical manual development and why that process needs improvement

- O Comments from the audience included the need for oversight of the logistics program to assure that all elements are in place, and that early TM requirements analysis take place to assure real time support of delivered hardware. (There appeared to be some misconception on the TM Development Process)

- O Various panel members commented on the Computered Aided Logistics (CALS) program and associated Air Force/Navy/Army programs which would ultimately lead to a definative real time information delivery system.

- O Mr. Rulon, the Army panel member, explained the progress of the standardization effort to reduce the number of TM specifications now being used by procurement activities.

The audience offered information on Air Force initiatives to improve and speed TM development.

The audience indicated that everyone was aware of the problems associated with technical manuals, but could see no evidence that action to improve or provide solutions was being taken.

During the course of the general discussions, it became evident that the audience felt that contractors and cognizant Government activities were not acting in concert to force improvement. The panel felt that progress has been made in the quality process, but that more could be done if hardware availability for validation could be assured.

The panel felt that sufficient guidance for program management existed, but that the system required discipline (no short cuts) to enforce requirements if deployment of fully supportable hardware systems were to become a reality.

It was the consensus of the panel that additional emphasis must be placed at the program managers level to support the set-aside of assets for validation. Policy appears to be clear on the responsibility to provide adequate technical manuals, but unclear on the responsibility of management (Government & Contractor) to support that effort.

RECOMMENDATIONS

The panel responded by offering the following key elements as essential to improvement:

1. Early turn on of the analysis process.

2. Set-aside of hardware by program managers from delivered assets for the validation effort.

3. Improved contracting methods.

4. Expanded user participation in the TM review process.

The panel adjourned with the hope that the quality innovations of the past few years will bear fruit and that the request for hardware to support validation will be acted upon. The individual panel members intend to pursue this end through the forums available to them in their military commands and corporate offices.

A. Turetsky - NATSF - Chairman
F. Balletino - NATSF
J. Tilton - GEN. ELECT.
W. Everett - GRUMMAN AIRCRAFT
K. Fanning - HQ AFCMD
A. J. Rulon - USAMC/MRSA

Quality Management - Do We Need a National System?

1986 Defense Standardization and Data Management Conference
July 14-16, 1986

Synopsis of Panel Discussion.

This panel saw as its purpose the need to respond to the DoD challenge made at the December 1985 Williamsburg Conference for the private sector to develop and promote a single organization - non-Government sponsored - that would act as an umbrella organization and oversee a comprehensive program encompassing a product certification system or systems. In this connection, six panelists dealt with subjects covering 1) Self Certification; 2) Third Party Certification; 3) Quality Management; 4) Laboratory Accreditation; 5) the DoD Quality Excellence Program; and 6) Product Certification vis-a-vis DoD Needs. The tone was set by the panel chairman who stated that there was a need for some national unity resulting in a National movement in the Quality Management Area.

Carl Roman of Union Carbide discussed the KEMET Certification Package, a supplier certification program embracing Ship-To-Stock concepts. This self-certification process exceeds requirements currently specified in Military Specifications in that it has among its requirements: 1) a Final Inspection Summary with each shipment; 2) a Monthly Process Control Summary; 3) a Semi-annual Parts per Million (PPM) Progress Report; 4) Five-year PPM goals; 5) a Process Flow Diagram with Quality Control Inspection Points; and 6) a Quality Policy Manual. KEMET has identified its goal as follows: "To lead the world in quality for each product and service provided." Their approach is to address all customer needs as requirements to be met; prevent defects rather than detect them; set specific objectives for continued improvement; and, give all employees the responsibility for quality. The goal is supported throughout the company.

Jack Kinn of EIA discussed the International Electro-Technical Commission's Quality Assessment Program (IECQ) and the newly created National Electronic Component Certification System (NECQ). His presentation was specifically oriented toward their potential use with respect to the new Military Drawing, and its impact on the requirements of MIL-Q-9858A regarding Third Party Surveillance as a means to OEM Control over vendors. He talked to "Commercial Certification" schemes as a means to eliminating duplication and high cost and identified those that exist. He declared that Third Party Certification Programs such as IECQ/NECQ meet Military needs. In exposing IECQ/NECQ he discussed its organization, operation, use and benefits. He identified Quality Assessment and Assurance through manufacturers' facility approval, product qualification, and product certification performed by a third party. In terms of progress, Mr. Kinn stated that there are 175 specifications approved and 215 in process (worldwide); 115 manufacturers approved worldwide and 21 in the U.S.; 20 distributors and 12 independent test labatories (worldwide), and two independent test laboratory approvals in the U.S.. He went on to say

that adoption of the system by the DoD would: 1) support policies of OMB Circular A-119 and DoDD 4120.20 to adopt non-government standards; 2) fill the vacuum left by reduction of manpower at field activities; 3) contribute to improved quality of electronic components; 4) aid in solution of spare parts problem; 5) ease NATO interoperability problems through acceptance of international documentation; and 6) reduce the number of MIL-documents thus freeing resources to concentrate on those things important to National Security. He recommended that the DoD adopt IECQ/NECQ specifications; accept national certification of military and other specifications; that industry expand support of IECQ/NECQ systems and increase development of specifications usable by the Military; and, place responsibility for specification development, Quality Assessment, and Certification on Industry for items of commercial and industrial nature, thus permitting DoD resources to concentrate on items of military nature.

Des Dymond of QMI Inc., described the workings and organization of the Institute and advocated that a national focus be developed for Quality Management in Defense Industries in order to ensure a sound basis for developing a competitive marketplace-driven Defense acquisition system for the future. He stated that the ingredients required to put quality programs in place were: 1) awareness building through information, communication and training; 2) help with implementing quality programs involving OEM, supplier and customer networks; and 3) marketplace recognition systems. With respect to Awareness building he seeks cooperation and commitment of the Defense Industries; establishment of a network of Quality information, including Data Bases, case studies and others; and support for education and training programs including workshops, conferences, seminars, etc. Regarding implementation assistance, he supports the development of an updated series of nationally acceptable standards for quality management; cost-effective solution to reducing unnecessary duplication of effort in auditing and inspection practices; and the adoption of modern concepts of management and technology throughout the Defense network to optimize performance, productivity and quality. With regard to Marketplace Recognition, Mr. Dymond advocated a National Registry, one that would recognize all who have committed themselves to the American Defense Industry quality programs; a review of existing quality programs to ensure that they meet National Standards, criteria and guidelines; and a program of National awards relative to the recognition of Quality Excellence. He stated that QMI is prepared to play a role in the development of a national focal point for promoting quality management in the Defense industry and he envisages considerable value to the National Security Mission through the creation of a national system for quality management.

John Locke of the American Association for Laboratory Accreditation (AALA) addressed laboratory accreditation and its role in Defense Procurement. He stated that there are many accreditation systems in being, falling under either Federal, State, Professional/Trade Organization and Private system catagories. He went on to talk of the need for accreditation to include the needs of users of testing data as well as

those of the laboratories. He addressed the general criteria pertinent to laboratories and their accreditation including organization, staff, quality systems, testing and measuring equipment, calibration, test methods and procedures, environment, records and test reports. Mr. Locke identified the many fields of testing and commented on their differences. He mentioned the informal gathering of persons interested in laboratory accreditation known as the International Laboratory Accreditation Conference (ILAC) and commented on its participants, workings and accomplishments particularly as they relate to technology associated with the accrediting process. He recommended that information relative to current state of the art on quality testing operations be distributed; assistance be given to ASTM Committee E-36 in the development of new standards needed to verify the quality of testing performance; certifiers and quality system managers be urged to use these standards in guiding improvements in laboratories; and that cooperation among laboratory accreditation systems to develop ways of recognizing laboratory quality with a minimum of reassessments and multiple reviews, be encouraged.

Eli Lesser of the Office of the Secretary of Defense introduced and discussed the DoD/Defense Industry Quality Excellence Program. He stated that there was considerable concern over the quality of goods manufactured in the United States and addressed the need for a continuous quality improvement philosophy in lieu of minimal quality to remain competitive. He stated that there is a need for a long-term, comprehensive and coordinated commitment to quality by both Government and industry and that quality must be everyone's concern. This he said requires a team effort. Mr. Lesser discussed the abolishment of the Acceptable Level of Quality concept; Quality as a basic ingredient for productivity improvement; and the modern versus the traditional concepts of Quality Assurance. Where traditionally, high reliance was placed on inspection to find defects, the modern concept is for workers to accept responsibility for building in quality. Under modern concepts there is high visibility of quality performance in the workplace and a rapid feed back system to workers. Mr. Lesser defined the Quality Excellence Program as improving performance, providing incentives, increasing worker qualification, and instilling discipline.

Tom Ridgway of the Defense Product Standards Office provided an overview of future directions within the DoD as it pertains to qualification of manufactured products, certification of manufacturers capabilities and verfication of material conformance. He stated that there is a need for an umbrella organization, non-government sponsored, industry supported and government endorsed. He recommends a charter stating that such an organization is the national overseer for the product certification system or systems within the U.S. In this connection he

structured his presentation in three parts, namely; qualification, certification and verification. He suggested that QPLs serve a limited purpose because of their method of application and stated that the DoD is moving into the QML area whereby each manufacturer will demonstrate his capability to produce a quality product. With respect to certification he identified international schemes of the IEC and ISO as well as systems at the National level including NECQ for electronic components. He also spoke of the 61 U.S. Government programs and of the 109 private sector organizations in the U.S. engaged in certification activities. Regarding verification he identified it as a subset of certification. He identified existing guidelines and organizations concerned with this subject. In conclusion, Mr. Ridgway stated that his office has prepared correspondence, for high level signature, conceptually endorsing Industry Quality Assessment Systems and anticipated that such correspondence would be signed in the immediate future.

Observations:

- o In attendance at this panel were 265 people many of which actively participated.

- o Consensus was achieved relative to the title of the panel - "Quality Management - Do we need a National System?"

- o We need a National System encompassing points raised by the panelists and audience participants, namely;

  - Management
  - Policy Statements
  - Specification/Standards base
  - Surveillance Techniques
  - Feed-back Mechanisms

- o To implement the recommendation for a National System, there is a need for:

  1. DoD/Industry top management support
  2. Greater confidence in industry's ability to perform
  3. Marketplace recognition - i.e.; Defense products are driven by commercial practices.

  4. A change in the competitive environment so that it will lead to improved performance, increased productivity and that has as its goal, excellence - which in turn is rewarded through recognition.

Recommendations:

- o Develop guidelines for evolving a National Quality Management System.
- o Identify key personnel/organizations which must be included.
- o Identify the umbrella organization.
- o Identify a realistic timetable for a transition period.

Conclusion:

The panel concluded that merely endorsing the concept will not get the job done. To provide the National Quality Assessment System that is needed, it will require considerable effort and cooperation by both government and private sector personnel.

Acknowledgements:

Panel Chairman - Lester Fox, Consultant

Panel Members

Carl M. Roman - Kemet Capacitors, Union Carbide, Senior Engineer
John M. Kinn - EIA, V.P. Engineering
D.M. Dymond - QMI Inc., President
John W. Locke - AALA, Executive Director
Eli H. Lesser - OASD(A&L), Staff Specialist for Quality Assurance
Thomas J. Ridgway - DPSO, Staff Engineer

DOCUMENTING STANDARDIZATION PAYOFFS

1986 DoD Standardization Conference
13-16 July 1986

Synopsis of Panel Discussion

The panelists and audience focused on the challenge of justifying to senior mangement that standardization warrants an investment of time and money, and commitment in order to accomplish some of the aims of the Defense Standardization and Specification Program (DSSP). Conference keynoters had cited some of the major benefits of standardization - lower prices, more competition, increased confidence. In an earlier session, the audience had also heard that standardization has got to pay for itself. Discussions at this session brought out that too often standardization is poorly understood because it is poorly defined. As a minimum the DSSP must differentiate between (1) the development and maintenance of documents, and (2) implementation of proven standardization practices including application of standardization documents. Other areas in which differentiation must be recognized are

- strategies, management techniques, and overall approach to the standardization of (1) parts and similar items, and (2) equipment and subsytems;

- procedures and motivation to implement standardization at the level of (1) the Government system project office, and (2) the contractor's project office.

The DSSP should also take into account that while traditonal after-the-fact standardization may be appropriate in many commodity areas, high technology fields need anticipatory standards. Anticipatory standards focus the collective technical resources of suppliers and users and thereby realize the full benefits of the technology as well as major economies through cost avoidance.

Two of the panelists provided examples of the value of applying readily available data to justify a standardization program and to identify areas having high potential for significant payoffs. Effectiveness indexes are the measure of that portion of a system, commodity area, factory purchases, etc. that are documented by standards in relation to the whole, e.g. 62% of the 2570 different types of parts on a weapon system are defined by Government or adopted nongovernment standards; 27% of the cost for parts and materials in a particular class of ship is controlled by standards; 70% of the active National Stock Numbers in a particular Federal

Supply Class are defined by standards. Information to derive such effectiveness indexes usually is readily available. The following table was presented by Col. Ben Swett USAF (Ret.) as an example of how this type of information is used as a standardization management tool at the Defense Industrial Supply Center.

NEED FOR SPECIFICATION COVERAGE:
DEFENSE INDUSTRIAL SUPPLY CENTER

COMMODITY GROUP	FY 1984 SALES $M	ACTIVE NSNs	SPEC* NSNs	PERCENT COVERED
BEARINGS	84.37	27,328	3,347	12.2%
ROPE & CABLE	38.85	3,944	1,733	43.9%
THREADED FASTENERS	114.40	94,095	20,319	21.6%
NON-THREADED FASTENERS	56.19	31,047	10,179	32.8%
PACKING & GASKETS	58.67	58,321	6,732	11.5%
MISC HARDWARE	83.61	67,088	9,485	14.1%
ELECTRIC WIRE & CABLE	57.13	7,324	5,109	69.8%
METALS (GROUP 95 & 96)	82.87	8,529	8,345	97.8%
TOTAL	576.08	297,676	65,249	21.9%

* Federal, Military, or adopted non-Government specifications.

All agreed that it is essential to sell standardization programs by "advertising" concrete payoffs. The DoD publication presenting seven case studies was commended as an excellent example of the kind of advertising that standardization needs. Panelists Clarence Vandemark, Navy, and Nicholas Economou, GSA, reviewed one of these cases: the standardization of shipboard copiers. Suppliers were motivated to be responsive to the special environmental requirements at sea because standardization resulted in a significant order quantity - nearly 7000 copiers over a five year period. Off-the-shelf commercial products could not withstand the rigors of shock, vibration, humidity, and other conditions including electromagnetic interference. Costs applicable to this standardization effort amounted to $5.6 million including $5.2 million for copier upgrading and modification. Total saving over a five year period exceed $58 million, realizing a return on investment of more than 10:1. A major lesson learned from this project is the critical requirement to establish the real needs of users and to make them feel party to the decision making process or, at least, advise them of reasons for the final action.

The systematic coding and classification of manufactured items is receiving increased attention as industry recognizes the savings and cost avoidance that can be realized by grouping similar items by their major characteristics. Benefits are realized at the design stage when existing items can be reused, and on the shop floor when similar items are grouped for routing to machining centers. The payoffs from the application of Group Technology were reviewed by Tom O'Donnell who reported that in the commercial sector the average cost of documenting a new manufactured piece part and entering it into the system is $2500 to $3000.

Tom Warwick emphasized the fact that it takes money to save money - there is no free lunch. He illustrated how major system costs react to factors that reduce overall costs. These factors include design improvements, productivity enhancements, and improved materials. The payoff from an investment in standardization can be derived by applying the learning curve approach to establish whether the investment is too little; too much, or enough.

Bob Roth presented a simple systematic method for calculating the majority of tangible savings or cost avoidance from standardization action. This method had evolved over a twenty year period from a relatively complex approach that attempted to capture every saving to a pragmatic, readily implemented method that addresses 80 percent of the cost factors. This application of Pareto's Principal has resulted in ready user acceptance and credible estimates.

The panel and the audience concluded that the evolution and systematic presentation of standardization costs and benefits is a fundamental necessity to

- insure continued management support;

- effectively utilize available resources; and

- identify the point of diminishing returns.

Observations

A very productive dialogue developed among the panelists and with the audience. Some of the key points made during these discussions included:

- Except for the Mil-Std-965 parts control requirement, implementation of standardization is voluntary on nearly every weapon system or at technical centers.

- Direction to Government program managers and contractors on implementing standardization principals and practices is nil.

- Merit evaluations of managers having a standardization responsibility should include provision to credit personnel for significant standardization accomplishments and to note as deficiencies failure to achieve an appropriate level of standardization.

- Government contractors need to be motivated to invest in standardization based on the benefits derived by themselves as well as their DoD customers.

- To effectively evaluate standardization programs it is necessary to establish a relatively straighttorward system to quantify performance and results.

Discussions evolved into two major areas: (1) selling standardization, and (2) strenghthening the DSSP. Recommendations listed below represent a consensus of the 120 people participating in this session. Every dissenting comment was accomodated. The concerted and enthusiastic participation by a very knowledgable audience representative of all affected interests makes these recommendations particularly noteworthy. Those responsible for the DSSP would demonstrate their commitment to the program and those directly involved by acting on these recommendations as soon as possible.

Recommendations

Selling Standardization

	Action
1. Expand the case study approach. Each Service and DLA should compile their own booklet of case studies and distribute it widely.	DepSO's
2. Prepare a guide (not a Mil-Std) on calculating and presenting standardization costs and benefits.	OUSDRE (SDM)
3. Acquire and keep current basic cost factors, e.g. preparing documentation, entering an item into inventory, etc.	OUSDRE (SDM)
4. Develop, by consensus, evaluation criteria to assess standards development projects.	OUSDRE (SDM) DepSO's Dod Standards Commun
5. Strengthen Dod assessment of program compliance with DSSP objectives.	OUSDRE (SDM)
6. Include standardization savings, and cost avoidance in Government awards programs - suggestion, value engineering and other recognition programs.	OUSDRE (SDM) DepSO's
7. Establish incentive measures that enable contractors to share in some of the monetary savings from standardization, or be penalized for ineffective standardization efforts.	OUSDRE (SDM)

Strengthening the DSSP

	Action
1. Prepare a clear overview document, or schema, which defines the overall defense standardization system showing the interrelationship of areas and equipment standardization and other major elements including item reductions and project implementation.	OUSDRE (SDM)
2. Define and implement criteria to be used in determining if new standardization projects are to be authorized. Recognize special requirements in high tech areas. Provide guidance on projects to develop interfaces or standard protocols versus conventional parts or equipment standards.	OUSDRE (SDM) PA's for high tech FSC's and Areas
3. Provide enabling authorization so that standardization project managers can call upon expertise wherever it may be within DoD.	OUSDRE (SDM)
4. Establish a feedback mechanism that advises PA's if their standards are actually used and the types of applications.	OUSDRE (SDM) and DepSO's
5. PA's need to establish closer links with users to (a) coordinate requirements <u>prior</u> to development of the first draft, and (b) to get feedback after implementation. These requirements may need to be incorporated in 4120.3M	OUSDRE (SDM)
6. Establish training courses in implementing standardization for Government contracting personnel and program managers. Make successful completion of such a course a prerequisite for advancement or particular grade levels.	OUSDRE (SDM) and Services
7. Establish a Standardization Advocate either at DoD or within each Service and DLA.	OUSDRE (SDM) or Services
8. Develop an American National Standard for coding and classification/group technology to enable contractors and DoD to simplify the search for like parts and to avoid duplicating the classification process when items are broken out or subcontracted.	ANSI Information Systems Standards Board
9. Apply group technology in small quantity procurements so that RFQ's can be of sufficient size to attract competition and benefit from economies of scale.	OASD (A&L) Services DLA

10. Enhance assignees' authority to police projects for standardization implementation.	OASD (SDM)
11. Further promote the necessity of having fully descriptive technical data packages in order to acquire and support effectuve item standardization action.	OASD (A&L)
12. Require inventory control points to report quarterly on the portion (%) of their dollar expenditure that is not covered by fully definitive documentation.	OASD (A&L) DLA
13. Provide visibility and attention to Item Reduction and quantify the benefits derived.	OASD (SDM) DepSO's
14. Use existing standardization tools more effectively and make the standards community aware of how they can be applied to provide payoffs on projects and in the supply system. These tools include FIIGS, item identification, item entry control, and P/N systems.	OASD (SDM) DepSO's

Acknowledgements

Chairman

Robert B. Toth
R.B. Toth Associates
Washington, DC 20007

Panel

Nicholas Economou
General Services Administration
Federal Supply Service
Washington, DC

Thomas D. O'Donnell
Group Technology Consultants
Pearl River, NY

Ben H. Swett
Consultant
Temple Hills, MD

Clarence R. Vandemark
Navy Publications and Printing Service
Washington, DC

Thomas R. Warwick
Pratt & Whitney UTC
West Palm Beach, FL

ACQUISITION AND DISTRIBUTION OF COMMERCIAL PRODUCTS

BEYOND T-SHIRTS AND WORCESTERSHIRE SAUCE

1986 DOD DEFENSE STANDARDIZATION AND DATA MANAGEMENT CONFERENCE

Synopsis of Panel Discussion

The presentations covered the use of commercial products and nondevelopment items by DOD. It was noted that of 13 recommendations on acquisition policy included in the Packard Commission's report, 2 recommended a much greater use of components, systems, and services available "off-the-shelf" and increased reliance on commercial procurement practices. This attention by the Commission was warranted given the benefits of lower product costs, higher product quality, state-of-the-art technology, and decreased procurement lead time and procurement costs including lower research and development costs associated with a functioning commercial product procurement program.

The three industry representatives, including Panel Chairman John Fluke, Jr. of the John Fluke Manufacturing Company and Chairman of the Commercial Product Acquisition Team (COMPACT), Philip Cassidy of Eastman Kodak and representing COMPACT, and Larry Schadegg of PRB Associates discussed specific examples of how commercial product procurement has benefited both DOD and vendors in the past and all expressed a willingness to work with DOD to develop the additional procedures and guidelines necessary to increase commercial product acquisition in the future. The three DOD representatives discussed current and planned activities at the policy level and at buying commands to increase commercial product acquisition.

Both the industry and DOD panel members discussed current impediments to successful commercial product procurement and suggested methods for overcoming them. Perhaps the biggest problem discussed was the need to overcome the attitude found at all levels in the procurement system that commercial product procurement is an inappropriate, unacceptable, or unworkable means of meeting DOD requirements.

Of particular importance to solving this attitude problem is the involvement by top level DOD policy makers and procurement officials in emphasizing the benefits of and a need for a comprehensive commercial product procurement program. This support at high levels is needed if the staff level procurement personnel are to change what amounts to a generation of acquisition practices that have emphasized detailed design specifications and initial product price.

Other problems discussed included standardization for standardization sake, over reliance on detailed military design specifications, unnecessary operational environment requirements, the need for quality assurance, the need to protect rights in data, the need for effective competition, the inclusion of national socio-economic policies as part of the procurement system and program politics. Although no single problem was considered impossible to overcome, the totality of the system requires top management attention to implement changes to make it easier and more attractive to buy commercial.

Several recent examples of the benefits of buying commercial were discussed. Commercial distribution systems have been adapted to military use so that turnaround time from product order to delivery has been reduced for 60 to 5 days. The Army Material Command is purchasing Mobile Subscriber Equipment, a tactical communications system, from an off-the-shelf source. This procurement will be the first example of tactical equipment to be bought without first going through the development process. In addition, the panel discussed the incorporation of commercial products in a tactical mission support system for the Navy. This particular minicomputer based system was specifically designed to provide squadron personnel with the automated tools needed to perform Area/Theatre Mission Planning, Specific Mission Pre-flight, In-flight Support, and Post-flight Data Analysis. Initial savings through the use of commercial systems for this single systems totaled over $32 million dollars.

Recommendations

1. Top management must be directly involved in a commercial product procurement program. This should include:

   - o the issuance of policy statements clearly emphasizing management's desire to buy or consider commercial products in all procurements;
   - o the establishment of specific commercial product procurement goals at the organizational level with personal follow-up by top level management;
   - o the emphasis through speeches, seminars, training and media contacts of the importance of a functioning commercial product procurement program;
   - o the recognition and reward of procurement personnel who effectively use commercial product procurement to meet DOD needs;
   - o frequent dialogue between program managers, procurement personnel, technical personnel and industry executives; and

- o the establishment of a program to review regularly specifications and standards to determine if they adequately reflect the current procurement environment.

2. DOD should circulate draft requirements and draft RFPs to all potential bidders as early as possible in order to solicit comments and ideas and to detect potential impediments to successful and competitive procurement. This process will help assure that DOD obtains information on commercially available products that can adequately meet the needs of the user and increase competition.

3 DOD should review existing procurement regulations and guidelines with the goal of eliminating those that impede or prevent the effective use of commercial product procurement.

4. DOD should have the flexibility to reprogram procurement resources in order to evaluate commercial product availability and develop appropriate solicitations and Commercial Item Descriptions.

5. DOD should make greater use of multi-year contracting procedures.

6. DOD should increase the use of and reliance on non-government standards.

7. DOD should make greater use of the Multiple Award Schedule for small quantity purchases of commercial products.

Acknowledgements

Panel Chairman
John Fluke, Jr.
Chairman and CEO
John Fluke Mfg. Co., Inc.

Panel Members

Philip J. Cassidy
Vice President
Eastman Kodak Company

Larry Schadegg
President
PRB Associates, Inc.

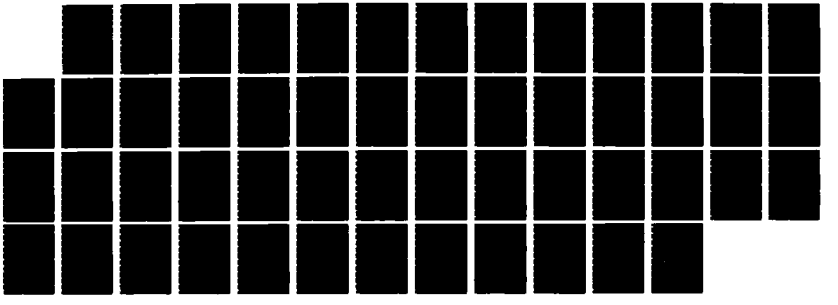
Gregory E. Saunders
Staff Engineer
Defense Standardization Program Office

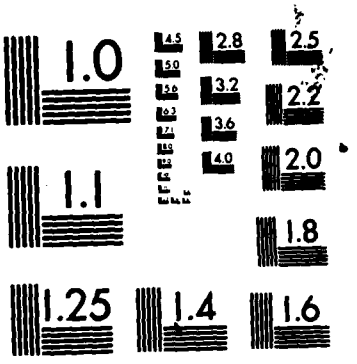
Roy D. Greene
Assistant Deputy Chief of Staff for
Development, Engineering and
Acquisition - Program Management

Rear Admiral John H. Ruehlin
Commanding Officer
Defense Personnel Support Center

AD-A172 281 INTEGRATING THE ACQUISITION TEAM PROCEEDINGS OF THE CONFERENCE HELD IN AR (U) ASSISTANT SECRETARY OF DEFENSE (ACQUISITION AND LOGISTICS) WA 16 JUL 86 2/2

UNCLASSIFIED F/G 5/1 NL





Integrating the Acquisition Team

1986 DoD Defense Standardization and Data Management Conference, July 14-16, 1986

Synopsis of Panel Discussion

The panel's topic of discussion was the same as the theme of the overall conference, "Integrating the Acquisition Team". In order to adequately address this broad subject, presentations were given by seven different panelists covering diverse subjects such as:

- O The Role of Prototyping In Acquisition
- O Market Place Competition
- O Overview of Acquisition Streamlining
- O Integrating VE Into Competition
- O Data For Improved Acquisition
- O Developing Competition with Reverse Engineering
- O Spare Parts Purchase or Borrow Program

In addition to these topics, the panel chairman presented an overview of the Packard Commission's findings relative to Acquisition Organization and Procedures.

RADM Locke opened the session with an overview of the President's Blue Ribbon Commission on Defense Management (Packard Commission) recommendations. He discussed the Commission's broad charter which included a review of the defense management acquisition process including planning and resource allocation. He indicated that the Commission had put forth recommendations regarding the National Command structure, including OJCS and CINCs as well as role of Congress in defense management. Within the area of acquisition organization and procedures he stressed three

areas; streamlining of the DoD acquisition system, emphasis on innovation and productivity and attracting, retaining and motivating well qualified people. Key elements related to these findings were described by Mr. Locke as the need to emphasize program stability, improve long range planning, emphasize clear lines between authority and responsibility, emphasize centralized policy with decentralized execution, utilize successful commercial practices where possible and improve the professionalism of the acquisition workforce. Of particular interest to the panel were other elements which addressed the need to recodify existing statutes, increase the use of prototypes and emphasize early operational testing, expand the role of DARPA, increase the use of "commerical style" competition, and institutionalize baselining and multiyear procurement.

Highlights of Presentations

O Mr. Ray Siewert of OUSD(R&E) discussed the Packard Commission's recommendation of early prototyping at the system or critical system level for all major weapon systems. His presentation discussed concerns in a number of areas with regard to prototype implementation. Some of the concerns were:

O A need to define who in the acquisition cycle determines what system or item is to be prototyped.

O What are the criteria to define prototyping.

O What is the degree of operational testing desired in conjunction with prototypes.

O What is prototyping's relationship to competition.

O What impact will prototypes have on the acquisition cycle.

Mr. Siewert emphasized that the goals of prototyping are to improve our military capability and become the basis for making realistic cost efforts. He stressed that while prototypes will suffice in many ways, DoD

must ensure operational testing to include survivability of our equipment.

O Mr. Phil Degen of ODASD(P)CPA discussed the subject of market place competition. He stated that DoD has had for some time the ability to select from other than a low bid by justifying such factors as quality, etc. He emphasized five areas that should be examined in the acquisition process. They are:

O Is the potential supplier a "high quality" source.

O What is the supplier's past performance in other acquisition.

O Establish justification requirements for commercial or non-commercial contracts.

O Search the markets place first for desired non-developmental items and generate specifications where required to define requirements.

O Develop purchase descriptions that define functional versus detailed design requirements.

The thrust of the above areas is to have the potential contractors or supplier prove to the DoD that they are capable producers as opposed to justifying that they are not.

O Mr. Gerry Hoffmann of OASN presented overview of acquisition streamlining. He pointed out that the Packard Commission has acknowledged that specifications requirements have been historically overstated for many years, not only in the technical arena, but also with regard to data requirements. In order to maximize the cost effectiveness of this concern the following action needs to be taken, i.e., invoke streamlining to:

O optimize requirements

O eliminate waste, i.e., non-necessary requirements

O structure requirements using broad coordination between government and industry

He stated that with the issuance of the streamlining document, DoDD 5000.43 the above concepts will be achieved if properly applied. Some of the key points to streamlining are:

O preventing premature application of requirements
O tailoring of specification requirements
O issuing draft solicitations

O citing minimum requirements in specifications prior to FSD
O limiting applicability of document to one-tier in development unless absolutely necessary
O emphasizing the Program Manager's responsibility for making final decisions on requirements.

O Mr. Gordon Frank of DASD(PS)IPO/IPSO gave a presentation on "Integrating VE Into Competition". He began his talk with a description of value engineering and it's primary objective which is to identify and eliminate unnecessary cost. He indicated that value engineering is applied to all contracts over $100K. The VE program is a voluntary one which encourages contractors to submit Value Engineering Change Proposals (VECPs) and share in the savings with the Government. He stated that a VECP requires a change to the contract and is similar in its approval process as an Engineering Change Proposal. A VECP may require front-end funding. In dual source contracts the prime contractors realizes savings from second source contractors as well as his own contract. One problem associated with VECPs is there is no incentive for competitors to cooperative. A remedy to this is to have memorandums of understanding prepared and agreed to by the parties concerned.

O Mr. Carl Berry of DASD(PS)SDM(DDMO) discussed data for improved acquisitions. He began his presentation by discussing a number of initiatives underway by DoD to improve the acquisition process. The automation of the DoD repositories has begun and will be completed within the next 30 months. He mentioned that a central index/locator system was also being developed to assist in locating the engineering drawings within

the repositories. He also stated that there is an effort underway to automate the DoD Index of Specifications and Standards (DoDISS) which will improve the user's ability to find documents in list form. Along with these initiatives, his office is developing new procedures and criteria for inspection and acceptance of drawings, determining the criteria for separate line item identification for data, including pricing, developing a new specification for Technical Data Packages, and assisting the DAR Technical Data Sub-Committee in establishing "rights-in-data" requirements. He also mentioned the establishment of a Pilot Reverse Engineering Program and the impending establishment of a Replenishment Parts Purchase or Borrow Program, both of which will foster increased competition. Mr. Berry also pointed out that his office is currently revising the DoD directive for Configuration Management (DoDD 5010.19) to incorporate such features as streamlining requirements, automation of configuration data and early baselining.

o LtCol Bill Foster of HQ USAF/LEYE discussed the Air Force's Reverse Engineering Program. He stated the overall goal of the program was to develop technical data with unlimited rights, expand competition, reduce the overall cost of spare parts, and measure the effectiveness of the reverse engineering technique being performed by contractors. LtCol Foster gave a brief history of the program including the OSD direction which was to implement an 18 month pilot program using contractors to perform the effort. Selected sole source high dollar spares are being used for the reverse engineering process. Cost of the program is $10M, funded from the Air Force's spare parts budget. He stated that management of the program has been assigned to the Air Force Logistics Command with all 5 Air Logistics Centers participating. The Air Force has developed a screening process for items undergoing reverse engineering and subsequent contract approaches have been defined and contracts awarded. LtCol Foster stressed that the DoD acquisition community needs to define it's data requirements early in the acquisition process, thus reducing the need for reverse engineering. He stressed that the Air Force is doing this and using reverse engineering as a last resort.

Mr. Ray Kelly of US Army DALO-CPC presented the impending Replenishment Parts Purchase or Borrow Program being developed by DASD(PS)

for Service wide implementation. He stated that the program will provide firms the opportunity to purchase, borrow, or view DoD replenishment parts for the purpose of design replication and subsequent sale to the Government. This activity will create or enhance competition of spare parts. He outlined the overall features of the program which makes parts available on a loan, purchase or view condition to prospective suppliers. Mr. Kelly identified the approval criteria for making parts available as

- O nonavailability of a technical data package
- O the item exceeds $10K annual by value
- O not precluded by law
- O has no adverse effect on supplies
- O savings exceed costs
- O item is not an unstable or critical part and has not critical military technology

Mr. Kelly emphasized that while not a mandatory requirement, an unlimited rights technical data package is encouraged from potential suppliers that purchase or borrow parts.

Concerns

The intent of this panel was to bring together diverse representation from the acquisition/technical community and share ongoing initiatives and current problem areas for the purpose of identifying areas that require improvement, correction, etc. To this end, a number of concerns were identified and are listed below. Many of the concerns were addressed and resolved in the open forum following the panel's presentation. Major concerns are identified by subject matter and do not appear in any order of precedence.

Reverse Engineering

O Concern over the program's infringement of patents and/or other data rights restrictions. Mr. Kelly replied that the Army does not institute patent searches, but that the program restricts the Government

from patent infringements or any other restriction provided by law. He emphasized that while the Government cannot use a vendors restricted data, the actual item has no restriction and may be provided for purposes of reverse engineering.

O Concern regarding the implementation of reverse engineering. Mr. Kelly stated that the Government only uses unlimited rights data from an original equipment manufacturer. If limited rights data is in possession of the Government it can only be used to compare the results of data derived by reverse engineering in-house. It is felt that there will be few instances in which the Government will compare data of one manufacturer to another.

O Concern that other alternatives should be used such as licensee agreements.

O Streamlining

O Concern over the adverse impact on international standardization requirements and agreements. Mr. Hoffman replied that the Government must consider all international agreements in the streamlining process and if need be to promulgate standard items/documents.

O Concern over the Navy's reluctance to prepare performance specifications in view of streamlining policies. Mr. Hoffman acknowledged that the old way of doing business provided a "security blanket" for the technical community and is therefore hard to change. We must change this mindset and provide flexibility and some risk taking in order to make streamlining work.

O Commercial Components and NDI

O Concern over requirements for standards, technical manuals, training, etc., including the impact on logistics, quality/maintainability and standardization, particularly in the area of electronic parts. Mr. Degan responded that commodity items will always have to be acquired using

specifications. The DoD will have to take a hard look at quality and schedule performance of commercial component contractors in order to maintain the desired acceptability of items. While we are not advocating restrictive limitations up front, we will continue to look for and expect quality performance from our potential sources.

Value Engineering (VE)

O Concern over the application of VE in Government and commercial contracts and particular with regard to credit incentives when there are other cost incentives available. Mr. Frank responded that in the case of full-scale development contracts credit is given for cost avoidance. He further stated that incentives for VE would not be covered by the VE clause. Mr. Frank stressed that the VE program's purpose is to achieve cost benefits, therefore credits and cost avoidance are not necessarily the primary goals.

Limiting Competition

O Concern over the criteria used to determine bidders in the commercial market place. Mr. Degen replied that qualification criteria are spelled out in the DoD regulations and that quality and maintainability of items remains a foremost requirement. He acknowledged that the competition advocates within the Services view the criteria for competition differently.

Prototyping

O Concern over when to utilize prototypes and their subsequent integration into system requirements. Mr. Siewert responded that the requirement for prototypes or 1st production models is described in DoDD 5000.3. He stressed that prototypes consist of more than form, fit and function and should include attributes similar to the equipment being developed. He stressed that operational testing must not be replaced entirely by prototypes as we must ensure survivability of our weaponry in live fire environment.

Automated Data Bases

O Concern over the interoperability of different data bases and possible duplication of some of these. Mr. Berry responded that the DoD has taken a decentralized approach to the automation of the repositories. Under the Computer Aided Logistics Support initiative, the various Service data bases will have interoperability due to the development of interchange standards and documents. The DoD does not believe that duplication is the case with the repository data bases as there are varying requirements among the Services.

Acquisition of Data

O Concern over how far should streamlining go in moving away from a fully defined data reprocurement package. General panel response was that common sense must be used in the streamlining arena and should not be invoked to the point of degrading overall system requirements.

Recommendations

In view of the excellent participation of the conference's attendee's (over 200) in this panel session it is recommended that future panels of this nature be held. The open dialogue and sharing of information that was achieved by this panel needs to be continued at future conferences to enhances the acquisition process.

Acknowledgements

Panel Chairman — RADM Walter M. Locke
USN (Ret)

Panel Members

Mr. Phil Degen, DASD(P)CPA
Mr. Gordon Frank, ODASD(PS)IPQ/IPSO

LtCol William Foster, HQ USAF/LEYE

Mr. Ray Siewert, OUSDRE/R&AT

Mr. Ray Kelly, US Army DALO-CPC

Mr. Carl Berry, OSD/DDMO

Mr. Gerry Hoffman, OASN

1986 STANDARDIZATION AND DATA MANAGEMENT CONFERENCE

Summary of Recommendations

Session 1/Panel A - "Subsystem/Equipment Standardization" (Part 1)

1-A-1 OSD high level management support is needed in the form of strong and visible standardization advocates for specific programs.

1-A-2 We need to implement hardware standardization on a program by program basis (i.e., pick a major weapon system program for implementation of the hardware and not necessarily a given time frame for use of the standard hardware).

1-A-3 Implementation of standardization needs to be across-the-board, enforced by an OSD standardization focal point, and reenforced by program managers and, if they exist, reenforced by equipment standardization advocates at product acquisition management levels.

1-A-4 Tie standardization initiatives with major weapon system modernization programs.

1-A-5 Use standardization cost avoidance savings to minimize the impact of Gramm-Rudman-Hollings budget deficit reductions.

1-A-6 Whenever and wherever possible, evaluate the use of non-developmental items (NDI) for the satisfaction of new operational requirements before awarding RDT&E and/or production contracts which will lead to the development of new and unique hardware. Do not reject the use of the NDI item if cost-effective modifications to the NDI item would result in satisfactory equipment solutions to the operational requirement.

Session 1/Panel B - "Competition and Standardization - Natural Partners"

1-B-1 DoD must very quickly issue an instruction clarifying such expressions as "functional," "performance," "commercial," "off-the-shelf" as applicable to specifications and the products they cover. Included in this instruction should be information as to what a non-developmental item (NDI) is and how modifications should be controlled. Without this information, each service and acquisition activity will provide their own interpretation, creating a tremendous amount of confusion and reducing the acquisition process to shambles.

1-B-2 DoD must provide clear definition as to what constitutes a suitable standard, regardless of the origin of the standard, if the standard is to be used as part of the DoD acquisition process. As an example, it must describe the physical characteristics and dimensions, the desired performance levels, and how they are to be verified. It must contain reasonable quality assurance provisions for production acceptance. The standard must provide a common, consistent set of requirements to ensure fair and competitive bidding, as well as assuring a product that meets the requirements of the military

application for which it is intended. It must be acceptable to both the user and the manufacturer.

1-B-3 The services must be directed to become more active and more consistent participants in the industry associations responsible for preparing standards having possible military applications. The standardization funding for this participation must be identified early, be adequate and assured to avoid the "stop and go" process which is the more familiar situation faced today. Without this continuous, active participation, the military too often finds the association standards inadequate for their needs, thus delaying their acceptance. Early collaboration with industry and their associations is considered essential to any standardization program involved with the acquisition process.

1-B-4 Industry associations can assist the acquisition teams by preparing specifications meeting the requirements specified in recommendation 2 above. Its standards should assure at least two, but preferably more, sources for the products covered. Various levels should be incorporated for different military environments. The standards should include part numbers and drawings for easy identification of a specific product. The military participants should be assured voting rights in the standards development. A program should be developed to accept industry associations' "qualified" or "approved" products as part of the acquisition process. A DoD instruction or letter should be issued covering all of these points as a basis for the acceptance of the industry standards.

1-B-5 With the increased use of industry standards, a system must be developed to assure adequate feedback on the performance of the products covered by industry standards in military applications.

1-B-6 In conjunction with the acceptance of industry standards, information on nongovernment standards groups (NSGs) now listed in the standardization manual should be expanded to identify the areas of interest of each NSG body. MIL-STD-143 (precedence of standards) should be updated as necessary.

1-B-7 For major standardization programs, DoD should establish working groups with very clear definition of the particular application and environment, as well as the framework of their responsibilities and the timetable for completion. The working groups should be broken down into smaller task groups sized as necessary to address portions of the overall problem. The total life cycle competition strategy (TLCCS) covered under Army AR70-1 would be a good model for the program. It involves defining early and specific needs, system planning, detailed analysis of technical data, data rights, dual sourcing and planning of the acquisition method. It does not mean that everything must be competed, nor does it mean that all data and data rights must be acquired, only those which are absolutely essential. It does mean early specific planning, maximum feasible competition and buying what is needed. Industry representation and the competition advocate must be involved early on in the program and in each phase where their expertise would be helpful.

1-B-8 The various acquisition techniques, each of which is different, need to be simplified and clarified as to which may be properly used under what set of circumstances. These should be issued in the form of guidelines for the technical personnel who are rarely experts in procurement regulations.

Session 2/Panel A - "Program Management Tools for Ensuring the Adequacy of Technical Manuals/Orders"

2-A-1 Early turn on of the analysis process.

2-A-2 Set aside of hardware by program managers from delivered assets for the validation effort.

2-A-3 Improved contracting methods.

2-A-4 Expanded user participation in the TM review process.

Session 2/Panel B - "Quality Management - Do We Need a National System?"

2-B-1 Develop guidelines for evolving a National Quality Management System.

2-B-2 Identify key personnel/organizations which must be included.

2-B-3 Identify the umbrella organization.

2-B-4 Identify a realistic timetable for a transition period.

Session 3/Panel A - "Documenting Standardization Payoffs"

3-A-1 Expand the case study approach. Each service and DLA should compile their own booklet of case studies and distribute it widely.

3-A-2 Prepare a guide (not a mil-std) on calculating and presenting standardization costs and benefits.

3-A-3 Acquire and keep current basic cost factors, e.g. preparing documentation, entering an item into inventory, etc.

3-A-4 Develop, by consensus, evaluation criteria to assess standards development projects.

3-A-5 Strengthen DoD assessment of program compliance with DSSP objectives.

3-A-6 Include standardization savings, and cost avoidance in Government awards programs - suggestion, value engineering and other recognition programs.

3-A-7 Establish incentive measures that enable contractors to share in some of the monetary savings from standardization, or be penalized for ineffective standardization efforts.

3-A-8 Prepare a clear overview document, or schema, which defines the overall defense standardization system showing the interrelationship

of parts and equipment standardization and other major elements including item reductions and project implementation.

3-A-9 Define and implement criteria to be used in determining if new standardization projects are to be authorized. Recognize special requirements in high tech areas. Provide guidance on projects to develop interfaces or standard protocols versus conventional parts or equipment standards.

3-A-10 Provide enabling authorization so that standardization project managers can call upon expertise wherever it may be within DoD.

3-A-11 Establish a feedback mechanism that advises PAs if their standards are actually used and the types of applications.

3-A-12 PAs need to establish closer links with users to (a) coordinate requirements prior to development of the first draft, and (b) to get feedback after implementation. These requirements may need to be incorporated in 4120.3-M.

3-A-13 Establish training courses in implementing standardization for Government contracting personnel and program managers. Make successful completion of such a course a prerequisite for advancement or particular grade levels.

3-A-14 Establish a Standardization Advocate either at DoD or within each service and DLA.

3-A-15 Develop an American National Standard for coding and classification/group technology to enable contractors and DoD to simplify the search for like parts and to avoid duplicating the classification process when items are broken out or subcontracted.

3-A-16 Apply group technology in small quantity procurements so that RFQs can be of sufficient size to attract competition and benefit from economies of scale.

3-A-17 Enhance assignees' authority to police projects for standardization implementation.

3-A-18 Further promote the necessity of having fully descriptive technical data packages in order to acquire and support effective item standardization action.

3-A-19 Require inventory control points to report quarterly on the portion (%) of their dollar expenditure that is not covered by fully definitive documentation.

3-A-20 Provide visibility and attention to item reduction and quantify the benefits derived.

3-A-21 Use existing standardization tools more effectively and make the standards community aware of how they can be applied to provide

payoffs on projects and in the supply system. These tools include FIIGS, item identification, item entry control, and P/N systems.

Session 3/Panel B - "ADCoP - Beyond T-Shirts and Worcestershire Sauce"

3-B-1 Top management must be directly involved in a commercial product procurement program. This should include:

- o the issuance of policy statements clearly emphasizing management's desire to buy or consider commercial products in all procurements;
- o the establishment of specific commercial product procurement goals at the organizational level with personal follow-up by top level management;
- o the emphasis through speeches, seminars, training, and media contacts of the importance of a functioning commercial product procurement program;
- o the recognition and reward of procurement personnel who effectively use commercial product procurement to meet DoD needs;
- o frequent dialogue between program managers, procurement personnel, technical personnel and industry executives; and
- o the establishment of a program to review regularly specifications and standards to determine if they adequately reflect the current procurement environment.

3-B-2 DoD should circulate draft requirements and draft RFPs to all potential bidders as early as possible in order to solicit comments and ideas and to detect potential impediments to successful and competitive procurement. This process will help assure that DoD obtains information on commercially available products that can adequately meet the needs of the user and increase competition.

3-B-3 DoD should review existing procurement regulations and guidelines with the goal of eliminating those that impede or prevent the effective use of commercial product procurement.

3-B-4 DoD should have the flexibility to reprogram procurement resources in order to evaluate commercial product availability and develop appropriate solicitations and Commercial Item Descriptions.

3-B-5 DoD should make greater use of multi-year contracting procedures.

3-B-6 DoD should increase the use of and reliance on non-Government standards.

3-B-7 DoD should make greater use of the Multiple Award Schedule for small quantity purchases of commercial products.

Session 4/Panel A - "Subsystem/Equipment Standardization" (Part 2)

See Session 1/Panel A Recommendations

Session 4/Panel B - "Integrating the Team"

4-B-1 In view of the excellent participation of the conference's attendees (over 200) in this panel session, it is recommended that future panels of this nature be held. The open dialogue and sharing of information that was achieved by this panel needs to be continued at future conferences to enhance the acquisition process.

DoD STANDARDIZATION & DATA MANAGEMENT

CONFERENCE ATTENDEES

[illegible]
Lear Siegler Inc.
Instrument Division
4141 Eastern Ave S.E.
Grand Rapids MI 49508-
(616) 241-8246 ET .
AIA

James S. Adams, Jr.
DPSC, Medical Directorate
2800 S. 20th Street
ATTN: DPSC-AV
Philadelphia PA 19101-8419
(215) 952-4351 ET . 444-4351
DLA

Douglas R. Alpress, CPT, USMC
HQMC LMC 2
Washington DC 20380-
(202) 695-4721 ET 225-4721
USMC

Arthur P. Amesse
Atlantic Research Corp.
E&C Division
5390 Cherokee Avenue
Alexandria VA 22312-
(703) 642-4313 ET .
****

Hugh W. Arant
Electronic Support Division
2750 ABW/ES
Gentile AFB OH 45444-4500
(513) 296-5568 ET . 986-5568
Air Force

James R. Armstrong, LTC, USAF
HQ USAF/RDSI
Pentagon
Washington DC 20330-5040
(202) 694-8250 ET . 224-8250
Air Force

Herbert L. Atkins
EG&G, Washington Analytical Services
2341 Jefferson Davis Hwy
Location Code 348
Arlington VA 22202-3801
(703) 553-2147 ET
ADPA

Terry Bacon
Shipley Associates
Director of Research & Development
P.O. Box 40
Bountiful UT 84010-
(801) 295-2386 ET .
****

Marshall H. Bailey
Defense General Supply Center
Directorate of Technical Operations
DGSC-S
Richmond VA 23297-5000
(804) 275-3841 ET . 695-3841
DLA

Thomas Ballantine
U.S. Army Materiel Command
Army Standardization & Data Mgt Offi
AMCLD
5001 Eisenhower Avenue
Alexandria VA 22333-0001
(202) 274 6748 ET . 284-6748
Army

W. Thomas Ballew, CDR, USN
Naval Air Systems Command (PMA-244F)
CDR W.T. Ballew
Washington DC 20361-1244
(202) 692-8632 ET . 222-8632
Navy

Kathleen M. Bamberg
U. S. Army Laboratory Command
Div. Material Technology
Watertown MA 02172-0001
(617) 923-5544 ET 955-5564
Army

James R. Barnett
Honeywell Inc.
1625 Zarthan Avenue
MN 15-1085
St. Louis Park MN 55416-
(612) 542-5968 ET .
NSIA

Gary R. Barth
Eastman Kodak
343 State Street
Rochester NY 14650-
(716) 724-2409 ET
****

Gregory B. Barthold
ALCOA
Aluminum Company of America
1615 M Street, N.W. Suite 500
Washington DC 20036-
(202) 956-5320 ET .
AIA

Daniel M. Beadle
HQ Electronic Security Command/LGX
San Antonio TX 78243-5000
(512) 925-2095 ET . 945-2095
Air Force

Nancy Beavers
Defense Standardization Program Offi
5203 Leesburg Pike
Falls Church VA 22041-3466
(703) 756-2340 ET . 289-2340
OSD

Robert J. Becker
Air Force Space Division
P.O. Box 92960
SD/ALM
Los Angeles A.F. Station
Los Angeles CA 90009-2960
(213) 643-1966 ET . 833-1966
Air Force

David Bentley
SAE
400 Commonwealth Drive
Warrendale PA 15096-
(412) 776-4841
SAE

Allan H. Bergquist
The Garrett Corporation
9851 Sepulveda Blvd
Mail Code S-5
Los Angeles CA 90045-
AIA

Carl L. Berry
Defense Data Management Office
5203 Leesburg Pike, Suite 1403
Falls Church VA 22041-3466
(703) 756-2554 ET . 289-2554
OSD

Larry G. Best
Shipley Associates
PO Box 40,
Bountiful UT 84010-
(801) 295-2386 ET .
****

Raymond R. Betcher
COMNAVOCEANCOM
Naval Oceanography Command
Code N51
NSTL MS 39529
(601) 688-5993 ET . 485-5993
Navy

Herbert L. Bevelhymer, COL,USAF
Aeronautical Systems Div, AF Sys Cmd
ASD/YYA
WPAFB OH 45433-6503
(513) 255-5080 ET . 785-5080
Air Force

Ronald L. Bevenbee
OASD (A&L) Logistics
Defense SPARS Initiatives Office
Washington DC 20301-8000
(202) 695-8358 ET . 225-8358
OSD

John Blaker
OASD(HA)
ODASD(Medical Readiness)
Pentagon 3E279
Washington DC 20301-
(202) 694-4157 ET 224-4157
OSD

Bernard L. Bland, Jr.
Office of the Asst Secretary (S&L)
Spec. Control Advocate General of Na
SPECAG
Washington DC 20360-5000
(222) 692-0815 ET .
Navy

Francis A. Blessing
U.S. Army Aviation Systems Command
4300 Goodfellow Blvd
AMSAV-ELSS
St. Louis MO 63120-1798
(314) 263-1613 ET . 693-1613
Army

Robert L. Blocker
SA-ALC/PM
Dir of Contracting and Manufacturing
Kelly AFB TX 78241-5000
(512) 925-4679 ET . 945-4679
Air Force

C. P. Boling
Stratoflex
PO Box 5183
Hopkins MN 55343-
(612) 935-6524 ET
SAE

Francis D. Bolletino
NATSF
ATTN: 40A
Philadelphia PA 19111-5097
(215) 697-5308 ET . 442-5308
Navy

Edward F. Borkowski
NADC
Navy
845P
Warminster PA 18974-
(215) 441-3989 ET . 441-3989
Navy

John M. Borky, LTC, USAF
ASD/AV
WPAFB OH 45433-6503
(513) 255-2100 ET . 785-2100
Air Force

Barbara J. Boykin
Aerospace Industries Association
1725 DeSales St. NW
B. Boykin
Washington DC 20036-
(202) 429-4663 ET .
AIA

Robert Brannen
Space and Naval Warfare Systems Comm
ATTN: PD 610A
Washington DC 20363-5100
(202) 433 4727 ET . 288 4727
Navy

Joseph B. Brauer
USAF/Rome Air Development Center
RADC/RBR
Griffiss AFB NY 13441 5700
(315) 330-2845 ET . 587-2945
Air Force

Philip E. Bravos
HONEYWELL, INC
P.O. Box 889
MN23-3031
Minneapolis MN 55440-
(612) 542-5873 ET .
AIA

Richard L. Brawley
Defense Fuel Supply Center
ATTN: DFSC-QSS
Alexandria VA 22304-6160
(202) 274-7500 ET . 284-7500
DLA

Craig E. Brodie, COL, USA
US Army Tank-Automotive Command
AMSTA-G (COL Brodie)
Warren MI 48397-5000
(313) 574-6307 ET . 786-6307
Army

Dorothy (Ann) M. Brooks
WR-ALC/MMFDBC
Robins AFB GA 31098-5609
(912) 926-4609 ET . 468-4609
Air Force

Sylvia A. Brooks
Space and Naval Warfare Systems Comm
ATTN: SPAWAR 003-1212
Washington DC 20363-5100
(202) 692-7334 ET . 222-7334
Navy

Daniel J. Brosnihan
Space and Naval Warfare Systems Comm
ATTN: Code PMW 174-3
Washington DC 20363-5100
(202) 692-8924 ET . 222-8924
Navy

Calvin Brown
DSMC
Defense Systems Management College
DSMC-DRI-R
Ft. Belvoir VA 22060-
(703) 664-4795 ET . 354-4795
OSD

Dwight L. Brown
U.S. Army Aviation Systems Command
4300 Goodfellow Blvd.
AMCPM-CH47M-T
St. Louis MO 63120-1798
(314) 263-1418 ET . 693-1418
Army

David E. Brown,CWO-2
Marine Corps Development & Educ. Ctr
(Code E024)
Quantico VA 22134-5080
(703) 640-2581 278-2581
USMC

Charles H. Bruggeman
USAF/AFSC
ATTN: SD/YEC
Box 92960 WPC
Los Angeles CA 90009-2960
(213) 643-2010 ET . 833-2010
Air Force

Dave Bryant, LTC, USA
Competition Advocate,US Army TAACOM
U.S. Army Troop Support Command
AMSTR-A
St. Louis MO 63120-1798
Army

Linda S. Burghet
Defense Data Management Office
5203 Leesburg Pike
Falls Church VA 22041-3466
(703) 756-2554 ET . 289-2554
OSD

Mary L. Burke
Naval Ordnance Station
5241I
Indian Head MD 20640-
(301) 364-4510 ET . 364 4510
Navy

John E. Burke
Kilkeary, Scott, & Assoc.
5319 Redd Lane
Camp Springs MD 20748
(703) 892-8990 ET
****

Charles G. Buttrey
HQ U.S. Army Materiel Command
5001 Eisenhower Avenue
AMCDE-PQP
Alexandria VA 22333-0001
(202) 274-8328 ET . 284 8328
Army

Donald L. Calvert
Aerospace Industries Assn. of Americ
1725 DeSales Street, NW
Washignton DC 20036-
(202) 429-4660 ET .
AIA

A. E. Cardone
Defense Personnel Support Center
2800 S. 20th Street
ATTN: DPSC-SP
Philadelphia PA 19101-8419
(215) 952-4201 ET . 444-4201
DLA

James Cargile
BDM Corporation
5 Koger Executive Center
Suite 127
Norfolk VA 23502-
(804) 461-1537 ET .
Army

Paul M. Carrick
Navy Postgraduate School
Professor of Administrative Sciences
Monterey CA 93943-
(408) 646-2939 ET . 818-2939
Navy

Glenn W. Carter
Dale Electronics, Inc.
2064 12th Avenue
Columbus NE 68601-
(402) 563-6208 ET .
EIA

Nicholas A. Caspero
USA Belvoir RD7E Center
Chief, Production Engr.& Stdzn. Div
Attn: STRBE-TS
Ft. Belvoir VA 22060-5606
(703) 664-6906 ET . 354-6906
Army

Philip J. Cassidy
Eastman Kodak Co.
VP Marketing
Government Services Devision
1300 N. 17th St.
Arlington VA 22209
(703) 724-2409
****

Robert W. Castle, CAPT, USN
Defense Logistics Agency
Engineering & Technical Management D
DLA-QE
Cameron Station
Alexandria VA 22304-6100
(202) 274-7785 ET . 284-7785
DLA

Andrew D. Certo
Defense Standardization Program Offi
5203 Leesburg Pike, Suite 1403
Falls Church VA 22041-3466
(702) 756-2340 ET . 289-2340
OSD

Anthony Cervone, CPT, USAF
ASD/B1
WPAFB OH 45433-6500
(513) 255-3283 ET 785-3283
Air Force

Edward S. Clarke, III
USA Missile Command
Res Dev & Engr Cen Sys Eng & Prod Di
AMSMI-RD-SE-ES
Redstone Arsenl AL 35898-5070
(205) 876-5090 ET . 746-5090
Army

Joseph Cohen
Naval Ocean Systems Center
Code 9211 (Joe Cohen)
San Diego CA 92152-5000
(619) -7038 ET . 933-7038
Navy

Edward D. Collins
Defense Logistics Agency
Cameron Station
DLA-SCT
Alexandria VA 22304-6100
(703) 274-7178 ET . 284-7178
DLA

Carl V. Compton
AFIS/IND
AF Intelligence Service
Bolling AFB DC 20332-
(202) 767-4518 ET . 297-4518
Air Force

Nancy T. Cook
Dept of Navy,
PMS417 Naval Sea Systems Command
Washington DC 20362-5101
(202) 746-0036 ET .
Navy

Horise M. Cooke
Stratoflex Inc
PO Box 10398
Ft. Worth TX 76114-0398
(817) 738-6543
SAE

James L. Coon, COL, USAF
DESC
DESC-E
Dayton OH 45444-
(513) 296-6531 ET . 986-6531
DLA

George Cooper
ARINC Research Corporation
2551 Riva Road
SEP/ASAG
Annapolis MD 21401-
(301) 266-4000 ET .
****

Arthur F. Cooper, CAPT,USAF
HQ Air Force Systems Command
2428 Pinefield Road
Waldorf MD 20601-3239
(301) 981-4196 ET . 858-4196
Air Force

Raiford W. Cooper, CDR
Office of Naval Research
ATTN: OCNR-226
800 N. Quincy Street
Arlington VA 22217-
(202) 696-4791 ET . 226-4791
Navy

Kevin S. Cox, 1st Lt, USAF
ASD/B1
WPAFB OH 45433-6500
(513) 255-3034 ET 785-3034
Air Force

William P. Coyne
US Army RD&e Center, Fort Belvoir
STRBE-TSE
Fort Belvoir VA 22060-
(703) 664-5717 ET . 354-5717
OSD

Lewis D. Cross
NSA
9800 Savage Road
Fort Meade MD 20755-
(301) 859-4063 ET . 235-0111
NSA

Mona Crump
Defense Standardization Program Offi
Suite 1403
5203 Leesburg Pike
Falls Church VA 22041-3466
(703) 756-2340 ET . 289-2340
OSD

Peter Vincent Dabbieri, CDR, USN
Chief of Naval Operations
ATTN: OP-982E3
Washington DC 20350-
(202) 694-4840 ET . 224-4840
Navy

Mark R. Dahl
Space and Naval Warfare Systems Comm
ATTN: PMW 174-31
Washington DC 20363-5100
(202) 692-8924 ET 222-8924
Navy

James Davidlee
U.S. Army Signal Warfare Center
AMSEL-SW-CA (J. Hunt)
Warrenton VA 22186-
(703) 347-6591 ET . 249-6591
Army

Robert L. Davis
Spares Program Management Office
Room 2C263, Pentagon
Washington DC 20301-
(202) 695-8355 ET . 225-8355
OSD

Lisa Andrea Davis
Office of the Asst Sec of the Navy (
Room 5E813, Pentagon
Washington DC 20350-1000
(202) 694-5373 ET 224-5373
Navy

James L. DeProspero
General Services Administration
Federal Supply Service
1941 Jefferson Davis Hwy.
CMB#4, Room 710
Arlington VA 22202-
(703) 557-7901 ET .
GSA

August F. DeSantolo
Army DepSo
AMCLD
5001 Eisenhower Avenue
Alexandria VA 22333-0001
(201) 274-6750 ET . 284-6748
Army

Twila M. Dearing
HQ USAF
HQ USAF/LEYE
Room 4A272, Pentagon
Washington DC 20330-5130
(202) 697-0294 ET . 227-9179
Air Force

Joseph T. Decker
Sperry Corp Communication Systems Di
640 North Sperry Way
Salt Lake City UT 84116-
(801) 539-7164 ET
AIA

Phil G. Degen
Contract Policy and Administration
DASD(CP)
The Pentagon, Room 3D116
Washington DC
(202) 697-8334 ET .
OSD

Rudolph D. Descoteau
Dakota-Delaware Company
1101 S. Arlington Ridge Road
Suite 1006
Arlington VA 22202-
(703) 684-4479 ET .
NSIA

Ruth E. Dewald
U.S. Army Human Engineering Laborato
U.S. Army Tank-Automotive Command
SLCHE-TA (Mrs. Ruth Dewald)
Warren MI 48397-5000
(313) 574-8669 ET . 786-8669
Army

A. J. DiMascio
VSE
2550 Huntington Ave.
Alexandria VA 22303-1499
(703) 960-4900 ET
****

Aldo Domenichini
Defense Logistics Agency
Directorate of Quality Assurance
DLA-QE
Cameron Station
Alexandria VA 22304-6100
(202) 274-7785 ET . 284-7785
DLA

John L. Donaldson
National Bureau of Standards
Bldg. 101/Room A603
Gaithersburg MD 20899-
(301) 921-3751 ET .
NBS/DoC

Jerome C. Dondlinger, COL, USA
HQ Army Materiel Command
AMCPD
5001 Eisenhower Avenue
Alexandria VA 22333-
Army

Louis A. Dugas, LTC, USAF
AFLC/JLC
WPAFB OH 45433-5001
(513) 257-2801 ET 787-2801
Air Force

D.M. Dymond
Quality Management Institute Inc.
300 Metropolitan Square 655 Fifteent
N.W.
Washington DC 20005-
****

Nicholas Economou
GSA-FSS
Attn: FCGE
Washington DC 20406-
(703) 557-9425 ET .
GSA

Robert A. Eidson
Decision & Design Inc.
8400 West Park
PO Box 907
McLean VA 22101-
Army

John Ekstrom
Sonalysts, Inc.
1911 Jefferson Davis Highway
Suite 504, Crystal Mall-1
Arlington VA 22202-
(703) 685-0070 ET
****

Charles J. Elliot
Hughes Aircraft Company
1100 Wilson Blvd, 20th Floor
Arlington VA 22209-
(703) 824-4239 ET .
AIA

James Emahiser
ODCSLOG
Room 2E554 Pentagon
Washington DC
(202) 697-5411 ET . 227-5411
Army

Albert H. Engel
USA Information Systems Engr. Activi
Specification, Data Management Offic
USA SSA
ASBH-PM-T
Fort Huachuca AZ 85613-
(602) 538-7838 ET . 879-7838
Army

Gordon R. England
General Dynamics/Land Systems Divisi
P.O. Box 1901
Warren MI 48090-
(313) 497-7001 ET .
AIA

Ira Epstein
OASD(A&L)IPSO
Room 2A318,Pentagon
Washington DC 20301-
(703) 756-2320 ET . 289-2320
OSD

Charles S. Epstein
Armament Div. AFSC
HQ AD/XRX
Eglin AFB FL 32542-5000
(904) 882-8002 ET 872-8002
Air Force

William J. Everett
Grumman Aircraft Systems
A01-015
Bethpage NY 11714-3582
(516) 575-6465 ET .
AIA

Kevin J. Fanning
HQ Air Force Contract Management Div
EPL
Kirkland AFB NM 87117-5000
(505) 844-2882 ET . 244-2882
Air Force

Antonio T. Fasano
HQ AFLC, QA
HQ Air Force Logistics Command
Mr. Fasano
WPAFB OH 45433-
(513) 257-2229 ET . 787-6773
Air Force

Jerry Fattah
General Services Administration
Crystal Mall, Bldg 4
FCME
Washington DC 20406-
(703) 557-0947 ET .
GSA

Rebecca C. Faulkner
Defense Standardization Program Offi
Suite 1403
5203 Leesburg Pike
Falls Church VA 22041-3466
(703) 756-2337 ET . 289-2337
OSD

Jack Faulkner, COL, USAF
ASD/B1, Director, B-1 Contracting
WPAFB OH 45433-6500
(513) 255-5371 ET 785-5371
Air Force

Edward Ference
Naval Facilities Engineering Command
200 Stovall Street
FPO 3B
Alexandria VA 22332-
(202) 325-0072 ET .
Navy

Henry A. Filippi
HQ Defense Logistics Agency
Cameron Station
DLA-SE
Alexandria VA 22304-6100
(202) 274-6781 ET . 284-6781
DLA

John M. Fluke, Jr.
John Fluke Manufacturing Co., Inc.
PO Box C9090
Everett WA 98206
(206) 347 6100 ET .
****

William Foster, LTC, USAF
HQ USAF/LEYE
The Pentagon, Room 4A272
Washington DC
(202) 697-9178 ET .
Air Force

Lester Fox
EIA
5225 Pooks Hill Rd, Suite 304N
Bethesda MD 20814-
(301) 457-4998 ET .
EIA

Barbara A. Fox
Defense Construction Supply Center
PO Box 3990
DCSC-SSI- Building 12-6
Columbus OH 43216-5000
(614) 238-2025 ET . 850-2025
DLA

John W. Foxbower
ASD-AFALC/AXA
Deputy for Avionics Control
WPAFB OH 45433-6503
(513) 255-6140 ET . 785-6140
Air Force

Gordon Frank
Industrial Productivity Support Offi
5203 Leesburg Pike
Falls Church VA 22041-
(703) 756-2320 ET . 289-2320
OSD

James T. Freeman
Naval Air Engineering Center
Systems Engineering & Stdzn Dept
Code 9322
Lakehurst NJ 08733-5100
(201) 323-7480 ET . 624-7480
Navy

William H. Freestone, LTC, USA
OUSDRE(VHSIC/ED)
Room 3E114, Pentagon
Washington DC 20301-
(202) 697-9216 ET . 227-9216
OSD

Bryce A. Frey
General Services Administration
Automotive Commodity Center (FCAE)
GM Bldg 4, Room 422
Washington DC 20406
(703) 557-0967 ET .
GSA

Dennis Frey
AFLC CASC
74 N Washington Street
Battle Creek MI 49017-3094
(616) 962-6511 ET . 9286 369-9286
Air Force

Alma-Marie Frye
Contracting Activity (Virginia)
RFQ 1
Defense Intelligince Agency
Bolling AFB DC 20301-
(202) 373 2740 ET 243-2740
DIA

Robert C. Gagnon
Defense Product Standards Office
5203 Leesburg Pike
Suite 1403
Falls Church VA 22041-3466
(703) 756-2551 ET . 289-2551
OSD

James Gallivan
Army Materials Technology Laboratory
SLCMT MSR-ES
Watertown MA 02172-0001
(617) 923-5567 ET . 955 5286
Army

Chris L. Gallo
OASD(A&L)
OASD-LM/Spares
Spares Program
Pentagon, Room 2C263
Washington, DC 20301-8000
(202) 695-8357 ET . 225-8357
OSD

Frederick C. Garber
The Boeing Aerospace Company
P.O. Box 3999, M/S 82-08
Seattle WA 98124-
(206) 773-1121 ET .
AIA

John J. Garing, COL,USAF
Pentagon
ACS/Systems for Command, Control,
Communications and Computers
Plans and Policy Division
Washington DC 20330-5190
(202) 695-1704 ET . 225-1704
Air Force

Charles E. Gastineau
DESC
Dir of Engineering Standardization D
DESC-EAB/C. Gastineav
Wilmington Pike
Dayton OH 45444-
(513) 296-8445 ET . 986-8445
DLA

Kris Gataveckas
Quality Management Institute, Inc.
300 Metropolitan Sq 655 Fifteenth St
Washington DC 20005-
****

John D. Geron
Director Material Management
Aerospace Industries Association
1725 DeSales St. N.W.
Suite 700
Washington DC 20036-
(202) 429-4639 ET .
AIA

Fred Gillette
AFLC/CASC
74 N. Washington St.
Battle Creek MI 49017-3094
(616) 962-6511 ET . 369-9286
Air Force

Edward J. Gillikin
Commonwealth of Virginia
Department of General Services
Division of Purchasing and Supply
805 E. Broad Street, 2nd Floor
Richmond VA 23219-
(804) 786-4067 ET .
ICPS

John Gioia
R-G Inc.
401 Wythe St.
Alexandria VA 22314-
(703) 548-7006 ET .
****

Cathy W. Graham
Naval Air Systems Command
Data Management Section
ATTN: Code 51123
Washington DC 20361-
(202) 746-1153 ET . 286-1153
Navy

Gene R. Grant
AMC Pkg, Storage, & Container Center
AMC Packaging,Storage& Containerizat Center
ATTN: SDSTO-TE-S
Tobyhanna PA 18466-5097
(717) 894-6711 ET . 795-6711
Army

Roy D. Greene
HQ Army Materiel Command
AMC DE-T
5001 Eisenhower Ave
Alexandria VA 22333-0001
(703) 274-9848 ET 284-9848
Army

Darold L. Griffin
HQ Army Material Command
AMCPD
5001 Eisenhower Avenue
Alexandria VA 22333-
Army

James F. Grimes
General Electric Co.,
Military Electronic Systems Operatio
P.O. Box 4840. CSP #5 -T2
Syracuse NY 13221-
(315) 456-1238 ET .
AIA

David S. Grishop, COL, USA
Cdr, U.S. Army Avionics R & D Activi
SAVAA-D
Ft. Monmouth NJ 07703-5401
(201) 544-2922 ET . 995-2922
Army

Edward E. Groff
Defense Logistics Agency
Cameron Station
DLA-SCC (E. Groff)
Alexandria VA 22304-6100
(202) 274-7241 ET . 284-7241
DLA

Frank J. Grosso, LTC, USAF
HQ USAF/RDPV
AF/RDPV Pentagon
Washington DC 20330-5040
(202) 697-7715 ET . 227-7715
Air Force

William E. Hall, LCDR, USN
Space and Naval Warfare Systems Comm
Contracts Directorate
ATTN: SPAWAR 12X
Washington DC 20363-5100
(202) 692-6043 ET . 222-6043
Navy

John Hamburg, CAPT, USAF
Arnold Engineering Development Cente
AEDC/SEQ
CAPT Hamburg
Arnold AFB TN 37389-5000
(615) 454-1240 ET . 340-3598
Air Force

Charles T. Hamlin
HQ AFLC/QA
HQ Air Force Logistics Command
Mr. Hamlin
WPAFB OH 45433
(513) 257-2229 ET . 787-2229
Air Force

Michael D. Hansen
Naval Undersea Warfare Engrg Station
Code 75516
Tech Manual Dept. Chief
Keyport WA 98345-0580
(206) 396-6927 ET . 744-6927
Navy

James R. Hardman
AMP Inc.
939 East Park Drive M.S.210-20
Harrisburg PA 17105
(717) 561-6201 ET .
EIA

Gerald W. Hargis
National Security Agency
R23
Fort Meade MD 20775-6000
(301) 859-4818 ET . 235-0111
NSA

Jean L. Harman
Naval Sea Systems Command
CAA 5523
Washington DC 20362-5101
(202) 692-0160 ET . 222-0160
Navy

Tharon T. Harrison
US Army Missile Command
ATTN: AMSMI-RD-SE-TD-DM
Redstone Ars. AL 35898-
(205) 876-9991 ET . 746-9991
Army

Wayne L. Heard, COL
HQ Defense Logistics Agency
Cameron Station
DLA-OR
Alexandria VA 22304-6100
(202) 274-7658 ET . 284-7658
DLA

John M. Heavey
Belvoir RD&E Center
STRBE-FES
Fort Belvoir VA 22060-
(703) 664-3433 ET . 354-3433
Army

Connie Henry
ASD/ENES
CODE 11
WPAFB OH 45433-6503
(513) 255-6295 ET . 785-6295
Air Force

David M. Herschander
Analytic Services, Inc.
1215 Jefferson Davis Hwy, Suite 800
Support Systems Division
Arlington VA 22202-
(703) 685-3179 ET .
****

William S. Hettinger
Grumman Corp
1000 Wilson Blvd.
Suite 2100
Arlington VA 22209-
(703) 276-4942 ET .
AIA

Mr. Hewitt
Defense Personnel Support Center
2800 S. 20th Street
Directorate of Medical Materiel
ATTN: DPSC-AV
Philadelphia PA 19101-8419
(215) 952-4350 ET . 444-4350
DLA

James Heydenreich
SONALYSTS INC
215 Parkway North
Waterford CN 06333-
(203) 442-4355 ET .
Army

Darrell L. Hill
DESC
1507 Wilmington Pk
DESC - EQM(D. Hill)
Dayton OH 45444-
(513) 296-6355 ET . 986-6355
DLA

Raymond M. Hines
Electronic Support Division
2750 ADW/ESA
Gentile AFB OH 45444-2500
(513) 296-5570 ET . 986-5570
Air Force

Ronald E. Hinkle, Maj, USAF
ASD/B1
WPAFB OH 45433-6503
(513) 255-6894 ET 785-6894
Air Force

John E. Holvoet
Army Materiel Command
Attn. AMCPD-SE
5001 Eisenhower Ave
Alexandria VA 22333-0001
(703) 274-6699 ET 284-6699
Army

Marvin D. Hovley
Space and Naval Warfare Systems Comm
ATTN: PD 612
Washington DC 20363-5100
(202) 433-2994 ET . 228-2994
Navy

Paula J. Howard
Naval Air Systems Command
AIR-51122
Washington DC 20361-5110
(202) 746-1149 ET . 286-1149
Navy

Robert Howard
HQ Air Force Logistics Command
AFLC-MMLIC
WPAFB OH 45433-5000
(513) 257-3314 ET 787-3314
Air Force

Edward G. Huber
System and Applied Sciences Corp.
1020 Woodman Drive
Suite 200
Dayton OH 45432-
(513) 254-8408 ET .
****

Arthur C. Hudson
Defense Electronics Supply Center
Electronic Engineer Assignee Activit
DESC-ESS
1507 Wilmington Pike
Dayton OH 45444-5276
(513) 296-6093 ET . 986-6093
DLA

Charlotte E. Hunter, CAPT, USAF
AFEWC/CBC
Air Force Electronic Warfare Center
San Antonio TX 78243-5000
(512) 925-2413 ET . 945-2413
Air Force

Erik A. Hutchins, CAPT, USAF
ESD/SCM
Erik A. Hutchins, 2LT, USAF
Hanscom AFB
Bedford MA 01731-
(617) 271-6178 ET . 478-5980
Air Force

Charles L. Hyland
Raytheon Company
141 Spring Street
40 2-4/Mr. C.L. Hyland
Lexington MA 02173-
(617) 860-2858 ET .
AIA

William D. Jascomb
Lockheed - Georgia
D/72-33 Zone 342
86 South Cobb Drive
Marietta GA 30063-
(404) 424-2625 ET .
AIA

Carla E. Jenkins
Defense Products Standards Office
5203 Leesburg Pike
Falls Church VA 22041-3466
(703) 756-2343 ET . 289-2343
OSD

Schalene Jennings
Ziff-Davis Technical Information Co.
13271 Northend St.
Oak Park MI 48237
(313) 546-6706 ET .
****

Roger K. Joe
Standardization & Specifications/ARD FESWG
U.S. Army Armament RD&E Center
SMCAR-ESC-AS
Dover NJ 07801-5001
(201) 724-6673 ET . 880-6673
Army

Larry E. Johnson, COL
Department of National Defense
National Defense Headquarters
Ottowa, Ontario CN K1A0K2
(613) 996-3909 ET .
Canada

Neil W. Johnstone, MAJ
National Defense Headquarters
Anti-Armour Light Armoured Vehicles
National Defense Headquarters
Ottowa, Ontario CN K1A0K2
(613) 995-2794 ET .
Canada

Miriam S. Jones
WR-ALC-MMMR
Robins AFB GA 31098-5609
(912) 926-2297 ET . 468-2297
Air Force

Jack H. Karian
American National Standards Institut
1430 Broadway
New York NY 10018-
ANSI

V. Herbert Kaufman
SAE
400 Commonwealth Drive
Warrendale PA 15096-
SAE

Robert F. Keefer
US Army Tank-Automotive Command
AMSTA-GD (R.F. Keefer)
Warren MI 48397-5000
(313) 574-5880 ET . 786-5880
Army

Donald B. Keidan
Space and Naval Warfare Systems Comm
ATTN: SPAWAR 8134
Washington DC 20363-5100
(202) 692-7227 ET . 222-7227
Navy

Esther K. Keller
Space Division
P.O. Box 92960, World Way Postal Cen
ALA
Los Angeles CA 90009-2960
( ) 643-0831 ET . 833-0831
Air Force

Raymond A. Kelly
Office of Competition Advocate Gener
Pentagon, Room 2E543
Washington DC 20310-
(202) 694-9004 224-9004
Army

Julia B. Keyes
Belvoir RD&E Center
Fort Belvoir VA 22060-5606
(703) 664-5342 ET 354 5342
Army

John M. Kinn
Electronic Industries Association
2001 Eye Street, NW
Washington DC 20006-
(202) 457-4961 ET .
EIA

Emanuel Kintisch
American Defense Preparedness Assn.
1700 N. Moore St.
Arlington VA 22209-
ADPA

Wendy Kirby
Hogan & Hartson
815 Conn. Ave. NW
Washington DC 20006-
(202) 331-2645 ET
****

Carole Jean Kopala, MAJ, USAF
HQ USAF/RDXM
12817 Prestwick Drive
Fort Washington MD 20744-
(301) 697-6093 ET . 227-6093
Air Force

John M. Koper
Naval Air Systems Command
AIR-51122
Washington DC 20361-5110
(202) 746-1145 ET . 286-1145
Navy

Nicolas Kozin
Civil Engineer Support Office(NAVFAC
Naval Construction Battalion Center
Port Hueneme CA 93043-5000
(805) 982-5301 ET . 360-5301
Navy

Nat Kronstadt
NKA Incorporated
8905 Fairview Road
Silver Spring MD 20910-
****

Robert B. Kuhnen
Aeronautical Systems Division (ENES)
Code 11
WPAFB OH 45433-6503
(513) 255-6291 ET . 785-6291
Air Force

Ronald A. Kunihiro
Defense Product Standards Office
5203 Leesburg Pike
Falls Church VA 22041-3466
(703) 756-2343 ET . 289-2343
OSD

Ayako O. Kurihara
Dynamic Systems Inc
12030 Sunrise Valley Dr., Suite 400
Fiber Optic Prog Ofc, 56ZC, NAVSEA
Reston VA 22180-
(703) 476-1660 ET .
****

Thomas M. Kurihara
U.S. Department of Transportation
400-7th Street SW
OST/M-30
Washington DC 20590-
(202) 755-1771 ET .
########

Walker A. Larimer
GEC Avionics LTD
PO Box 1581
Springfield VA 22151
(703) 323-8933 ET .
****

John A. Lasco
Space Division
P.O. Box 92960
Los Angeles CA 90009-2960
(213) 643-1966 ET . 833-1966
Air Force

Robert J. Lauer
Allied Bendix Integrity
1000 Wilson Blvd
Arlington VA 22015-
NSIA

Thomas Lavinka
Defense General Supply Center
DGSC-SSM
Richmond VA 23297-5000
(804) 275-4323 ET . 695-4323
DLA

Fred R. Lawson
Defense Logistics Agency
Cameron Station
DLA-SE
Alexandria VA 22314-
(202) 274-6775 ET . 284-6775
DLA

Willie A. Lawson
Light Helicopter Family Project Mgr.
4800 Goodfellow BLvd.
AMC PM-LHC (LTC Lawson)
St. Louis MO 63120-1798
(314) 263-1890 ET 693-1890
Army

Clifford R. Lederer
Naval Construction Battalion Center
Civil Engineer Support Office
ATTN: Code 1564
Port Hueneme CA 93043-5000
(805) 982-5301 ET . 360-5301
Navy

Randall W. Lemond
Information Handling Systems
15 Inverness Way East
Englewood CO 80150-
(800) 525-7052 ET .
****

Raymond J. Leopold, LTC, USAF
ESD/SCM
ESD/SCM
Hanscom AFB MA 01731
617-271-6022 478-5980
Air Force

Eli Lesser
OASD(A&L)IP&Q
Pentagon, Room 2A318
Washington DC 20301-
(202)695-7915 225-7915
OSD

James B. Lincoln, COL, USA
US Army Missile Command
TOW Project Office
ATTN: AMCPM-TO
Redstone Ars. AL 35898-5710
(205) 876-7194 ET . 746-7194
Army

Roger L. Lively
HQ USMC
LMA-1/R. Lively
Washington DC 20380-
(202) 694-1997 ET . 224-1997
USMC

Raymond J. Lobmeyer
Society of Automotive Engineers
12838 Ansborough Ave
Hudson IA 50643-
SAE

John Locke
American Assoc for Lab Accreditation
656 Quince Orchard Road #704
Gaithersburg MD 20878
301-670-1377
AALA

Walter Locke,RADM,USN(Ret.)
4080 Ridgeview Circle
Arlington VA 22207-
****

Mr. Lombardi
Defense Personnel Support Center
2800 S. 20th Street
ATTN: DPSC-STC
Philadelphia PA 19101-8419
(215) 952-4436 ET . 444-4436
DLA

David M. Longinotti
OASD/C3I (T2C3)
Room 3D174, Pentagon
Washington DC 20301-
(202) 695-2653 ET .
OSD

Andrew D. Loundermon, COL,USAF
Department of the Air Force
Air Force Standardization Office
AF/RDXM (DEPSO)
Pentagon
Washington DC 20330-4050
(202) 697-3040 ET . 227-3040
Air Force

Maribeth Love
Office of the Surgeon General
DASC/HCL
Washington DC 20310-
(202) 697-8286 ET 227-8286
Army

Stephen C. Lowell
Defense Standardization Program Offi
Suite 1403
5203 Leesburg Pike
Falls Church VA 22041-3466
(703) 756-2340 ET . 289-2340
OSD

Frank A. Lukasik
HQ Air Force Systems Command
HQ AFSC/JAT
Andrews AFB MD 20334-
(301) 981-5372 ET . 858-5372
Air Force

Dominic E. Luppino
Natick Research & Development Center
Engineering Programs Management Dir
STRNC-ES
Natick MA 01760-5014
(617) 651-5221 ET . 256-5221
Army

Jack W. Lynch
Defense Industrial Plant Equipment C
DIPEC-SS
Airways Blvd
Memphis TN 38114-5297
(901) 775-628 ET . 683-6228
DLA

David C. Lynch, COL, USAF
ASD/AX,Deputy for Avionics Control
WPAFB OH 45433-6503
(513) 255-2734 ET . 785-2734
Air Force

Anne L. Lyons
Civil Engineer Support Office (NAVFA
Naval Construction Battalion Center
Code 1562V
Port Hueneme CA 93043-5000
(805) 982-5301 ET . 360-5301
Navy

Mauro J. Maltagliati
Aerospace Industries Association
1725 DeSales Street, NW
Washington DC 20036-
(202) 429-4688 ET .
AIA

Martin P. Mannion
Defense Personnel Support Center
2800 S. 20th Street
ATTN: DPSC-ATT
Philadelphia PA 19101-8419
(215) 952-2118 ET . 444-2118
DLA

Thomas E. Mansperger, COL
OASD(A&L) SDM
Room 2A318, Pentagon
Washington DC 20301
(202) 692-7915 ET . 225-7915
OSD

Peter Maravelias, MAJ,USAF
Electronic Systems Division
ESD/OCX
Hanscom AFB MA 01731-
(617) 377-6015 ET . 478-6015
Air Force

Richard V. Marbais
Defense Electronics Supply Center
Dir of Engineering Standardization,D
EMT/R. Marbais
Dayton OH 45444-5284
(513) 296-5391 ET . 986-5391
DLA

Arch H. McCulloch, Jr.
Hughes Aircraft Company
8433 Fallbrook Ave
Bldg 261, M.S. N-53
Canoga Park CA 91304-0445
AIA

Ralph E. McCullough
Texas Instruments,Inc.
Box 655012
Dallas TX 75265-
(214) 995-3931 ET .
EIA

William J. McDowell
Commonwealth of Pennsylvania, Bureau
Purchases
414 North Office Building
Harrisburg PA 17125-
(717) 787-8028 ET .
****

Neil McEachren
Eastman Kodak
Government Service Division
1300 N. 17th Street
Alexandria VA 22209-
(703) 558-3735 ET
****

James McGinn
Naval Air Systems Command
Code 5112
Washington DC 22061-5112
(202) 746-1138 286-1138
NAVY

Mary C. McKiel
General Services Administration
Federal Supply Service
Crystal Mall No. 4, Room 709
FCM
Washington DC 20406-
(703) 557-1930 ET .
GSA

Rex D. McKinnon
HQ AF Communications Command
HQ AFCC/XPDS
Scott AFB IL 62225-6001
(618) 256-2736 ET . 576-2736
Air Force

Kenneth K. McLain
Defense Construction Supply Center
PO Box 3990
DCSC-S
Columbus OH 43216-5000
(614) 238-3251 ET . 850-3251
DLA

Loren R. Melton
Naval Sea Data Support Activity
Commanding Officer, Naval Ship Weapo
System Engineering Station
(NSDSA) Code 5H30/Loren Melton
Port Hueneme CA 93043-5007
(805) 982-4779 ET . 360-4779
Navy

Susie Mendiola
San Antonio Air Logistics Center
ATTN: MMMRF
Kelly AFB TX 78241-
(512) 925-6635 ET . 945-6635
Air Force

William H. Merrill
Project Manager-Mobile Electric Powe
Technical Management Division
ATTN: AMCPM-MEP-T
7500 Backlick Road, Bldg. 2089
Springfield VA 22150-3107
(703) 664-2057 ET . 354-2057
Army

Albert K. Miles
VSE Corporation
2550 Huntington Ave.
Alexandria VA 22303-
(703) 960-4600 ET
****

George F. Miller
Space and Naval Warfare Systems Comm
ATTN: PMW 175A
Washington DC 20363-5100
(202) 692-3626 ET . 222-3626
Navy

Hugh A. Miller
Naval Ordnance Station
5241
Indian Head MD 20640-
(301) 364-4250 ET . 364-4250
Navy

Judith M. Miller
Field Command
Defense Nuclear Command
FSL-ICS
Kirtland AFB NM 87115-5000
(505) 844-0301 ET . 244-0301
DNA

Thomas B. Miller, MAJ, USAF
Dep Asst Secretary of the Air Force(
SAF/ALG, Pentagon
Washington DC 20330-1000
(202) 695-7984 ET . 225-7984
Air Force

Lawrence C. Milligan
Defense Electronics Supply Center
DESC-EPB (Mr. Milligan)
1507 Wilmington Pike
Dayton OH 45444-
(513) 296-5445 ET . 986-5445
DLA

Gerald P. Minnich
Ships Parts Control Center
Code 056X
Mechanicsburg PA 17055-0788
(717) 790-6057 ET 430-6057
Navy

Donald R. Mitchell
Directorate of Technical Programs
Electronics Industries Association
Washington DC 20006-
(202) 457-4970 ET .
EIA

John A. Mittino
Dep Asst Sec Def (Production Support
Pentagon
Washington DC 20301-
(202) 697-8177 ET . 227-8177
OSD

Cameron Mixon
VSE Corporation (Reverse Engr Center
2550 Huntington Ave
Alexandria VA 22303-
(703) 461-0200 ET
****

John G. Mohn, CDR, USN
Director NMPC
ADP Resources Management Office
Navy Military Personnel Command
ATTN: Code N16R
Washington DC 20370-
(202) 694-1838 ET . 224-1838
Navy

John Moriarty
VSE Corp
2550 Huntington Ave
Alexandria VA 22303-
(703) 960-4600 ET 609
****

Kenneth N. Morris
Fleet Analysis Center, Corona Annex
Corona CA 91620-
(714) 736-5321 ET 933-5321
Navy

Charles S. Mote, LTC, USAF
Department of the Air Force
Air Force Standardization Office
AF/RDXM (DEPSO)
Pentagon
Washington DC 20330-4050
(202) 697-3040 ET . 227-3040
Air Force

Van G. Mozingo
Newport News Shipbuilding
4101 Washington Avenue
Newport News VA 23607-
(804) 380-2248 ET .
****

Claudette E. Murphy
Naval Sea Systems Command
DoD Stdzn Prog and Documents Divisio
SEA 55Z3
Washington DC 20362-5101
(202) 692-0161 ET . 222-0161
Navy

Richard L. Murphy, CAPT, USN
Space and Naval Warfare Systems Comm
System Integration Division
ATTN: PMW-159-5
Washington DC 20363-5100
(202) 746-1788 ET . 228-1788
Navy

Joseph P. Murray, MAJ, USA
U.S. Army Ordnance Center & School
ATSL-CD-PM
AberdeenProv Gd MD 21005-5201
(301) 278-4139 ET . 298-4139
Army

Anthony Musco
VSE
2550 Huntington Ave.
Alexandria VA 22303-1499
(703) 960-4900 ET
****

Jerry A. Nabors
US Army Missile Command
Standardization Group
ATTN: AMSMI-RD-SE-TD-ST
Redstone Ars. AL 35898-5276
(205) 876-1335 ET . 746-1335
Army

Lorene Nalley
AD/ALX
Eglin AFB FL 32542-5000
(904) 882-5801 ET . 872-5801
Air Force

Louis Neri
Naval Air Engineering Center
Systems Engineering & Stdzn Dept
Code 9313/L. Neri
Lakehurst NJ 08733-5100
(201) 323-2168 ET . 624-2168
Navy

John F. Newton
Naval Air Systems Command
AIR-1192G
Washington DC 20361-1190
(202) 692-7485 ET . 222-7485
Navy

Joseph Nimas
Naval Air Engineering Center
Systems Engineering & Stdzn Dept
Code 9322/Joe Nimas
Lakehurst NJ 08733-
(201) 323-7480 ET . 624-7480
Navy

E.J. Nucci
Director of Technical Programs
Electronic Industries Assoc.
2001 Eye St. N.W.
Washington DC 20006-
(202) 457-4965 ET .
EIA

Thomas J. Nycz
USA Comm-Elec. Cmd & Ft Monmouth
Production & Systems Management Dir
AMSEL-ED-TO
Ft Monmouth NJ 07703-5016
(201) 532-5891 ET . 992-5891
Army

Hugh O'Brien
Naval Supply Systems Command
Supply Systems Analyst
Sup 0323
Washington DC 20376-5000
(703) 695-6570 ET . 225-6570
Navy

Thomas D. O'Donnell
Group Technology Consultants
Principal Consultant
76 Douglas
Pearl River NY 10965-1904
(914) 735-8826 ET . -
****

Elizabeth A. O'Shea
Air Force Armament Laboratory
AFATL/DLXB
Eglin AFB FL 32542-5000
(904) 882-4629 ET . 872-4629
Air Force

Peter W. Odgers, MAJ GEN USAF
Program Director, B-1 (ASD)
ASD/B1
WPAFB OH 45433-6503
(513) 255-3281 ET 785-3281
Air Force

Edwin R. Offer, COL, USAF
Defense Logistics Agency
Cameron Station
DLA-QL
Alexandria VA 22304-6100
(202) 274-4127 ET . 284-4127
DLA

Hoover Ogata
USA Labcom Harry Diamond Laboratories
2800 Powder Mill Road
SLCHD-IT-EA
MD 20783-1197
(301) 394-2633 ET . 290-2633
Army

Robert Ollweiler
John Fluke MFG. Co., Inc.
5640 Fishers Lane
Rockville MD 20852
****

James A. Olson, LTC, USA
HQ WESTCOM
APOP-WC (LTC Olson)
Fort Shafter HI 96858-5100
(808) 438-1122 ET . 438-1122
Army

Allen J. Osborne
Defense General Supply Center
DGSC-SS
Richmond VA 23297-5000
(804) 275-3330 ET . 695-3330
DLA

Roger L. Overbeck
Rockwell International
Collins Government Avionics Division
MS 124-315
400 Collins Road, NE
Cedar Rapids IA 52498-
(319) 395-1966 ET .
AIA

Robert M. Packard
Westinghouse Electric Corp
Defense & Elect. Systems
PO Box 1693
MS 5810
Baltimore MD 21203-
(301) 765-2596 ET .
NSIA

Joseph G. Papapietro, LTC, USA
US Army Tank-Automotive Command
ATTN: AMCPM-M9
6501 E. 11 Mile Road
Warren MI 48397-5000
(313) 574-6635 ET . 786-6635
Army

Carolyn D. Parker
Naval Training Systems Center
Code 424
Orlando FL 32813-7100
(305) 646-5187 ET . 791-5187
Navy

Frank C. Partin
John Fluke Manufacturing Co.,Inc.
PO Box C9090
Everett WA 98206-
(206) 356-5292 ET . -
****

Kenneth C. Pearson
ASTM STAFF
1916 Race Street
Philadelphia PA 19103-
(215) 299-5520 ET
ASTM

David D. Perkins
Space and Naval Warfare Systems Comm
Washington DC 20363-5100
(202) 692-3535 ET . 222-3535
Navy

Paul K. Petersdorf, COL USAF
Ballistic Missile Office
BMO/MGL
Norton AFB CA 92409-
(714) 382-6617 ET 876-6617
Air Force

James H. Phillips
Defense Construction Supply Center
DCSC-ST
3990 E. Broad Street
Columbus OH 43216-5000
(614) 238-3869 ET . 850-3869
DLA

Anthony J. Pizzo
Naval Air Engineering Center
System Engineering & Stdzn Dept
Code 9322
Lakehurst NJ 08733-5100
(201) 323-2970 ET . 624-2970
Navy

Leo N. Planakis
Space and Naval Warfare Systems Comm
Reliability/Maintainability Branch
ATTN: SPAWAR 003-411
Washington DC 20363-
(202) 692-7526 ET . 222-7526
Navy

Stuart Platt, RADM, USN
Competition Advocate General
Department of Navy
OASN(S&L)
Washington DC 20360-5100
(202) 692-3202 ET 222-3202
Navy

Robert E. Poovey
US Army Missile Command
Logistics Management
ATTN: AMSMI-LC-LS
Redstone Ars. AL 35898-5232
(205) 876-6898 ET . 746-6898
Army

Colleen A. Preston
Counsel, House Armed Services Commit
2339 Rayburn
Washington DC 20515-
(202) 225-4223 ET
CONGRESS

Peter N. Puerling, CAPT, USN
Naval Sea Systems Command
Code 54
Washington DC 20361-5000
(202) 692-3295 ET . 222-3295
Navy

MAJ. Quaderer
Department of the Air Force
Air Force Departmental Stdzn Office
AF/RDXM(DEPSO)
Pentagon
Washington DC 20330-4050
(202) 697-3040 ET . 227-3040
Air Force

Norman Raditz
Naval Air Engineering Center
Code 932
Lakehurst NJ 08733-
(201) 323-7488 ET . 624-7488
Navy

Reed A. Rankin
SA-ALC/PMC
Dir of Contracting and Manufacturin
Kelly AFB TX 78241-5000
(512) 925-6506 ET . 945-6506
Air Force

John T. Regan
U.S. Army Natick RD&E Center
Tech Data Package Div, Eng Prog Mgt
STRNC-ES
Natick MA 01760-5014
(617) 651-5225 ET . 256-5225
Army

Thomas J. Reilly
Army Materials Technology Laborato
Engineering Stdzn Division
SLCMT-MSR-ES
Watertown MA 02172-0001
(617) 923-5567 ET . 955-5567
Army

James D. Richardson
J.D. Richardson, Associates
4189 Waterway Drive
Dumfries VA 22026
(703) 680-1652 ET .
****

Ken Ricker
ARINC Research Corporation
2551 Riva Road
SEP/ASAC
Annapolis MD 21401-
(301) 266-4000 ET .
****

Thomas J. Ridgway
Defense Product Standards Office
5203 Leesburg Pike
Falls Church VA 22041-3466
(703) 756-2343 ET . 289-2343
OSD

Nyle N. Riegle
Naval Weapons Support Center
Code D3, Bldg 1
Crane IN 47522-5000
(812) 854-3667 ET . 482-3667
Navy

Bruce C. Rinker, LTC, USAF
AFSC/ASD/B-1B SPO
ASD/BIC
WPAFB OH 45433-6503
(513) 255-3367 ET . 785-3367
Air Force

Norman C. Ristaino
Natick Research & Development Center
Kansas Street
STRNC-EMS
Natick MA 01760-5014
(617) 651-4084 ET . 256-4084
Army

Sandra S. Rittenhouse
Defense Systems Management College
ATTN: DRI-R
Ft. Belvoir VA 22060-
(703) 664-5783 ET . 354-5783
OSD

William T. Robinson, LTC, USAF
ASD-AFALC/AXAE
Deputy for Avionics Control
WPAFB OH 45433-6503
(513) 255-5385 ET . 785-5385
Air Force

Richard J. Rodemer
Naval Publications and Forms Center
5801 Tabor Ave
Code 1032
Philadelphia PA 19120-
(215) 697-2658 ET . 442-2658
Navy

Lee E. Rogers, P.E.
Defense Standardization Program Offi
5203 Leesburg Pike
Suite 1403
Falls Church VA 22041-3466
(703) 756-2340 ET . 289-2340
OSD

Carl M. Roman
Union Carbide
Director of Quality
PO Box 5928
Greenville SC 29606
(803) 963-6533 ET .
EIA

Lynwood Root
Belvoir RD&E Center
STRBE-FM
Fort Belvoir VA 22060-5606
(703) 664-5731 ET . 354-5731
Army

Boris Rosen
RCA Corp
Bldg 10-2-3
Camden NJ 08102
(609) 338 2404 ET .
EIA

John H. Ruehlin, RADM, USN
Cdr, Defense Personnel Support Cente
2800 S. 20th Street
Philadelphia PA 19101-8419
444-2300
DLA

John R. Ruff
Naval Sea Systems Command
CEL-MSC
Washington DC 20362
(202) 692-6789 ET . 222-6789
Navy

Liza H. Ruiz
Navy Petroleum Office
ATTN: Code 45
Cameron Station
Alexandria VA 22304-6180
(202) 274-7485 ET . 284-7485
Navy

Arthur Rulon
USA Materiel Readiness Support Activ
Chief Technical Publications
Attn: AMXMD-MP
Lexington KY 40511-5101
(606) 293-3415 ET . 745-3415
Army

Andrew G. Salem
Manager, Technical Division, SAE
SAE (Society of Automotive Engineers
400 Commonwealth Drive
Warrendale PA 15096-
(412) 776-4841 ET .
SAE

Charles G. Sanders
Space & Naval Warfare Systems Comman
ATTN: SPAWAR 003-IT
Washington DC 20363-5100
(202) 692-3468 ET . 222-3468
Navy

Gregory E. Saunders
Defense Standardization Program Offi
5203 Leesburg Pike, Suite 1403
Falls Church VA 22041-3466
(703) 756-2340 ET . 289-2340
OSD

Robert E. Schafrik
HQ AFSC/SDTS
Andrews AFB DC 20334-
(301) 981-5171 ET . 858-5171
Air Force

Otto J. Schultz
JTC3A, Chief Washington Field Activi
JTC3A, Washington Facility
C3A-WA (OASD C3T-ASC)
Washington DC 20301-3160
(202) 697-6559 ET . 227-6559
OSD

Donna G. Schwartz
AMC Pkg, Storage, & Container Center
ATTN: SDSTO TE-S
Tobyhanna PA 18466-5097
(717) 894-7115 ET . 795-7115
Army

Rodger W. Seeman
Corps of Engineers
Pulaski Building, 20 Massachusetts A
DAEN-ECE-S
Washington DC 20314-1000
(202) 272-1185 ET .
Army

James D. Sellers, MAJ, USAF
Special Projects ASD
ASD/YSM
WPAFB OH 45433
(513) 255 7486 ET . 785 7486
Air Force

Lloyd S. Shackelford,CPT,USAF
ASD/OL-BA
P.O. Box 371
Ft Worth TX 76101-0371
(817) 763 4892 ET . 838-5892
Air Force

George R. Shafer
Naval Construction Battalion Center
Civil Engineer Support Office
ATTN: Code 156
Port Hueneme CA 93043-5000
(805) 982-5301 ET . 360-5301
Navy

Isadore Shapiro
Harry Diamond Laboratories
2800 Powder Mill Road
SLCHD-IT-EA
Adelphi MD 20783-1197
(202) 394-2633 ET . 290-2633
Army

Grover H. Shelton
Cdr, USA Test and Evaluation Command
Methodology Improvement Div
AMSTE-TC-M
Aberdeen ProvGd MD 21005-5055
(301) 278-3677 ET . 298-3677
Army

Stanley N. Siegel
Aerospace Industries Association
1725 DeSales Street N.W.
Washington DC 20036-
(202) 429-4621 ET .
AIA

Jack M. Siegel
USA Natick Research & Development Ce
STRNC-U
USA NRDEC
Kansas Street
Natick MA 01760-5014
Army

Ray Siewert
Director, Military Systems Technolog
OUSDRE
The Pentagon, Room 3D1089
Washington DC
(202) 697-7922 ET .
OSD

Robert C. Simmons
Hughes Aircraft Co. Eng Svc & Spt Di
P.O. Box 6800, Bldg 627/G414
Anaheim CA 92817-0800
(714) 970-3823 ET .
AIA

Craig C. Singer
Systems Planning and Analysis, Inc
5111 Leesburg Pike, Suite 200
Falls Church VA 22041-
(703) 931-3500 ET .
****

William R. Smith
ASN(RE&S) Department of Navy
Pentagon 5E785
ASN(RE&S) C3I
Washington DC 20350-
(202) 694-4691 ET .
Navy

Willard B. Smith
Defense Logistics Agency
Cameron Station
DLA-SE
Alexandria VA 22304-6100
(202) 274-6775 ET . 284-6775
DLA

Patrick W. Snell, LTC, USAF
General Dynamics Ft. Worth Division
Air Force Plant Representative Offic
ATTN: AFPRO/EN
P.O. Box 371
Ft. Worth TX 76101 0371
(817) 763 4743 ET . 838-5743
Air Force

Ivan G. Snyder
Headquarters, Defense Logistics Agen
Attn: DLA-QLA
Alexandria VA 22304-6100
(202) 274-6448 ET . 284-6448
DLA

Charles Snyder, MAJ
Defense Logistics Agency
Cameron Station
DLA-SE
Alexandria VA 22304 6100
(202) 274-6775 ET . 284-6775
DLA

Ellis U. Speed
Defense Logistics Agency
Cameron Station
DLA-SEE
Alexandria VA 22304-6100
(202) 274-6775 ET . 284-6775
DLA

Lou G. Sportelli
IBM-Federal Systems Division
6600 Rockledge Drive
MS 403
Bethesda MD 20817-
(301) 493-1418 ET .
NSIA

Katrina A. Stanford
Army Materiel Command
5001 Eisenhower Ave.
Alexandria VA 22333-
(202) 274-8862 ET 284-8862
Army

Brenda Stanley
HQ, AFLC
AFLC-MMA
WPAFB OH 45433-
(513) 255-2144 ET 785-2144
Air Force

Michael Stasio
CASC
74 N. Washington St.
CBRS Code 99
Battle Creek MI 49017-3094
(616) 962-6511 ET . 369-9270
Air Force

Neil Sullivan
ARINC Reseach Corporation
2551 Riva Road
SEP/ASAG
Annapolis MD 21401-
(301) 266-4000 ET .
****

Ben H. Swett
Consultant
5603 Holton Lane
Temple Hills MD 20748-
(301) 630-9114 ET .
****

Thomas A. Sylvester, CAPT,USAF
HQ AFSC/PLEQ
Andrews AFB MD 20334-
(301) 981-2751 ET . 858-2751
Air Force

Jeffrey P. Szalapski, Capt, USN
J-4/Logistic Planning Division
Pentagon
Washington DC 20301-5000
(202) 697-3686 ET 227-3686
OJCS

John Tascher
Defense Product Standards Office
5203 Leesburg Pike
Falls Church VA 22041-3466
(702) 756-2551 ET . 289-2551
OSD

Joseph Testa
United Technologies, Sikorsky Airc
North Main Street
Joe Testa MS S304A3 Design Servic
Stratford CT 06601-
(203) 386-4701 ET . -
AIA

James L Thacker
National Security Agency
R23
Fort Meade MD 20755-6000
(301) 859-4818 ET . 235-0111
NSA

Otto J. Thamasett
XMCO, Inc.
11150 Sunrise Valley Drive
Reston VA 22091-
(703) 648-9636 ET .
****

Charles I. Thomas
Naval Sea Systems Command
SEA 9012
Crystal City VA
(202) 692-6731 ET .
Navy

Edward Thomas, COL
Defense Industrial Supply Center
700 Robbins Ave
DISC-E
Philadelphia PA 19111-
(215) 697-3201 ET . 442-3201
DLA

Elton R. Thompson
Arnold Engineering Development Cente
ATTN: AEDC/DOF
Arnold AF Sta TN 37389-5000
(615) 454-5280 ET . 340-5280
Air Force

Jonathan R. Tilton
General Electic Company
1000 Western Ave.
ATTN: IMZ 25201
West Lynn MA 01910-
(617) 594-5492 ET .
AIA

William E. Tisdell
Sperry Corp, Defense Products Group
Computer Systems Division
P.O. Box 64525 MS U2S20
Saint Paul MN 55164-
(612) 456-2962 ET .
AIA

Dwight V. Toavs, COL
Defense Intelligence Agency
RSM-4, Pentagon
Washington DC 20301-6111
(202) 694-2675 ET . 224-2675
****

John B. Todaro
Spec Control Advocate General
Ofc of the Asst Sec (S&L)
SPECAG
Washington DC 20360-5000
(202) 692-0815 ET . 222-0815
Navy

Robert B. Toth
R. B. Toth Associates
1032 31st N.W.
Washinton DC 20007-
(202) 342-0210 ET .
****

Raymond P. Tremblay
ARDEC
SMCAR-ESC-AS
Dover NJ 07801 5001
(201) 724-6671 ET . 880 6671
Army

Paul D. Tuck
Brooks & Parkens
5320 S. 5th Street
Arlington VA 22204-
(703) 671 4352 ET .
****

Thomas J. Tulko
Space and Naval Warfare Systems Comm
ATTN: PMW-143T3
Washington DC 20363 5100
(202) 692-9632 ET . 222-9632
Navy

Alvin H. Turetsky
Naval Air Technical Services Facilit
Code 01
700 Robbins Ave.
Philadelphia PA 19117-
(215) 697-2901 ET . 442-2901
Navy

Ware Ullom
Field Command, Defense Nuclear Agenc
FSL-ICS
Kirtland AFB NM 87115-5000
(505) 844-0301 ET . 244-0301
DNA

Peter F. Unger
CASSI
656 Quince Orchard Rd.
Suite 704
Gaithersburg MD 20878-
(301) 670-1377 ET
AALA

Herbert R. Vadney, LTC
OUSD(R&E) DSB
Room 3D1020, Pentagon
Washington DC 20301-
OSD

Arthur B. Vance
Defense Product Standards Office
II Skyline Place, Suite 1403
5203 Leesburg Pike
Falls Church VA 22041-3466
(703) 756-2343 ET . 289-2343
OSD

Raymond C. Vandemark
Navy Publications & Printing Svc Mgm
Director, Program Management Divisio
Code 30
Washington Navy Yard Bldg 157-3
Washington DC 20374-
(202) 433-3543 ET .
Navy

Howard J. Vandersluis
Naval Sea Systems Command
Technical Data and Test Division
Technical Data QA Branch
ATTN: CEL-TD4
Washington DC 20362-5101
(202) 692-1230 ET .
Navy

E. Georgette Vincent
Naval Air Systems Command
ATTN: AIR 51121E
Washington DC 20361-
(202) 746-1143 ET . 286-1143
Navy

Nathaniel R. Vivians
ASD-AFALC/AXT
Directorate, Avionics Technology
WPAFB OH 45433-6503
(513) 255-5941 785-5941 .
Air Force

George J. Vlay
Ford Aerospace & Communications Corp
1939 Fabian Way
Palo Alto CA 94303
(415) 852-5465 ET .
EIA

J. Clark Walker
Department of the Air Force
Air Force Departmental Stdzn Office
AF/RDXM(DEPSO)
Pentagon
Washington DC 20330-4050
(202) 697-3040 ET . 227-3040
Air Force

Robert V. Walker, Jr.
(MLRS) Project Office
USA. MICOM, Mult. Launch Rocket Syst
AMCPM-ML-CM (R. Walker)
Redstone Arsenal AL 35898 5700
(205) 876-8201 ET . 746-8201
Army

Richard V. Wall
Shipley Associates
Director of Client Services
Public Sector
P.O. Box 40
Bountiful UT 84010-
(801) 295-2386 ET .
****

Mary Beth Walsh, CPT, USA
Navy Post Graduate School
SMC 1313 NPS
NPS
Monterey CA 93940-
(408) 646-2536 ET 878-2536
Army

Ronald D. Ward
Newport News Shipbuilding
4101 Washington Avenue
R.D. Ward, Dept K21
Newport News VA 23607-
(804) 380-4532 ET .
****

Thomas R. Warwick
Pratt & Whitney, United Technologies
Engineering Division
M\S 731-55
P.O. Box 2691
West Palm Beach FL 33402-
(305) 840-3588 ET .
SAE

John T. Wasdi
Project Manager-Mobile Electric Powe
Technical Management Division
ATTN: AMCPM-MEP-T
7500 Backlick Road, Bldg. 2089
Springfield VA 22150-3107
(703) 664-2057 ET . 354-2057
Army

Douglas E. Waters
Naval Sea Systems Command
CEL-TDB
Washington DC 22362-
(202) 692-0068 ET . 222-0068
Navy

Daniel H. Weiss
HQ, USAF-LEYY
Pentagon
Washington DC 20330-5130
(202) 697-1177 ET 227-1177
Air Force

Peter N. Weiss
Assistant Chief Counsel
Small Business Administration
Office of Chief Counsel for Advocacy
1725 I St., N.W., Room 403
Washington DC 20416
(202) 634 6115 634-6115
SBA

Wiley Wells
Magnavox Govt & Industry Electronics
1313 Production Rd.
Fort Wayne IN 46808-
(219) 429-5642 ET
EIA

[illegible] R. Welch
Defense Personnel Support Center
2800 S. 20th Street
ATTN: DPSC-SPF
Philadelphia PA 19101-8419
(215) 952-4211 ET . 444-4211
DLA

Timothy O. Westover, COL, USAF
Air Force Plant Rep Hughes Tucson
Det 48 AFPRO/CC, Hughes Missile Sys
P.O. Box 11337, Mail Station D-4
Tucson AZ 85734-1337
(602) 295-8361 ET . 361-5825
Air Force

David R. Wheeler
AARDEC
ATTN: SMCAR-ESC-AS
Dover NJ 07801
(201) 724-6662 ET . 880-6662
Army

John Wheeler, P.E.
Natick Research & Development Center
STRNC-UST
USA NRDEC
Kansas Street
Natick MA 01760-
Army

Joe H. Whitney
US Army Information Systems Command
ATTN: AS PLN-SS
Fort Huachuca AZ 85613-5000
(602) 538-7890 ET . 879-7890
Army

Joyce L. Williams
ASD/ENES
Code 11
WPAFB OH 45433-
(513) 255-6295 ET . 785-6295
Air Force

Edward E. Wilson
Defense Personnel Support Center
2800 S. 20th Street
Directorate of Subsistence
Philadelphia PA 19101-8419
(215) 952-4435 444-4435
DLA

Donald E. Wilson, COL, USA
Army Materiel Command
5001 Eisenhower Ave.
Alexandria VA 22333-
(202) 274-9683 ET 284-9683
Army

James R. Winebarger
Diversified Data Corp
6551 Loisdale Ct.
Springfield VA 22150-
(703) 922-9444 ET .
****

John Winters
Defense Data Management Office
5203 Leesburg Pike
Falls Church VA 22041-3466
(703) 756-2554 ET . 289-2554
OSD

George R. Winters, COL, USAF
HQ Air Force Systems Command
ATTN: HQ AFSC/XR (Col)
Andrews AFB MD 20334-5000
(301) 981-4212 ET . 858-4212
Air Force

John K.C. Woo
Acquisition Planning Manager, NAVSEA
NAVSEASYSCOM
Code SEA 901
Washington DC 20362-
(202) 692-0415 ET . 222-0415
Navy

Walter O. Wood
General Dynamics Fort Worth
P.O. Box 748
O.W. Wood MZ 2481
Fort Worth TX 76101
(817) 763-3329 ET .
****

Robert L. Woods
Space and Naval Warfare Systems Comm
ATTN: SPAWAR 003-12
Washington DC 20363-5100
(202) 692-7276 ET . 222-7276
Navy

Dorothy Wright
Naval Ordnance Station
5241G
Indian Head MD 20640-
(301) 743-4519
Navy

Joseph Wright
DISC
700 Robbins Ave
DISC-EA
Philadelphia PA 19111
(215) 697-3001 ET .
DLA

Jon Wroblewski
Softech, Inc.
2000 N. Beauregard Street
Alexandria VA 22311-1794
(703) 931-7372 ET .
****

John A. Wyatt
Dir, Defense Product Standards Offic
5203 Leesburg Pike
Falls Church VA 22041-3466
(703) 756-2343 ET . 289-2343
OSD

Robert W. Yates
Defense Construction Supply Center
PO Box 3990
DCSC-SS
Columbus OH 43216-5000
(614) 238-3965 ET . 850-3965
DLA

Peter Yurcisin
OSD(A&L) SDM
Room 2A318 Pentagon
Washington DC 20301-
(202) 695-0121 ET . 225-0121
OSD

Lynn Zabkar, CAPT, USAF
ESD/JSP
CAPT Zabkar
Hanscom AFB MA 01731-
(617) 377-6915 ET . 478-6915
Air Force

George Zakhem
US Army Tank-Automotive Command
AMSTA-GDS (G. Zakhem)
Warren MI 48397-5000
(313) 574-5954 ET . 786-5954
Army

Miroslav M. Zich
Space and Naval Warfare Systems Comm
PMW151-13A
Washington DC 20363
(202) 692-9367 ET . 222-9367
Navy

Paul S. Zorich
Naval Facilities Engineering Command
200 Stovall Street
Code 10W
Alexandria VA 22332-
(202) 325-8192 ET . 221-8192
Navy

George Zoyioplous
Ziff Davis Technical Information Com
80 Blanchard Rd.
Burlington MA 01803
(617) 273-5500 ET
****

END

11-86

DTIC