NBSIR 77-1221

Proceedings of a Symposium: Communicating for Product Improvement October 13-14, 1976

Sponsored by:

Experimental Technology Incentives Program
National Bureau of Standards

Federal Supply Service
General Services Administration

National Association of State Purchasing Officials

National Institute of Governmental Purchasing

Final Report

February, 1977

Prepared by

Experimental Technology Incentives Program

U. S. DEPARTMENT OF COMMERCE

NATIONAL BUREAU OF STANDARDS

THE EXPERIMENTAL TECHNOLOGY INCENTIVES PROGRAM

Three premises underlie the Experimental Technology Incentives Program (ETIP):

- Technological change is a significant contributor to social and economic development in the United States.
- Federal, State, and local government policies can influence the rate and direction of technological change.
- Current understanding of this influence and its impact on social and economic factors is incomplete.

ETIP seeks to affect public policy and process to facilitate technological change in the private sector. The program does not pursue technological change per se. Rather, its mission is being accomplished by examining and experimenting with government policies and practices in order to identify and remove government-related barriers and to correct inherent market imperfections that impede the innovation process.

ETIP assists other government agencies in the design and conduct of policy experiments. Key agency decisionmakers are intimately involved in these experiments to ensure that the results are incorporated in the policymaking process. ETIP provides its agency partners with both analytical assistance and funding for the experiments while it oversees the evaluation function.

Because all government activities potentially can influence the rate and direction of technological change, ETIP works with a wide variety of agencies, including those that have regulatory, procurement, R&D, and capital subsidy responsibilities. Programs are currently underway with the General Services Administration, Food and Drug Administration, Veterans Administration, Federal Power Commission, Environmental Protection Agency, Occupational Safety and Health Administration, Small Business Administration, and other federal agencies as well as various State and local Agencies.

The accompanying report was prepared by the ETIP program of the National Bureau of Standards. Statements contained in this document represent the views of the originating organization and do not necessarily reflect those of the National Bureau of Standards.

Director
Experimental Technology
Incentives Program
National Bureau of Standards
U.S. Department of Commerce

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U.S. DEPARTMENT OF COMMERCE, Juanita M. Kreps, *Secretary*

Dr. Betsy Ancker-Johnson, *Assistant Secretary for Science and Technology*

NATIONAL BUREAU OF STANDARDS, Ernest Ambler, *Acting Director*

CONTENTS

SYMPOSIUM OBJECTIVES

- To establish a continuing dialogue between private industry and government agencies on the ways and means of product improvement, placing particular emphasis on methods of communicating specific product needs to manufacturers and making purchasing offices more responsive to these needs at the Federal, State and local level.

PLENARY SESSION

COMMUNICATING FOR PRODUCT IMPROVEMENT

Sponsored by

Experimental Technology Incentives Program (ETIP)
National Bureau of Standards, U.S. Department of Commerce

Federal Supply Service (FSS)
General Services Administration

National Association of State Purchasing Officials (NASPO)

National Institute of Governmental Purchasing (NIGP)

* * * * *

Robert S. Walleigh
Acting Deputy Director
National Bureau of Standards

It's a pleasure for me to welcome this group to the National Bureau of Standards. NBS has joined with the Federal Supply Service, The National Association of State Purchasing Officials and The National Institute of Governmental Purchasing in sponsoring this, the fourth ETIP Procurement Symposium.

The NBS Experimental Technology Incentives Program (ETIP) was established to develop and test governmental policies that will provide incentives to the private sector of the economy to invest in innovation and technological change. In reality, what we are doing is attempting to stimulate a more rapid transfer of technology from the laboratory to the marketplace.

Our activities are carried out through four different program/policy areas: procurement, regulatory, civilian research and development, and economic assistance.

This Symposium is a product of the activities within the Procurement Programs area of ETIP which is headed by your Symposium Chairman, Joe Berke. And Joe, I must tell you that I am very pleased to be able to welcome this group because of my long interest in the field of procurement. For 21 years I served as the Associate Director for Administration. In this capacity I managed the procurement of a wide variety of products for the Bureau.

As a result of that experience, I can attest to the validity of your Symposium title: "Communicating for Product Improvement." It is my feeling that open communication between government buyers and private sellers is the key factor in

any successful interaction. And with improved communications should come improved products.

As you discuss possible resources for the development of the communication system, let me mention several on-going NBS activities that could be of use to you. Within our Center for Consumer Product Technology we have an Energy Conservation Labeling Program, in cooperation with FEA, which is intended to develop test methods for measuring performance of appliances in terms of energy efficiency or the amount of energy required to accomplish a specific function.

Also within the Center for Consumer Product Technology we have a Law Enforcement Standards Laboratory which is developing equipment performance standards and procurement guidelines which are then adopted by the Department of Justice to help local governments and police departments in making cost-effective equipment procurement decisions.

We have a Standards Application and Analysis Division, within the Institute for Applied Technology, whose goals include:

- To assist in maintaining uniform weights and measures regulations and procedures throughout the U.S.;
- To provide information on domestic and international standards and to assist in the development of needed voluntary product standards;
- To assist laboratories in developing criteria and procedures for testing materials and products; and
- To develop a system for accrediting testing laboratories in the U.S.

Our Standards Information Service operates as a general clearinghouse. During Fiscal Year 1975, we added 8,200 standards to our data base bringing the total to over 200,000 standards published by more than 500 domestic, foreign and international standards organizations. We share this information resource with scientists, government agencies, representatives of industry and the public.

Many NBS activities are active, ongoing resources which can be used in developing the communication system for improved product performance. I do not want to take up your time by detailing these various programs here. Instead, I shall suggest that if you do want more material -- see your Symposium Chairman, Joe Berke.

This morning I have the double pleasure of both welcoming you and introducing your first speaker. Wallace H. Robinson,

Jr., was appointed Commissioner of the Federal Supply Service of the General Services Administration in February of 1976. His organization is responsible for providing nearly $3 billion worth of goods and services annually to more than 40 Federal agencies.

A retired Marine Corps Lieutenant General, he spent five years as Director of the Defense Supply Agency with responsibility for providing logistic support to military services worldwide. During the 35 years General Robinson served in the Marine Corps, he held many top level command and staff positions, including assignments as Command General of the worldwide inventory control point for the Marine Corps and Quartermaster General of the Marine Corps.

May I present General Wallace H. Robinson.

General Wallace H. Robinson, Jr.
Commissioner
Federal Supply Service
General Services Administration

Thank you very much, Mr. Walleigh.

Ladies and gentlemen, I am very happy to be able to assist in kicking off this meeting of the next two days and have the opportunity to speak to all of you on the Federal Supply Service role in the ETIP program. This is the third procurement symposium that the Federal Supply Service has co-sponsored since our long association with ETIP. The first was held in May of 1974 and it was quite successful. In January of 1975, along with ETIP, NASPO and NIGP, we co-sponsored another symposium. I would like to assure you that the recommendations and ideas that come out of these meetings result in a great deal of action in the Federal Supply Service. They have contributed to improving our mission accomplishment and, of course, this is a basic objective of the Experimental Technology Incentives Program -- improvement.

ETIP means to discover appropriate government policies and practices which could stimulate the development, application, and transfer of science and technology to strengthen this country's economy and improve the quality of life of our citizens. In other words, it is a vehicle for testing government procurement in an attempt to stimulate product improvement and for using government procurement to effect product improvement in the consumer area.

The success of this experiment depends on many things, but certainly one of the most important is the theme of this meeting today and tomorrow, the establishing of a continuing dialogue between private industry and government agencies on the ways and means of product improvement. In the next two days you will actively participate through the workshops in this exchange. I hope that from this experience you will see why we in the Federal Supply Service view these symposiums as not merely a two-day-gathering, but as useful and valuable tools for stimulating improvement and constructive change for the longer term.

In the package that was handed out today, there is included a document entitled "Report on the Federal Supply Service Responses to ETIP Symposium Recommendations." A total of fifty-three recommendations have come out of these symposiums and are included in the report. Twenty-seven recommendations in the procurement area, fifteen in standards and specifications, nine in communications, and two in organization. Each of the recommendations was carefully assessed by the Federal Supply Service and while we did not totally agree with all of the recommendations, we have implemented many of the recommendations and most of the recommendations we agree fully with. And so, this morning I would like to report briefly on some of the actions we have taken as illustrative of our part in this program.

One recommendation was to adopt the use of life cycle costing. We've made substantial progress in this regard in the Federal Supply Service. Procurements on a life cycle cost basis have been made on air conditioners, water heaters, refrigerator-freezers, gas and electric ranges, and high speed printer ribbons. In the most recent award for refrigerator-freezers, we estimate that the use of the life cycle costing technique results in savings of nearly a half-million dollars and an energy saving of nearly 25 percent over the fifteen year product life. I personally believe that, in the long run, the energy saving aspect of this program is more valuable than the dollar saving.

Another part of our life cycle costing program is training. We have developed a week-long training course in life cycle costing techniques and this course is also available to state and local government personnel as well as to Federal personnel. In fiscal year 1976 we taught fourteen courses around the country and for 1977 we have planned fourteen more courses. The location of the courses is available to you.

We are very enthusiastic about life cycle costing. Not only because it means the government is buying a better product but also because industry is experiencing some valuable spin-off which is a direct objective of the program. In the case

of one company, for example, because of a life cycle procurement made on water heaters, that company was able to offer for the first time in the United States an energy cost-efficient water heater they had long sold in Europe, where energy costs have always been much higher. With examples like this, and there are others, we plan to add more procurements under life cycle concept to our list of successful application of this procedure in the very near future.

Another recommendation from the report dealt with organization. Specifically, a recommendation was made to establish a market research group within the Federal Supply Service. I think it has been stated many times that the Federal Supply Service and I am sure state and local government agencies, cannot embark on a program of procurement of items unless these items are desired and needed by the customer. And so, a market research group within the Federal Supply Service, among its other duties, is commissioned to find new products, new demands, from the federal agencies to which we can apply the life cycle techniques and which we can include in our ETIP program. The market research division is headed by an Assistant Commissioner, Mr. Don Mitchell in the Federal Supply Service, directly supervised by Mr. Peter Boulay. The Division is divided into three branches, a Marketing Branch, a Market Research Branch, and a Supply Catalog Branch. I would invite anyone who is interested to contact these individuals to see what they are finding out that the Federal sector requires in the way of equipment and supplies to which we can apply these concepts. This unit has been formed and is working full time on market research, trying to find out what Federal agencies need and how best we can provide these items.

A second significant change which came out of one of these meetings was the creation of the Experimental Technology Division in the Federal Supply Service. One of the most important reponsibilities of this group of course is to manage and coordinate all of the ETIP projects that are under way in the Federal Supply Service or which are being planned for the Federal Supply Service.

Another recommendation concerned using value incentive clauses. The Federal Supply Service now includes a value incentive clause in all supply contracts over $100,000 in value which involve some type of specification. The clause allows a contractor to share in procurement cost savings realized through implementation of his value change proposal. In other words, if a contractor comes up with an idea to provide you with a product of equal quality that will perform the job desired by changing some part of the specification by changing some of the methods that he uses or in some other way then

he is permitted to share in whatever savings are achieved. This clause even allows for savings if the cost of the item goes up, provided the life cycle costs are reduced. One of the approved value change proposals on household shipping containers resulted in a savings of over $7 million in the ten-year time frame computed.

Another recommendation was to make maximum possible use of performance specifications. We are doing this at every opportunity. Our newest ETIP project on upholstered furniture, for example, strives to develop performance-type specifications in an area which has been traditionally oriented towards design specifications.

There also has been indicated in prior meetings a substantial interest in the use of multiple awards. During the period from July of 1974 to the end of December in 1975, fifteen new multiple award schedules were added to the program covering items such as storage cabinets, water purification equipment and paint.

Regarding organization, again, there was a recommendation to improve our laboratory testing facilities. In order to improve utilization of equipment and facilities we have now centralized much of our laboratory capability. For example, paint testing is now done in New York, Fort Worth and Auburn, Washington. Testing on hand tools is done exclusively in Kansas City.

Another recommendation dealt with improving the effectiveness of communications by using trade journals more frequently. At the Federal Supply Service we have developed articles which have appeared in many trade publications including Chemical Marketing Reporter, Air Conditioning News, and Modern Floor Covering.

While this Conference is on the subject of communications, I think that numerous recommendations would be welcome relative to how better we can publicize our efforts in life cycle costing. Aside from the training class I referred to earlier, we have made available case study documentations of actual LCC procurement. I am sure many of you know what these look like. But every life cycle cost ETIP project that we undertake ends up with a case study and these case histories start out with the background selection of the item, computations relative to energy savings and so forth. These would be excellent documents to use as a basis for understanding how this program works in the Federal Supply Service.

We also had a recommendation to reorganize along a product-group concept. And so the Federal Supply Service has responded here also. We have now established what is known as National

Commodity Centers--in furniture, in automotive products, and in tools. These centers bring together specification, procurement and inventory management personnel under a common manager and provide a concentrated focus for commodity management. We have an initiative underway to continue with this concept and this plan will be announced within the next few months.

I could go on for the report, as I said, had many, many recommendations. I think that, however, we should begin the symposium and many of the efforts that the Federal Supply Service has underway as a result of prior meetings will be made known to you then. I hope that just as many recommendations come out of this meeting. I would like to mention one other item. That is the Product Improvement Intervention System, which is known as PRIM. This is a system designed for the Federal Supply Service for actively soliciting, evaluating, and implementing ideas for product improvement. Many of the concepts which are scheduled to be discussed in the next two days were developed for PRIM.

I again want to assure you that the Federal Supply Service not only totally believes in the ETIP program but we are completely devoted to attaining the objectives and to making the ETIP program work and spread. I would hope that ETIP, as a program, perhaps some day can be dissolved and the ETIP concepts and procedures can become standard operating procedure. Our participation and involvement have produced both measurable and un-measurable results, with many benefits. I am sure that ETIP can be responsible for fostering a climate that is conducive to creativity, innovation and constructive change.

I certainly hope you find this symposium rewarding and would like to see you top the number of recommendations that come out of this one over the previous ones. I thank you very much for allowing me to come here to give you a brief report on what has come out of these meetings in the past and also for the Federal Supply Service and the General Services Administration to participate in the sponsoring of this program.

Daniel S. Wilson
Special Assistant to the Administrator
Office of Federal Procurement Policy
Office of Management and Budget

Good morning. Just to get a slight feel for the audience, could you in industry raise your hands so that I can get an idea of how many of you are here? Government? Other non-government? Well, I too have a couple of challenges to

present to you before the end of my short address. You know what a short address is? It's like a dress--long enough to cover the vital points but short enough to stimulate interest! I hope I can stimulate your interest in the area of acquisition of commercial products. I thank you for the opportunity to make this presentation and also, on behalf of Honorable Hugh E. Witt, the Administrator for Federal Procurement Policy, Office of Management and Budget.

Several months ago, May 24, 1976, to be exact, the Administrator for Federal Procurement Policy issued a policy on the acquisition of commercial products. Coincident with the policy he established an inter-agency steering group to develop implementation procedures. Briefly, I'll quote the policy and give you an idea of our thinking and of our plans:

> "The Government will purchase commercial, off-the-shelf products, when such products will adequately serve the Government's requirements, provided such products have an established commercial market acceptability. The Government will utilize commercial distribution channels in supplying commercial products to the user."

This is a horrendous undertaking that is very complex, but it's one that we should be optimistic about in accomplishing a successful implementation. We should take this big step because one is indicated. After all you can't cross a chasm in two small jumps. So it's big! The interagency steering group has been working since last June to find a way to start this program. The group's labors are approaching fruition.

First of all we are selecting items that are in stock, that have Government specifications, and have a sufficient volume to make it worthwhile to analyze. We are also working on some guidelines to issue to the various agencies to promote coordinated analysis; i.e., the Department of Defense, General Services Administration and the Veterans Administration. We expect to complete the work on the guidance and the items within the next couple of weeks so that we can start the planning and analysis phase of implementing the policy.

Just to give you an idea of what we are talking about as far as guidance is concerned. To begin with, we have to be user oriented. After all, if we didn't have a user we wouldn't have a customer and we wouldn't be here. So, we want to be as least disruptive to the user as possible. Hence, the user continues to work through his existing mechanisms until such time as improvements are forthcoming. Also, contracting offices will continue to work with existing mechanisms --

with their procedures, regulations and statutes, and so forth, until such time as we can direct innovative improvements.

Consistent with the theme of your symposium and workshops is the idea of communication. We have to find the way to develop realistic requirements from the standpoint of the user and communicate those requirements to the manufacturing source. This is a challenge! Whenever feasible, if we purchase, for example, an item of equipment, we ought to include support by the source. If we can get a source that will also furnish the support, with a distribution system to do so including maintenance support, then there is little need to stock that item in the depot system. This is a thought which must be communicated.

The guidance document points out that centrally managed supply systems will continue to function as they do today but with increased management attention to the commercial product acquisition policy. In this respect, warehouse inventories will have to be examined by management for non-disruptive phaseout. In addition, large volume procurements may require improved mechanisms for obtaining volume discounts. In other words, we can still manage an item but not have that item in the Government depot system since we will be using a commercial distribution source.

One of the key areas that we feel will grow of necessity is marketing research in gathering data on products to include quality, prices, producers, distribution channels and equitable formula for determining qualified products. Also, we must improve the management of warranties. Too many times a warranty has expired by the time it gets to the user because it has been sitting on a shelf somewhere.

One of the other key areas on which guidance is being given is specifications. Why key? We hear people say that "your main objective is to eliminate Federal specifications." That's hogwash! We're not attempting to eliminate Federal specifications. We are striving to eliminate those unnecessary and/or overly stringent Federal specifications that are preventing effective competition of commercial products. Also, the elimination of the "hodge-podge" type specification that takes a few characteristics from different types of products and merges them into a specification the likes of which restrict competition because commercial sources marketing the item won't bid. We have to develop the way to ask for the item from industry in language that industry knows. So how do we do that? This is something we will have to be examining in considerable detail for it will require a closer interface among requirements developers, specification writers, and the private sector.

As far as the policy is concerned, Government specifications which unnecessarily fragment features of market accepted commercial products and thereby create a commercial type item are not acceptable. Therefore, we must determine simply, how to ask for a commercial product without the embellishment that makes it lose its commercial identity. Generally, we found in many cases, that a major part of a specification is in the packaging of the item, primarily for stockage purposes.

We have received severe criticism from some circles regarding the volumes of pages in Government specifications. For example, the Lord's Prayer contains 56 words, Lincoln's Gettysburg Address contains 256 words, and the Declaration of Independence contains 3,000 words. Yet there is a Government regulation on the sale of cabbage that contains a total of 26,911 words. I don't want to be overly critical of the people who are working in the system, but we really don't need a specification that is 21 pages long for a T-shirt that we can buy commercially, or a 23-page specification for pencil sharpeners. Again, this is not to criticize the people who are working on specifications because the system under which we work has promoted the way we do things today. As you know, we have a statute that says that the preferred method of procurement is formal advertising and that statute also promotes the fact that in order to formally advertise you have to have a definitive specification and this increases competition but it doesn't always. We can go on and on into others but a quote by Mark Twain amply expresses our thinking relative to our inflexibility -- "loyalty to petrified opinions never yet broke a chain or freed a human soul in this world and never will." This is true when you think about it. We must become more progressive in finding that simple method in describing a commercial item -- in the language that industry understands. In other words, let go of the old traditions.

Actually, the procurement process also has to be thoroughly examined to develop more flexibility than we have currently, in the procurement of a commercial product. Do we need today's volume of paper work -- that big procurement package -- when, undoubtedly, there is a simpler way. This may require a change in the statutes or changes to regulations or procedures or even our thinking! We've got to think commercial if we want to buy commercial products through other than the staid old Government practices. If this has to be done appropriate action will be taken.

The ultimate goal of implementation will be reached through extensive analyses and recommendations by the operations people who are working in the functional groupings being examined. Let me give you an idea of some of the items, areas and functions referred to in the guidance document:

first of all, requirements forecast planning, very important, this runs in line with your communications theme to the contracting sources; commercial distribution channels, we don't know what these are at this particular stage for all the items involved, we do know the various sources have different types of distribution channels, some have a corporate channel, some have independent distributors and wholesalers of which there are thousands all over the country, and there are those producers sans distributor outlets; how to obtain accurate demand data for maximum fill; very important, marketing research, so we can search out the products that are essential to the user need; the transition and draw down of inventories, at what point is it economical to do this, we have billions of dollars in inventory which makes it impossible to turn off a faucet and say forget about it, we're going on to the new; what's the optimum procurement methodology that we can apply to this big maze; and of course, specifications. Not to be forgotten is the impact on blind and other severely handicapped-made products, prison-made products, labor surplus area set asides, small business, and so forth.

We also have to determine the constraints that are opposing the implementation of this policy. These constraints could be a regulation, a policy, a procedure, could be anything. We've got to examine these constraints so that we can either make the change or effect the start of a change. Even something that's apparently simple but may not be so, how do we pay for an item that we get through a commercial distribution channel. Method of billing and payment becomes very important. The procurement data that we have to create and get out of this entire mass of information that has to be developed is very important. These are just a few of the things that we have to analyze. We shall carry on these analyses, perhaps, for the next six months so that we can develop some patterns that will aid in developing procedural changes that will expand the implementation of the policy.

I had mentioned earlier that I had several challenges to the Government and to the private sector.

Challenges to the Federal Government are: (1) to develop the realistic requirements leaning toward commercial products wherever appropriate; (2) eliminate the burdensome and obsolete Federal specifications and build a bank of descriptions with an update system that makes it easy to buy commercial products competitively; (3) simplify the procurement of commercial products, and (4) draw down the inventories of commercial products in favor of direct commercial distribution and support to the user.

Some of the challenges to the commercial sector are: (1) contribute to the building and sustaining in the Government of a current bank of commercial descriptions that promote buying commercial products competitively; (2) feed us ideas on how to simplify the procurement process for commercial products, and (3) determine your potential for direct distribution and support, as appropriate, of the user requirements for commercial products that are centrally managed and bought in bulk.

What we are looking for is innovation and the modernization of hide bound customs and traditions in the way we buy and also in the way we distribute and support commercial products.

Let me leave you with this thought best expressed by Stephen Grellet -- a French born Quaker who died in New Jersey in 1855 --

> "I shall pass through this world but once. Any good that I can do, or any kindness that I can show as a human being, let me do it now and not defer it, for I shall not pass this way again."

Let's substitute, as appropriate, the word "opportunity" -- the OFPP policy passes to us, the manager, the "opportunity" to improve through creative and innovative approaches the way we buy and supply commercial products. Let us not defer this "opportunity," for technology does not wait for us to get the best from it. It might pass us by! Thank you.

PRoduct IMprovement Intervention System (PRIM)

Charles Gularson
President
Professional Associates of Organization Science

Introduction

It is a privilege to be addressing this symposium. I think I have one of the most challenging tasks today -- I have to take these two 500 page GSA manuals which contain the operating instructions for the GSA Product Improvement Intervention System (PRIM), and present an overview of that system in the next fifteen minutes. In the workshops today we will discuss the PRIM System in greater detail and describe how the PRIM System actually operates. However, my purpose here is to give you a brief overview of the PRIM System and expose you to the concept.

I don't think I've ever heard a good new product story, but Johnny Carson happened to mention an article in the paper last night. The article read like this: It was announced that a manufacturer had come up with a great new product idea: An all electric four door sedan for $700.00. However, the clincher was the last line. It said, as an option, you could purchase the plug and cord for $20,000.

One of the most challenging aspects in communicating product improvement ideas is the identification of valid product improvements and new product ideas. We are going to discuss communicating product improvement ideas and needs through the PRIM System. We purposely added the word needs because there are two aspects to any kind of a product idea system. You not only have to identify the ideas, but as it was mentioned by both General Robinson and Dan Wilson today, you must also be able to identify the client's needs. Then you need to match up your product improvement ideas with those client needs to have a meaningful impact on the market.

During the next few minutes, I am going to discuss the evolution of the PRIM process, the basic objectives behind the PRIM System, and the operational components of the System. My emphasis will be on both product improvement ideas and the identification of client needs using the PRIM System.

Evolution of the PRIM System

The evolution of the PRIM System was mentioned in several previous speeches. The need for the system evolved from the President's 1972 message on Science and Technology. That message addressed the use of government procurement and purchasing power to improve technology and then transfer that technology into the marketplace. This lead to the formation of the Experimental Technology Incentives Program (ETIP) within the National Bureau of Standards (NBS). This group was charged with supplementing the President's message.

ETIP has sponsored various experiments, including hot water heaters, air conditioners, etc. It soon became apparent that a logical process to systematically and continuously review and screen product improvement ideas for potential ETIP experiments was needed. The Federal Supply Service (FSS) was selected as the lead agency to systematize the process of identifying product improvement ideas. Federal Supply Service then contracted ORSA, Professional Association of Organization Science (PASO) (of which I am the President), the Gallup organizations, and the Battelle Memorial Institute to design a system to simulate technological transfer through the use of government procurement methods.

Objectives of the PRIM System

The first task was to define the objectives of the System. All the concepts in the world are meaningless unless the operational elements are clearly defined. The main objective of the PRIM System was to facilitate technological transfer. But how do we handle new ideas? How do we put these ideas into effect (an example being the hot water heater)? Exactly, how do we transfer that technology out into the marketplace? In other words, how do you best implement the new idea so as to make it operational, ultimately getting it back into the common marketplace? The system had to address this objective during its design.

The second objective evolved during the conduct of the project. The objective was to assist the FSS in expanding identification of needs in user agencies. For a product improvement system to be meaningful and operational, some standard operating procedure must be developed to meet the objectives of the host agency. Whether it be a state agency, a local school board, or in the case of the design of this system, the Federal Supply Service. The main objective we had in mind was not only the potential for technological transfer, but a system that would assist the Federal Supply Service in expanding identification of the needs of the user agencies. As procurement people you can appreciate how key this is. You have to be exposed to the clients' needs and specifically identify these needs within the agencies. Then, you match up the various product improvement ideas to meet those needs. If you satisfy your user agencies, then you start to increase your sales and you start becoming a more beneficial procurement operation. Therefore, identification of the needs of FSS user agencies became the key objective to meet in the design of the system.

Operation of the PRIM System

One of the purposes of this seminar today is to discuss how we can better communicate product improvement ideas to one another. (Exhibit I summarizes the concept for improving the communications of product improvement ideas). In the normal system, most of the communication of product improvement ideas and government needs occurs between the marketeer from the industry and the procurement officer within the government. The industry salesman approaches the government procurement officer and says, "I have a brand new product idea that I want to market to you, do you have a need for it?" The procurement officer in return says, "these are my agency needs. These are some of the needs that I have and that have been communicated to me from other Federal agencies."

COMPARISON OF CURRENT AND PRIM PRODUCT IMPROVEMENT APPROACHES TO PROCUREMENT

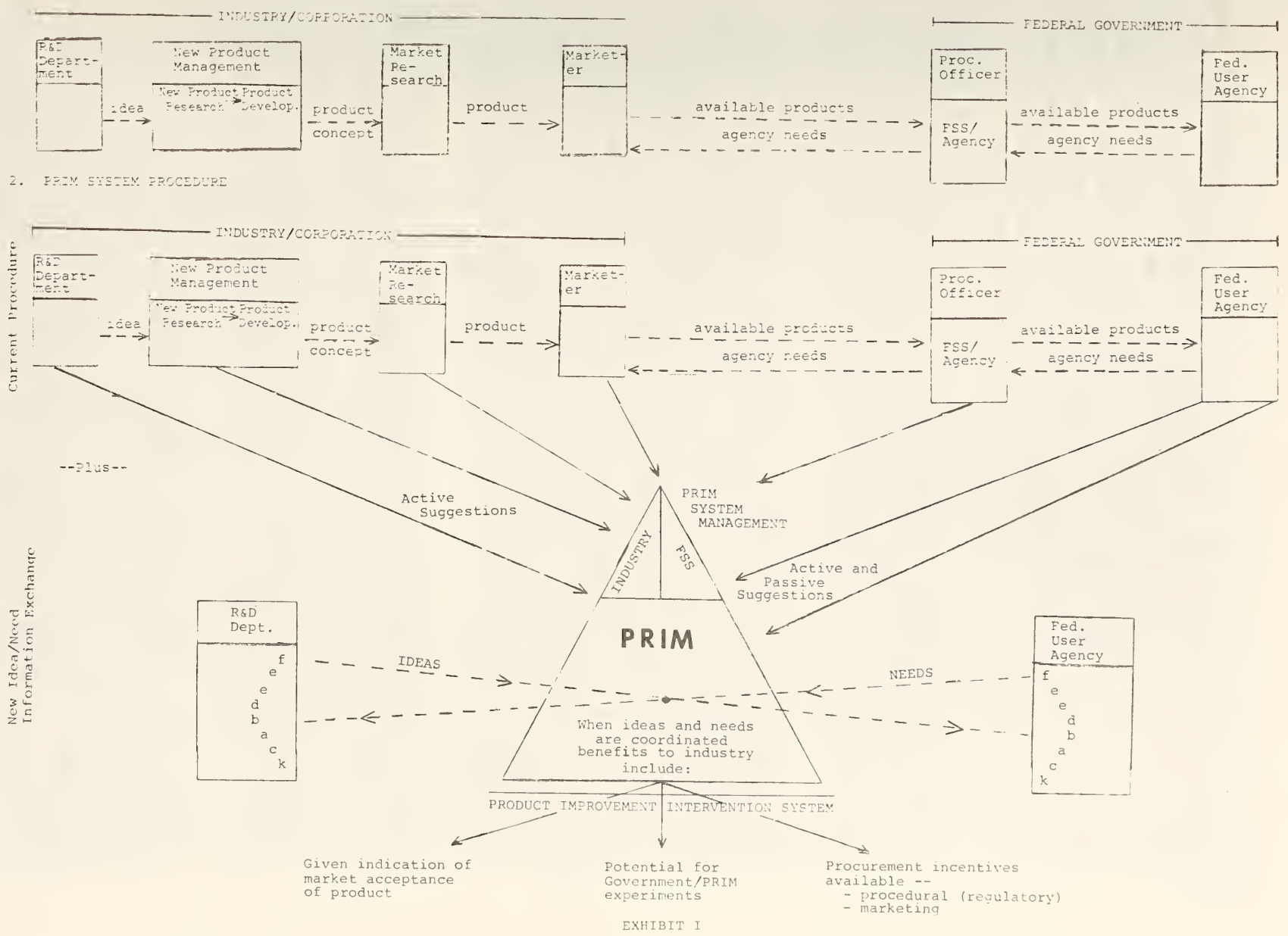

EXHIBIT I

Now, how does the marketeer get his product improvement ideas? Usually these ideas are formed in the research and development department. The manufacturer then takes the idea into the new product management department within the corporation. There is new product research. The next evolution of the idea in the corporation goes to product development. Then the product concept goes to market research. From the market research arm of a corporation it goes to the marketeer who presents the idea to the government procurement officer. This is the way the communication network operates.

One of the fundamental things we tried to do in PRIM is to answer the question, "How can we expand and supplement the communication of product improvement ideas?" As I said, I won't get into the details of PRIM until we get into the workshops but I can give you an overview of the system with regard to how we have expanded this communication process.

The current communication process will always continue and must continue. PRIM does not interfere with the existing communication channels. Rather, PRIM was designed to supplement it. What we have tried to do in communicating product improvement ideas is to get industry and Federal Supply Service people communicating more frequently and quickening the pace of communication through PRIM. In this way R&D departments can communicate directly into the PRIM System, as can new product departments, marketeers, and the market research department. Within the Federal Government, the procurement officers can communicate directly with the Federal agencies. Through this process, we can get key industry new products people communicating directly to the Federal user through PRIM.

Frankly, I've been quite simplistic in this discussion. The size of the PRIM operating manuals indicates that it is a much more involved process than has been described here.

The main point we wanted to leave with you today is that through the PRIM System, we are centralizing and systematizing the communication of product ideas while centralizing the identification of user needs. The faster we get the right people communicating, the faster the Federal Supply Service can increase their sales and achieve one of their primary objectives -- meeting user agency needs.

Results of the Field Test of Prim

Your next question might be: "Does It Work?" "Is it Operational?" In order to refine the concepts that Gallup, Battelle and PAOS have developed, we conducted a field test of the PRIM System using power hand tools. The first step

was to identify sources of new product ideas. These included internal FSS sources, sources in other Federal agencies, and various external sources. With the help of the Gallup organization, we designed a sampling technique including over 700 idea sources. We then sent letters requesting the sources provide us with any ideas on power hand tools. In other words we were actively, through the PRIM System, taking the initiative to stimulate product improvement ideas. We were not merely passively waiting for ideas to come in.

We expected to get about 30 ideas based on normal mail sampling results of three to four percent. We finished the field test with fifty healthy ideas from both government and industry. For example, we received a need request from a man working on an assembly line in a large Fortune 500 company who stated that there was a need for a power hand drill that could do a specific function because there is nothing available on the market. Another idea had to do with a need for a special drill to facilitate working on various government construction sites. We had ideas for specific tools drawn on the back of the survey form, complete with sketches of not only what was needed, but how the suggestor thought it should be put together. So, when I say fifty ideas I'm not talking about a superficial return of forms. I'm talking about real, hard returns and with good ideas.

The PRIM System does more than merely solicit ideas and needs. It also screens and evaluates these ideas to identify those with the best potential. All of the ideas we received went through a screening process designed by Battelle and PAOS. Three were identified as being potential candidates for ETIP experiments.

As in any screening process, you can only go so far with a mechanistic system. To be effective you must get into the management decision-making aspect. As you know, procurement is a very complex area. It takes detailed knowledge not only in procurement but in marketing and specification; the various major elements involved in the Assistant Commissioner's level of Federal Supply Service. Through the process of management review two ideas were selected for development into ETIP procurement projects.

I can't relate at this time what those final ideas were, but I can tell you that they are fascinating. One of the most recent ideas solicited by PRIM is going through the screening process right now. It is a power hand drill that has a cone shaped nozzle to be slipped over the drill bit. The cone is made of a collapsible clear plastic. When you drill into some material, this nozzle catches all the droppings, be they wood or metal. Hence, the work area is

cleaner and safer. Just a little collapsible cone on the front of the drill. Those are the type of ideas we are getting in. We haven't put this idea entirely through the system as yet to see the pragmatics of being able to market that particular idea, but our initial review has been very favorable.

Several other by-products came out of the field test. We spoke with several industry people and they've become excited enough about PRIM that they are contemplating shifting the field testing of several new product lines from Europe to the United States. These multi-national companies initially wanted to go to Europe because they felt the European governments are a bit more cooperative in the field testing of new products. We said no, that's not the way it is any more. The United States Government is taking a lead in field testing. Would you be interested in conducting your field test here? They said, "Wow, that's really great, but we need a few more facts before we can commit ourselves. We do want to sit down and talk."

I wanted to take the time to go through this illustration of some field test results to show you PRIM's capabilities. The system is not completed yet. We are still field testing and we are still refining. And, there are still problems that we have to overcome. However, the results of the field tests are highly encouraging.

Summary

In summary, we discussed how the PRIM System evolved from the President's message of 1972. We discussed how the PRIM System was spurred by ETIP and how it was developed in conjunction with FSS to meet the dual objectives of technological transfer and expanding the identification of FSS user agency needs. We can get an idea into the Federal Supply Service that has all the potential of transferring technology but if the Federal Supply Service doesn't buy it, the idea is in the wrong agency. The first thing we did was to try to meet the objectives of the Federal Supply Service. If we can also transfer technology, all the better. We've met the objective of the study. In summary, the PRIM system is evolving to be a basic link between the user product needs of the various agencies and the industry product development capabilities. This is PRIM, it is an alternative that is being presented to you today to expose you to what is being done at the Federal level. Through your comments over the next two days, the Federal Supply Service will be able to refine this sytem and improve its operation. Another by-product of this symposium would be to help the state and local agencies learn about the PRIM System so that it can be put into effect at the state level.

WORKSHOP TOPICS

The cycle of new product development begins with an idea. For that idea to have practical value, it must be translated into product specifications. And before that product can be developed, it must first be deemed marketable.

This, then, is the process three of the Symposium workshops examined. How can Federal, State and local government agencies work in conjunction with industry to (1) stimulate new product ideas; (2) evaluate those ideas; and (3) provide a market for the resultant new product? The fourth Workshop looked at the the complementary role of the professional or trade association in this same process.

The Workshops were designed as forums for free and open discussion. Since chairpersons and co-chairpersons were drawn from Federal, State and local government, as well as from industry, it was hoped that a broad spectrum of opinions would be represented in each group. At the conclusion of the Symposium, the chairperson of each Workshop prepared the reports which begin on page 25, reflecting the conclusions and recommendations voiced by participants for presentation to the Symposium as a whole. Following are the Workshop objectives as set forth in the Symposium brochure.

Workshop 1: Product Improvement System. The government purchasing officer is often the focus of communication from both user agencies demanding new or improved products and manufacturers attempting to sell product innovations.

This Workshop will examine the ways in which the purchasing office serves as a conduit between governmental customers and private industry. It will also suggest means of enlarging this role to stimulate new product development. For example, the program will demonstrate ways of identifying actual users of specific products and obtaining product quality feedback from these users. It will look at trade shows, association seminars and industry exhibitions as a means of keeping abreast of changes in the marketplace. And, it will examine the barriers encountered by contractors who solicit new product ideas from the governmental customers.

Participants will be encouraged to take a broad look at the methods of soliciting innovative product ideas to determine:

- What product categories are the best candidates for improvement.
- What is the feasibility of inviting product suggestions from general consumers as well as governmental users; and

- What, if any, screening process should be used to evaluate ideas?

Workshop 2: User Need and Industry Response. Once a product need has been identified, it is necessary to draw some parameters around it to enable industry to make an appropriate response. The task will be the focus of this Workshop.

Specifically, the program will follow an innovation from need perception through finished product. The process involves two basic steps.

First, the need must be translated into a statement of product requirements. This would include the level of performance the product would be expected to attain, safety and efficacy tests it would be required to meet, the probable scope of the product's use and its estimated procurement volume.

Secondly, there must be a means of evaluating industry response to these requirements. Since industry proposals may involve products in three distinct phases of marketing -- (1) items currently available on the commercial market; (2) items in advanced stages of development or pre-market testing; (3) engineering proposals or plans to develop new items -- testing and evaluation procedures appropriate for each condition will be examined separately in the Workshop.

Some topics for consideration would include:

- The adequacy of available test methods to measure improvement in the product.
- Cost and time necessary for objective testing vs. subjective testing.
- Criteria for evaluating test methods.
- Composition of test panels.
- When, where and how of field testing, prototype testing.

Special consideration will be given to organizing for effective performance, particularly at the state and local levels where the procurement process is highly fragmented. Current and potential capability of existing organizations will be considered along with alternative methods.

Workshop 3: Procurement Incentives and Techniques. An essential element in the product improvement process is the use of procurement incentives by government purchasing offices to stimulate suppliers to offer new products. The traditional

method of awarding supply contracts on the basis of low price bids tends to discourage product innovation, while procurement incentives such as life cycle costing, performance specifications and value incentive provisions can reward suppliers for product improvement.

This Workshop will first deal with a comprehensive review of existing incentive techniques and then develop a framework for the selection and use of the different incentives. Included in this discussion will be a brief review of the incentives used thus far in ETIP sponsored projects and supplier reaction to these incentives.

Workshop 4: Role of Professional Organizations. There is increasing evidence that trade associations, professional associations, regulatory and licensing groups and public interest groups play an important role in the innovation process at the Federal, State and local levels of government.

One area of increasing importance is the role of these associations and groups in the procurement process, including the identification of product needs, research and development, commercialization of an innovation and the problems of getting a new product onto the market.

This Workshop will examine the part professional organizations play:

- In the development of purchase specifications.
- As a conduit between industrial R&D and the governmental marketplace.
- As a participant in the design, development and use of new procurement incentives for the process.

WORKSHOP REPORTS

1. PRODUCT IMPROVEMENT SYSTEM

Co-chairpersons: Peter C. Boulay
Director, Market Research and Marketing Division
Federal Supply Service
General Services Administration

Charles H. Gularson
President, Professional Associates of Organization Science

2. USER NEED AND INDUSTRY RESPONSE

Co-chairpersons: Allan Beres
Value Management Division
Federal Supply Service
General Services Administration

Charles Travis
Consultant, Experimental Technology Incentives Program
National Bureau of Standards

3. PROCUREMENT INCENTIVES AND TECHNIQUES

Co-chairpersons: Einar Windingland
Procurement Policy Division
Federal Supply Service
General Services Administration

Keith Wardell
Professional Associates of Organization Science

4. THE ROLE OF PROFESSIONAL ORGANIZATIONS

Co-chairpersons: J. David Roessner
Division of Policy Research and Analysis
National Science Foundation

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Workshop 1
PRODUCT IMPROVEMENT SYSTEM

The goal of the Product Improvement System Workshop, as set by the symposium designers, was to suggest methods by which government procurement officers and representatives of industry can work together in improving products. Among the specific problems cited in the symposium agenda were: how does the government purchasing officer bridge the gap between government end users and industry? How can this role be expanded, particularly in regard to product line improvement? How does government obtain product improvement ideas from end users and how does it evaluate such ideas? What process can be used to assure proper handling of new/improved product ideas and to stimulate industry to produce to fill the government need?

Inasmuch as the Product Improvement System Workshop chairpersons were the designers of a system--the Product Improvement Intervention System, PRIM-- for accomplishing these purposes, the Workshop centered its discussion on PRIM. Participants included, besides the chairpersons, 13 representatives of industry or consulting firms, two representatives of state or local governments, and seven representatives of the federal government.

Overview of the PRIM System

The PRIM system was summarized in this manner:

The two objectives of the PRIM system are: (1) to provide new and improved products to the FSS $3 billion annual market represented by government agencies buying centrally; and (2) to encourage growth and the economic vigor of the private sector firms that offer these products to Federal Supply.

The PRIM System is based on innovation theory, diffusion theory of new ideas, concepts and products, and technology-transfer theory. The system assumes that incentives can be provided across a wide range of product development activities involving innovation, diffusion, and technology-transfer. It also assumes that these incentives can be tailored to assist and encourage private sector firms to emphsize these areas.

Four subsystems comprise the PRIM System: (1) the Suggestion Subsystem; (2) the Procurement Techniques Subsystem; (3) the Implementation Subsystem; and (4) the Assessment Subsystem.

The Suggestion Subsystem is designed to elicit ideas for needed new products and product improvements from a variety of sources. These suggestions are solicited in areas determined by Federal Supply management. Methods of soliciting ideas include distri-

bution of product idea kits, sponsorship of product improvement and procurement technique seminars, and surveying customers and potential customers. A series of screening criteria are used to narrow the suggestions to those most likely to prove successful.

The Procurement Techniques Subsystem is intended to provide proven procurement techniques for spurring innovation, new technology, technology transfer, new product development, and product improvements. The subsystem also provides for developing new procurement techniques, or combinations of techniques. Some will serve particular product or commodity areas while others may serve particular types of present or prospective suppliers (e.g., small or minority businesses). This subsystem matches procurement technique as an incentive to the particular product or commodity area selected for further development.

The Implementation Subsystem visualizes using the Federal Supply Service's buying power, marketing, communications and distribution system in experiments to help participating private sector firms test the demand for their new or improved products. This would be done by running experiments to test the demand for the product concept and delivery and its acceptability for use by Federal Supply's customer agencies.

The Assessment Subsystem provides for current-information feedback and evaluation of the success of the marketing experiment. Experiments, generally, run for one year. During this period, quarterly progress reports would be provided. A final evaluation report would be prepared at the conclusion of the experiment.

Discussion of the PRIM System

Participants in the Workshop generally discussed key points without direct reference to the PRIM system. That is, while we were aware of PRIM's existence, and of its general composition, we felt it was beneficial to arrive independently at answers to two of PRIM's general concerns: what criteria should be used in selecting products and product categories for intense product improvement efforts, and what criteria should be used in screening product improvement ideas submitted by government employees, industry or consumers generally?

Criteria for Selecting Product Categories

On the former question, participants agreed the key criteria for selecting product categories would include:

1. Environmental concerns. Selection of products whose technological improvements can fulfill national environmental priorities.

2. National energy goals which can be partially met by product improvement.

3. Improvement of safety features.

4. Potential for utilizing shifting trends in raw material sources, where such shifts represent potential energy or dollar savings, or better utilization of natural resources.

5. Management goals, such as better service, economy or efficiency, which can be met by improved products.

6. Product efficiency, maintainability and design.

It was recognized that the above list represented no specific order of priority, but that these criteria were among those that would have to be considered important to anyone concerned with product improvement.

Participants were aware that the PRIM list of product selection criteria went far beyond these major statements, in providing an exhaustive list of criteria. It was noted that the PRIM criteria were exhaustive in order to meet any contingency, but that many of these criteria would not be applicable in each attempt to select products for improvement.

Criteria for Screening Suggestions

Once ideas have been solicited, it is necessary to screen them. Two important considerations were discussed. First, of course, it is necessary to screen product improvement ideas systematically in order to select those that offer the best potential for meeting the criteria for a particular set of experiments. In addition, it was pointed out that screening can produce a desirable side-effect, namely, the systematic rejection of ideas with lower potential in such a manner that suggestors feel that their ideas were carefully considered and are inclined to participate in future calls for suggestions.

In order to screen ideas, the Workshop participants felt it was important to group suggestions into product or commodity categories and assemble qualified persons from product areas to consider them. Product ideas should be judged in terms of their operational effectiveness, cost effectiveness and user need. Once past these hurdles, the product idea must be for a realistic, producible product.

Other considerations include the product idea's relevance to one or more agencies, the need that can be demonstrated for such a product, and legal and safety requirements.

Recommendations

Having established these general criteria for product selection and screening, the Workshop offered two major recommendations in its concluding session:

1. That there be established in Federal Supply Service a separate entity with the precise purpose of: (a) stimulating new/improved product suggestions; (b) screening ideas; and (c) recommending new/improved product procurement experiments. Such an entity should identify and communicate with other technological and product improvement centers in the government. It should be fully supported, both in human and economic resources and should have top management support.

   It was felt that a three-year pilot test of such an office would provide adequate evaluation data. While Workshop participants did not favor mention of the PRIM System as the sole possibility for such an entity, it was clear that PRIM was an existing system fully capable of fulfilling the intent of this recommendation. At the time of the Workshop, PRIM had been completely designed, but not yet implemented.

2. That there be established as a result of the Symposium an implementation committee to evaluate each of the recommendations made in the final session by all the workshops. Such a committee should be composed of three representatives from industry or consulting firms and two representatives from government. The basis for this recommendation was the strong feeling that former Symposium recommendations had been monitored in a somewhat haphazard manner. In particular, agencies responsible for implementation of recommendations had been permitted to offer hazy general statements regarding their progress and this tended to obscure the implementation status. It was recommended that the implementation committee be responsible for:

   a. periodic review of all recommendations made at the 1976 Symposium.

   b. assignment of responsibility to specific agencies or individuals for implementation of all recommendations.

c. an evaluation of progress made and a formal report to the 1977 Symposium which critiques each responsible agency for its progress to date.

At the concluding session, the Symposium chairman, Mr. Joseph Berke, appointed Mr. Peter C. Boulay to establish and lead the implementation committee. However, in later private discussion Mr. Boulay indicated the intent of the Workshop was to provide an external source of evaluation and that his work in the design of the PRIM system ought to be a basis for eliminating him. Mr. Berke therefore agreed to appoint another person to set up and chair the implementation committee.

Workshop 2
USER NEED AND INDUSTRY RESPONSE

Workshop Objective

Once a product need has been identified, it is necessary to draw some parameters around it to enable industry to make an appropriate response. Specifically, this workshop was to examine the communications required between user and industry from the time of a user's perception of an innovation requirement through to the procurement of the finished product.

Scope

With the time constraint of the workshop, the scope was limited to the development of a framework to insure complete understanding between all parties: users, purchasing officers and manufacturers. Accurate and timely communications are essential to the success of the development and acquisition of product innovations.

Thus, the workshop did not delve into many of the technical aspects of the product innovation process, such as test methods, evaluation criteria, field testing, etc.

Assumptions

Before developing ideas and recommendations it was necessary to make some basic assumptions. There was a workshop consensus on three assumptions:

1. There is a need for product improvements;
2. User needs can be determined; and
3. Product improvements can be obtained from industry.

Recommended Framework for Communications

As a basis for an organized discussion, the focus was placed on the development of a framework for communications to result in product improvements. A series of action areas or sequential steps were identified as necessary to insure meaningful communications.

Step 1. Determine User Needs for Product Improvement

In order to determine these needs, the user must be informed that the governmental purchasing office is actively seeking his ideas for improved products to be used in accomplishing his job.

The following are some of the conditions on which users will express a desire for product improvement.

1. A need for a higher quality and reliability than that of the products to which he has been exposed.
2. A need for a higher quality and reliability than contained in any product in the market place.
3. A need for a functional characteristic that is not available in products to which he has been exposed.
4. A need for a functional characteristic that is not available in any product in the market place.
5. A need for an item to reliably perform a function at a lower cost (item price and oprating costs) than existing products.

Each of these and other possible conditions could require a different series of steps to be taken in the total communications process. For example, the need for an item to perform a new function could involve the evaluation of technical drawings and the acquisition and testing of prototypes.

Step 2. Describe User Needs in Terms of Function and Performance

The users' initial description of a need may be expressed generically, such as, a portable battery powered saw. This type of general description may be sufficient to initiate a query to industry to determine their interest. However, the more complete the description in terms of the required basic function, desired performance level and operating environment, the greater is the opportunity for an initial favorable response from industry.

The responsible public purchasing officials, including the specifications personnel, would be able to phrase the user requirements in functional terms and to ascertain the significant characteristics of his operating environment. Further clarification of the user needs would take place in Step 3.

Step 3. Communications Between Industry and Buyer

The manner in which this step is carried out will determine the success of the entire process. Naturally, there has always been some communication between industry and governmental purchasers in the procurement process. However, to achieve product improvement that satisfied both the functional and cost parameters of the user, great emphasis must be placed on roundtable type discussions among all the parties that could contribute, through brainstorming techniques, to the objective.

In addition to manufacturers who are potential bidders and the governmental purchaser, user and technical expert, other attendees should include representatives of the appropriate

trade associations and professional groups, and a member of an interested university laboratory and research facility. The objective of bringing together this talent is to clarify the user's functional and performance needs and then to establish a milestone plan to be followed in reaching the actual purchasing plateau.

Manufacturing representatives have stated that the best way to get new or improved products is to ask for them. This step is designed to indicate a genuine interest from all parties to participate in this effort. Manufacturers would welcome some basic market information from the government, such as, estimates of the potential demand, number of customers and interest of other governmental purchasing entities. The absence of such estimates should not be a deterrent to submitting new requirements to industry, since manufacturers will attempt to assess the potential commercial market for the proposed product improvement.

Step 4. Develop Product Evaluation and Contract Award Criteria

This action area is perhaps the most difficult and yet the most critical in terms of the procurement mechanism ensuring that product improvements are evaluated in such a way that the government will make the "best buy." The evaluation criteria is an essential topic for the roundtable discussion of Step 3. It is felt that the knowledge and experience of industry, professional groups and university researchers could contribute to the development of the criteria that would ultimately determine the successful bidder.

There are innumerable techniques and variations that could be applied. Where applicable, use should be made of industry, e.g., ASTM, and other acceptable test methods. In many cases new evaluation techniques would have to be developed in order to insure that the government would receive the functional and performance characteristics it needs.

Procurement techniques such as life cycle costing, which allow the government to evaluate costs other than bid price, should be considered in the evaluation criteria.

Similarly, it is important to determine the existing capability to conduct the required tests or evaluations. The development of such a capability and by whom must be considered.

It is important that industry be exposed to such criteria as early in the acquisition process as possible.

Step 5. Accomplish the Procurement

With the preceding progressive communications among the parties, and with the results progressively disseminated, the final awarding of the contract can be accomplished. From the open communications would come a refined statement of requirements to be used in the invitation for bids. The statement of requirements would contain, in explicit terms, the item's required function(s), the performance levels, the testing and evaluation techniques to be applied, any cost factors to be used, and the award criteria or formula.

The method of procurement and the procurement techniques employed will vary depending on the industry, the type of product required, and the results of the roundtable discussions. The important point is that through the progressive communications, everyone is aware of the ultimate procurement objective and the rationale behind the development of the final procurement document.

Step 6. Post Contract Award Product Performance Evaluation

The objective of this communications framework is to obtain product improvements and innovations. As such, it is necessary to formalize, as an integral part of the process, the methods and techniques to be used to insure that the product received continues to perform its functions as required in the contract.

The emphasis of this approach is cooperation between all the interested parties. Since all parties have a stake in the success of the procurement of the product improvement, they also are vitally involved in the end user's experience in the use of the product. Tracking of the product's operation can be used to provide incentive or penalty clauses under the contract, but more importantly, to refine the future statement of requirements for a better procurement.

Step 7. Publicize Results of Product Improvement

To achieve greater interest and to spur similar efforts, the progressive results and the final accomplishment of the procurement should be given wide publicity through trade, professional and purchasing publications. The greater the awareness of such efforts, the greater is the likelihood of similar attempts in new product areas or by different purchasing entities. In addition, it will focus interest on the improved product, both for the government user and the potential consumers in the commercial market.

Recommended Aggregation of State/Local Capabilities

It was recognized at the outset that there is no single, central point at the state and local level of procurement through which user needs or industry proposals can flow. It is unlikely and perhaps undesirable that such a point be established. However, it was generally agreed that the capability to define requirements, develop evaluation criteria, conduct the evaluation and perform other functions involved in the initial procurement will vary extensively among these purchasing entities. Therefore, it was proposed that a cooperative aggregation of capabilities among these entities, on a regional or similar basis, would significantly improve the performance of these functions in an effective and timely manner.

It was felt that a centralized or regionalized effort in the development and expression of needs would offer advantages for the states and localities as well as providing manufacturers the prospects for a large market for the improved product. However, it was not felt that a new organization would be required to perform this function. The communications framework would be developed and used within or among existing organizations such as NASPO, NIGP, Urban Consortium, etc.

Recommended Approach

It is recommended that this framework for communications be developed as ETIP experiments for the Federal purchasing sector and for the state and local purchasing sectors, utilizing the regional or central approach of the preceding recommendation.

Products which already have been recommended for improvement through the PRIM system or by organizations such as NASPO, NIGP or PTI should be screened and selected for these experiments. Consideration should be given to items which have a high potential demand commercially and in the government, and which are of interest to Federal, state and local purchasing entities.

The experiments should proceed through the steps outlined in the report, with the development of milestone plans and the assignment of tasks among industry and government participants.

General Comments

Multi-year contracts and follow-on contracts were discussed briefly. The position is that one year and shorter contract periods are a hurdle to product innovation. The obvious

reason is the risk industry must assume in investing in both research and development and initial production capability. Since this subject had been covered at previous symposia, it was not explored any further.

Workshop 3
PROCUREMENT INCENTIVES AND TECHNIQUES

Purpose

The Procurement Incentives and Techniques Workshop considered the use of procurement incentives by government purchasing offices to stimulate suppliers to offer new products and product improvements.

Goals

To establish a dialogue between government and industry on the use of procurement incentives and techniques. To develop recommendations on the use of incentives and techniques for procurements on the Federal, state, and local levels.

Discussions

Discussion began with the meaning of procurement incentives. Most participants felt that profit is the basic idea behind most incentives. However, incentives can take many forms such as prestige, increased capability, and to test the market.

A presentation of procurement incentives used and related experience within the Federal Supply Service was made by representatives from that agency. An explanation was made of current efforts to improve the use performance specifications in the procurement of furniture. Under the present procurement practices specifications are used in combination with a photograph and awarding to the low bidder. Effective performance specifications can provide a greater control over the quality of the product. A review was made of some of the lessons learned by FSS in the use of life cycle costing in the procurement of water heaters, ranges and refrigerators.

To show how products and incentives can be systematically matched, Mr. Keith Wardell of the Professional Associates of Organization Science presented the Master Matrix, which was developed for the Federal Supply Service Product Improvement Intervention System (PRIM). The Master Matrix is designed to relate product characteristics to certain types of incentives.

A discussion of the Master Matrix and its use in the PRIM System followed. It was explained that the basis of the PRIM System relies on the use of incentives to help industry bring out new new products and product improvements. PRIM is designed to assist in the development of new products, and in the development of the overall FSS product line. It can enable the Marketing Division to become a one stop source

of information on the nature of agency needs. Through the Potential Users File, the Purchasing Patterns and Market Potential File, and the PRIM System, market information can be supplied to industry to help them sell to the Federal government. This information thus becomes an incentive to industry.

Recommendations

The final session was spent discussing specific recommendations for the use of incentives in government procurement. The group felt that one incentive for industry to deal with the government and bring new products to the government would be to eliminate some of the existing disincentives as well as introduce new incentives. The following nine recommendations developed in the workshop reflect this approach.

1. The concept of PRIM as related to procurement incentives and techniques is endorsed, but it is recommended that the PRIM approach be expanded to include an overall rating feature as to the quality, benefits to the government, and acceptability of the improved product.

2. It is recommended that the PRIM approach to achieving product improvement be fully correlated with existing FSS approaches used to include new and improved products in its supply system.

3. The Federal Supply System of contracting could further incentivize contractors to participate if existing commercial practices (such as selling on FOB origin basis and making payment under normal commercial practices) were adopted by the government. It is recommended that this be studied by FSS.

4. As an additional approach for providing incentives in government contracting, it is recommended that the existing disincentives (e.g., complex contract documentation, temporary price reduction provisions, etc.) be reduced or eliminated. If this cannot be done for all products, make special accommodations for new and improved products.

5. To provide further incentives to contractors, it is recommended that the government exercise discretion in its testing and retesting practices of identical products that were previously furnished and tested under previous contracts (or in previous deliveries) which are not always considered necessary and are objectionable because of the resulting delays in shipment, additional costs, and delays in payment. Expansion of the quality assurance system should be considered and used, where feasible.

6. It is recommended that the government publicize its system of conducting market research to enhance communication with industry. Organization charts and names of persons that can be contacted in follow-up considerations should be made readily available to contractors.

7. A feasibility study is recommended to determine the better of the two reporting systems (e.g., the General Services Administration and Defense Supply Agency) used in reporting sales made to the Government. Would it be possible to include Federal Stock Numbers in Federal Supply Schedules and thereby allow the reporting system to be more exact as to sales per item/versus sales per group of items?

9. Due to inflationary factors and changing market conditions, it is recommended that Federal Supply Service review its maximum order limitations and minimum order limitations now used in multiple award Federal Supply Schedules to reflect industry practices in addition to government considerations.

10. It is recommended that consideration be given to amending the Scope of Contract clause used in Federal Supply Schedule contracts and eliminate the exceptions some agencies now have to required use of the schedules.

Workshop 4
THE ROLE OF PROFESSIONAL ORGANIZATIONS

I. The activities which intermediary organizations can play in Communicating for Product Improvement:

a. identify, evaluate, and disseminate information about best practices.

b. develop standards for products with emphasis upon performance rather than structural or design considerations to reduce barriers which standardization can impose.

c. serve on design committees which can advise Federal agencies on programs and product specifications.

d. serve as media for communicating new product information to their members via newsletters, journals, articles and annual meetings.

e. legitimize and reduce risk taking on the part of the Association members through certification, recognition and accreditation procedures.

f. evaluate the efficacy of new products and communicate findings to Association members.

g. serve as a source of "professional" input to decision-makers when subjective and value-laden judgments are germane to a public decision.

h. assist members in gaining access to and information about Federal programs and product needs.

II. Basic issues involved in the roles played by intermediary organizations in the innovation process, but not resolved in our Workshop.

a. How can the intermediary organization maintain credibility with its members, and independence from its funding sources?

b. How can the Federal agencies identify the most appropriate intermediary organization for any given problem?

c. Given the tendency for large organizations to be conservative, how can intermediary organizations be encouraged to undertake more risk taking with respect to new products?

III. Recommendations

a. The Federal Government should provide increased support for sending agency personnel to training programs run by professional associations, and to annual meetings of professional groups and trade associations.

b. Professional and trade associations should actively encourage Government participation in their training programs and meetings by identifying and conducting appropriate Federal officials, and by setting aside blocks of time in their annual programs for Federal-membership interactions.

c. These intermediary organizations should play a larger role in developing industry standards. Federal support of such activity is a possible strategy, provided that appropriate safeguards for preserving the independence of the association and the sponsoring Federal agency.

d. The Federal agency should provide the means for their personnel to be active in these kinds of industry standard setting groups, especially via representation in technical groups.

e. The complexity and varied nature of intermediary organizations and their role requires that a separate symposium be organized which functions on the dynamics of intermediary association-government interaction. This symposium will require careful planning which accounts for differences in the goals and resources of the different intermediary organizations and the different need of Federal agencies.

PRODUCT IMPROVEMENT SYSTEM

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The general objective of the conference was to establish a continuing dialogue between private industry and government agencies on the ways and means of product improvement, placing particular emphasis on methods of communicating specific product needs to manufacturers and making purchasing offices more responsive to these needs at the Federal, State and local level. Workshops were organized to consider Product Improvement System, User Need and Industry Response, Procurement Incentives and Techniques, and The Role of Professional Organizations. Reports and recommendations of these Workshops are included.

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