MANAGEMENT INFORMATION PROGRAM

GSFC-INDUSTRY SEMINAR

RESEARCH AND DEVELOPMENT PROCUREMENTS: MARKETING PRACTICES AND PROBLEMS

SECOND SEMINAR

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Prepared by Leonard Rawicz
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CONTENTS

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INTRODUCTION

Because NASA, and GSFC in particular, has no established industry forum such as the Defense Industry Advisory Committee of the Department of Defense, it has been difficult to obtain from industry objective evaluations of Goddard's present or proposed procurement practices. Today, discussions with industry are limited almost entirely to random individual encounters, and most of these relate to specifics of existing contracts or proposals. Otherwise, consolidated or collective views are made known only by means of various associations or are those expressed to the Department of Defense and relayed on to GSFC. A seminar program therefore resulted from the need for a series of informal meetings between GSFC and industry to permit a free exchange of views on how NASA/GSFC procurement practices appear to industry and how the general industry-Government relationship might be improved.

GSFC conducted the first seminar on April 20, 1966, with five industry and seven GSFC participants. The first seminar demonstrated the value of conducting these meetings in a field center with operating managers of industry attending, because the discussions related to the day-to-day operating relations rather than to general policies or regulatory requirements. The informal discussion of business relationships between officials actually engaged in these activities was a refreshing contrast to discussions held at professional or group meetings or symposia.

A second session of the seminar program, entitled "Becoming Acquainted with GSFC Requirements," was held on August 10, 1966. It was attended by three industry spokesmen representing major GSFC contractors and seven high-level staff and line officials of GSFC:

- Industry

  Dr. A. Thiel, Vice President and General Manager
  Space Vehicles Division of TRW Systems Group

  Max Lehrer, Controller
  Defense Electronic Programs, RCA

  George Towner, Space Department Manager
  Aerospace Division, Westinghouse

- GSFC

  Gordon Tyler (Moderator), Director of Procurement
  Eugene Wasielewski, Associate Director
  Michael J. Vaccaro, Assistant Director for Administration and Management
  Richard Keegan, Deputy Director of Procurement
  Robert Rados, Manager, TIROS Project
  Jim Milligan, Solar Physics Branch
  Abe Leventhal, OGO Project

The specific topics discussed at this session of the Seminar Program are included in the appendix. The general discussions of the session were industry's marketing techniques relating to Government procurement of aerospace research and development, the Government's techniques to broaden the base of competition for contracts, and the associated problems related to the source list system, government-industry briefings, and proposal timing and preparation.

This paper reviews the points discussed by the seminar panelists. It is hoped that this paper will aid in the better understanding of the processes of research and development procurement.

INDUSTRY'S TECHNIQUES TO OBTAIN MARKETING INFORMATION

Budget Information

Industry generally uses all available sources of information regarding the Government's expected expenditures of funds for research and development. Taking NASA as an example, the starting point each year in gathering this information is the analysis of the NASA budget submission, followed by either reading or attending the Congressional Hearings on NASA's budget, and by analyzing the information found in the trade press. This information is supplemented by intelligence obtained from the company's marketing and engineering staff, usually through visiting NASA installations. RFP's issued by NASA activities of interest are followed to see if anything slipped through, which seldom

happens, it was agreed, if the aforementioned tasks are performed well. A company uses information gleaned from this surveillance of the market to develop a fair idea of what work NASA expects to be procuring in its particular specialties, as well as to obtain some idea on the timing of various procurements.

Industry Briefing

Another source of information is that obtained at industry briefings given by various Government procuring activities, in which detailed presentations of an agency's program are given. The industry panelists agreed that these briefings were not very helpful to knowledgeable companies, as the information disclosed was already known. Although such briefings helped the less sophisticated members of industry obtain program information, the general nature of the briefings and the large number of people attending lessened the effectiveness of this approach. Thus, generalized industry briefings serve few useful purposes. What would be useful to knowledgeable companies is a briefing that highlights specific areas and notes schedules of importance to the Government and industry.

With regard to NASA, the industry panelists felt that there is presently good reason for holding industry briefings and this reason is to define where NASA is going and who has what role and mission within NASA. Except for the Apollo program, it appears to industry that NASA now seems to be on the threshold of another era of jockeying for role and mission. Today it is much more difficult for a company gathering market information to understand clearly who in NASA has what program. Industry briefings might now be helpful to clarify the missions of the various NASA installations.

Visits to Research and Development Installations

A major source of detailed information on expected procurement programs of a NASA installation is gathered during visits by a company's marketing and engineering staff to personnel of that installation. The value of such visits cannot be underestimated; it forms the basis in industry for early research and study programs directed to NASA's future needs. These discussions often lead to the submission of unsolicited proposals to perform work for the specific activity. They also give a company insight into future efforts of the activity, thereby enabling a company to prepare a meaningful proposal when an RFP is released.

The industry panelists repeatedly commented on the effectiveness and the value of personal visits to an installation as a source of information. To perform this function, one must have a good understanding of the technical organization of the activity to be visited, including a knowledge of what people do what tasks. The personal visits are generally of great value if a company's own fields of interest are in the same scientific areas as the Government's technical staff, so that they can talk on the same level with this technical staff and thus interest them in the company's ideas.

The best person for such a visit is a highly competent person who has previously managed for that installation a job that has produced the desired results. The meetings between a company engineer and a Government engineer are particularly effective if they have common interest in the results of the program so that the visit is a sharing of a common technical interest between these people.

In addition to visits by technical people, it helps to have marketing people assigned to the activity who make it their business to find out what the opportunities are going to be, preferably before they get into a public announcement. Marketing people do this by visiting the activity frequently and talking to their Government counterparts. These visits tend to open some doors for future visits by technical people and helps the company decide what homework it should do and in what areas it should get started.

Because this marketing information is obtained from various sources, the company must centralize the information before they can use it to make marketing predictions. A company can do this by requiring trip reports from their people and by holding regularly scheduled business meetings in which those who have visited the procuring centers discuss the information obtained. This group will try to fit the whole picture together and decide what opportunities exist and how much effort and money, if any, they want to put into advance work in a particular area.

The industry panelists emphasized throughout the seminar session that most of industry's marketing information is obtained before the issuance of an RFP. It is fairly safe to say, except perhaps in the component area, that if a company is not knowledgeable about a particular effort and has not done some homework before the RFP hits the street, a company will rarely bid on the effort. This does not mean that a company could not write a proposal in response to the RFP;

experience shows, however, that if a company has not done its work beforehand, it has little chance of writing a good proposal. Industry therefore feels that it is extremely important for Goddard (or for any Government agency) to keep them informed on what is ahead. If industry is kept informed, they can do in-house work and thinking which will result in a better proposal to the Government and in a better final product.

Subcontractors

The industry panelists represented companies which were usually prime contractors in their dealings with Goddard. The extent to which marketing research information gathered by a prime contractor was passed along to prospective subcontractors was discussed. In major procurements, such as that for a spacecraft system, companies interested in proposing on such a system usually pass their marketing information down to prospective subcontractors before the RFP is released. This is done during their attempts to make tentative agreements with possible teammates, major or key subcontractors. Thus, industry has fairly well penetrated the subcontract area before the RFP is issued. It was the industry panelist's view that, if their company has not made some arrangements with prospective key subcontractors before an RFP is released, they obviously could not prepare a meaningful proposal to the Government on time because of the short lead time given to respond to an RFP.

Another source of information to prospective subcontractors was preproposal conferences held by the procuring activity to explain and clarify its RFP. This may be the reason why so many of the firms that show up at preproposal conferences never submit a proposal. The large number of firms at these meetings probably represents prospective subcontractors trying to get a better understanding of the effort involved.

DEVELOPMENT OF NEW SOURCES AND BROADENING THE BASE OF COMPETITION FOR GOVERNMENT RESEARCH AND DEVELOPMENT WORK

The method used by the Government to obtain new sources for its procurement needs and the obligation of the Government to broaden the competitive base of sources for procurement were also discussed. Specific items highlighted were the source list system, how industry selects its subcontract sources, and what effect phase and two-step procurements have in this regard.

The Source List System

The Government's prime means of obtaining sources to solicit for Government business is from the technical officer's recommendation on his purchase request and from the files of the installation's procurement source office. The procurement source office catalogues procurement information submitted by industry and recommends sources to be solicited based upon the area of a proposed procurement. The seminar panelists discussed the effectiveness of, and problems associated with, the source list system. It was noted that not only does the Government expend a great deal of effort with the source list process, but industry also maintains such files, some of which are required by the regulations of various agencies. Keeping source files current is also a problem because companies continuously update their source list information filed with a variety of Government installations and prime contractors. The value and effectiveness of the source list system as a method of obtaining companies interested in proposing for a specific effort was the point under consideration. If the source list system is ineffective, why do companies insist upon keeping their source information current?

In reviewing Goddard's experience, it was indicated that the NASA source list procedure was not nearly as effective for obtaining information on prospective sources for R&D procurement as it was a means for the firms to register their areas of interest with the Government (i.e., it was generalized as appearing to be a discharge of a semisocial obligation to industry by listing them as prospective sources). However, it was admitted that, upon occasions, names added by the GSFC source office to a list of proposed sources resulted in a successful bidder and that the Goddard source list system was effective in obtaining certain types of commodities. Whether or not on these occasions the successful source for a research and development procurement would have submitted a proposal anyway because of information about the procurement published in the "Commerce Daily" is a matter of conjecture.

The source list application filed by a company generally indicates the categories which the company views as its area of interest. The categories of interest are then used in selecting the firms to be solicited for a particular job. The source list office at Goddard presently lists 6000 names. The aerospace and electronics business is so dynamic that new companies are always forming and mergers or acquisitions taking place. All of this requires more information to be fed into the source list system.

Two major problems in the use of source lists were discussed. First, the categories of the source list are so broad that they do not sufficiently guide the users of the system to select the correct firms to solicit. Consequently, the list of possible sources obtained using these files are so long that it is impossible to solicit every firm expressing an interest in the general field of the solicitation. No specific categories or uniform system to eliminate this problem has been worked out by the Government. The second problem, and perhaps the major one, is that, regardless of what category system of identifying fields or areas of work is established by the Center for this purpose, the applicant submitting source-list information is the one who selects the categories of his interest. So, despite how specific the category system, the system relies on the applicant to check the categories of his interest, and the applicant tends to check all possible categories. In addition, it is more or less random whether or not the local experience or contractor-performance reports are filed with the source list application submitted by a company.

One reason for the breadth of information in the source list system is that in this country everybody feels he ought to have a right to bid for a Government contract. Thus, the general political climate of Government procurements often has a bearing on deciding who is to be solicited for a particular procurement. The procuring activity must be very generous in listing who it thinks may be available for solicitation as a possible procurement source.

The problems attendant on a broad solicitation increase in the area of the $50,000 to $250,000 contracts. At present, Goddard solicits four times as many proposers for efforts in this dollar area as it did in past years. This in turn becomes a tremendous job for the technical evaluators as well as the procurement people. Sometimes one gets the impression that firms propose because they were asked and not because they have a sincere desire to do the work. The heavy workload on the procurement staff and the technical evaluators occurs because the Government must give a plausible reason for each eliminated proposer. That is, an agency cannot merely say that it will consider only the people who can do the job, and then say to some firms that the agency does not believe that they have the necessary experience and thus eliminate them from the competition. The Government must give a reason why a proposal is insufficient or why the Government feels a company does not have the experience necessary to do the job.

A major objection to the source-list system, therefore, is that it is a unilateral system. In formulating the source list, companies tell the Government what they think they are qualified for; the Government never tells the company what it thinks the companies are qualified to do.

At Goddard some consideration has been given to changing this system in architectural and engineering (A&E) services. The concept here is that the receiving organization would review the source information submitted by an A&E service firm. The company's management would then be told whether or not the Center views them as qualified to do the specific jobs listed in their source application. The hypothesis here is that the procuring installation should evaluate organizations on present competance, rather than on whether a particular company would like to get into business. If the Government wants to sponsor companies getting into business, a separate program should be established for this. But, in the normal situation, the people having the job to be done should also have the responsibility of telling a company having no experience that its chance of winning a particular type of procurement at that time is nil. It should be told to come back after it gets the experience or competency.

A consideration against using such an approach was brought out: Many multidivisional companies submit information on a divisional basis. These divisions, or even single-unit companies, may during the period in question employ new people, or may later have available for new work certain people previously tied up with other jobs. Thus some of the information and experience that a particular procuring activity has about a particular division, or company, may or may not be true at the time the activity is soliciting sources. The fact that a company's capability is dynamic, always changing, makes it difficult to establish a categorization or rating system.

Industry's views on source information, and how it used it, differed from those of the Government. Industry considered its source list dynamic and valuable. It includes such items as a company's annual report, its Dun and Bradstreet rating, possibly the information of the company's performance record on its last contract, and the views of the quality-control and procurement people about the particular source. It was a summation of all the up-to-date information known about the source.

Industry, in evaluating prospective sources, does more than just accept applications for a list. Before the prospective sources are actually solicited, they are visited, surveyed, and rated as possible sources. Industry tries to ensure that the company they solicit to do business is financially and technically able to do the required job. This review is generally conducted very openly. The company being surveyed hears the final answer, and if it is negative, industry states the reasons why the company cannot be placed on the solicitation list. The source company is invited to request a resurvey after it has corrected deficiencies. Potential sources are surveyed throughout industry; the procedure is similar to Government's source evaluation, but is perhaps less rigorous than that of considering proposals from competitive sources. Although surveying potential sources is expensive, especially if there is no present requirement for the particular source, it is more expensive to rely on an inadequate firm. The survey is thought to be a good capital investment.

Responsibility of NASA and Its Prime Contractors

Another problem considered by the panelists, raised by Dr. Vaccaro, was whether this country could tolerate the situation in which companies working for the Government on R&D contracts tend to perpetuate themselves in obtaining Government contracts. The specific question considered was whether the Government itself had a responsibility, especially in the time of critical manpower, to expend energy broadening the base of competition and not let the award of contracts always be just the play of the marketplace.

Because of the amount of information needed to compete successfully for research and development work, a new company or one without a substantial marketing or technical intelligence system is at a disadvantage in getting Government research and development contracts. If, in the broad sense, the country has a responsibility to give companies who have talent, but who have never demonstrated it to the Government, a chance to get the Government research and development experience, it should fulfill this responsibility in a separate and identifiable program which does not become part of the normal source-selection process. Dr. Vaccaro noted that in its early days, NASA attempted another type of industry briefing than that previously discussed. At these briefings NASA would try to acquaint small business organizations with the space program by looking at their capabilities to see how they could be related to the space effort. It approached the problem of how to get the small companies skillfully making, for

example, fishing rods, interested in NASA's antenna business, or something similar that may not have occurred to them. It was noted that the procurement staffs of aerospace firms do look for new sources, but should NASA be satisfied with letting them unearth potential sources or does NASA have a responsibility to do some of this itself?

To broaden the base of competition, NASA should also review its existing contract method to see if it lends itself to this responsibility. For example, a 30-day turnaround time on an RFP may make it impossible for a company interested in a job to bid unless it has already started work on it. Perhaps NASA should change this procurement practice and make it a 90-day, instead of a 30-day, response time.

The industry representatives pointed out the extent to which their small business activities looked for additional capabilities in subcontractors. They have fairly sizeable staffs evaluating new sources in the small business world, finding out what they can do, and inviting them to visit their plants for informal discussions. But industry does this with a very delicate balance, for the prime contractor/subcontractor relationship frequently requires the prime contractor to educate the subcontractor. Before the Government stimulates some of these sources to come into the procurement arena, it first must assess how much contracting it desires to do with smaller companies on a direct prime-contractor relationship. Often it is more efficient for these smaller contractors, and for everyone else concerned, to be a second- or third-tier subcontractor rather than a prime contractor with the Government. Most small companies are not prepared to do business directly with a large agency such as NASA or DOD. They are unfamiliar with the area and they must be guided by a person or firm who has gone the route before. They need someone looking over their shoulder and helping them with, for example, quality-control procedures.

Further, the industry panelists noted that contracting is not just for fun and games; prime contractors and their suppliers are in business to make money. For the prime contractor to attract additional subcontract sources, specific funds must be available for procurement. The prospective subcontractor must be fairly well assured that he has an overwhelming chance, or at least a real good chance, to get business and that it is worth his while. A problem results if you incite too much enthusiasm in a program and then cannot put the dollars where the emphasis has gone. The next time you come with something concrete, he will say, "Go away and don't bother me." There is a fine balance between the amount of effort expended putting out reasonable and accurate

information on pending business and an aggressive effort stirring up people to come into an area in which they may not be able to stay. There are a lot of pitfalls in creating new sources of supply.

An industry panelist noted another problem that is on the increase. Many companies have a lot of business now, especially the smaller companies. If you approach them with small-quantity orders and, in addition, impose all sorts of quality regulations of the space program on their procurements, they flatly turn you down because they have enough business in other areas. A company frequently has to influence some suppliers to take small-quantity orders for space work by pointing out the additional business that is available. The headaches and problems of space procurement, with its small quantities and high-reliability components, testing, etc., are not commensurate with the price paid to these suppliers. One supplier expresses it succinctly to prime contractors: Sometimes he replies LITS to a solicitation. (This means life is too short to bother with stuff like that.)

Phase Procurement for Major Systems

The seminar panelists discussed the phase-contracting (compartmentalization) method of handling system procurements as a device to broaden the base of competition for Government R&D contracts. Phase procurement or contracting usually starts with a group of contractors doing the initial study phase. Theoretically, the Government could consider a great number of firms to do the initial phases, because it is not necessary to limit competition here to just those companies having the competence to produce the total system. Presumably, then, companies who have good ideas could do the initial phases, even though they would be unable to handle the whole system effort.

The industry panelists were generally of the view that phase procurement did not present any real opportunity to contractors interested only in the study aspect of a program. The reality of government phase contracting, as it is handled today, leads one to the practical consideration that, once a company embarks upon a phase procurement, it is going to try to go all the way. Most of the competitors in initial phases are, therefore, competing for the ultimate hardware job. The reason for this is the practical fact that the initial phases are not adequately funded; they cost the contractor money to do a good job. A knowledgeable company must decide, if it is interested only in the initial study phases, whether it should spend its manpower and talents on an underfunded effort or try something else where it can at least break even. The

phase approach to procurement does, however, present to the Government the opportunity to obtain better results and lower costs in the final hardware phase.

In theory, at least, it would seem that a firm who wants to get started in the business and who has ideas on how to do a particular job could become a phase A or B contractor, even though the firm could not handle the systems design and final hardware phases. Thus, phase procurement may broaden the opportunities for companies, especially if the initial phases receive adequate funding. Another way phase procurement may broaden competition is that it may affect the makeup of the prime contractor/subcontractor team. Even though prime contractors say that they look around for alternate sources, they do have favorite organizations that they team up with—companies that they are used to and know. A new company has a hard time getting into this loop. The fact that NASA may select a new contractor to do the phase A or B study may automatically get this contractor into the loop. Therefore, since phase contracting breaks the job down into smaller components, it does enable more companies to get selected to do part of the job and may expand the possible base for competition in the system design or hardware phases and affect the prime contractor/subcontractor makeup for the phases.

Industry felt that these theoretical concepts break down in the real world. First, phase-procurement contracts are limited to major systems and are not used to develop subsystems or hardware items such as transmitters. Also, phase procurement gives one the distinct impression that there will be a steady progression in the contracting effort. Although a company has no guarantee to get the additional work, it looks to that future possibility. Recognizing these limitations, if all that is desired in a particular effort is a conceptual study from companies who do not necessarily have the competency to do the full job, then one should not use phase procurement but should procure a conceptual study.

In discussing whether phase procurements broaden the base of competition, one must also realize that there will not be any detailed designs of components and subsystems in the initial phases of a major system procurement. These phases are usually a concept or alternate approach (or a tradeoff analysis) study. A component or subsystem supplier therefore could not help in these initial phases, and the Government would not broaden the base of competition by bringing in subsystem suppliers at these stages. These people are brought in on phase C or D after the system is fairly well defined. Major

subcontractors are of course brought in earlier because they contribute to the interface between subsystems.

A member of Goddard's technical staff observed that in phase procurements one gets the impression that companies are less willing to take risks with an unknown subcontractor than they would be if they had obtained the complete job from the start. This is perhaps because of the highly competitive nature of phase procurements and because the contractor's technical staff are somewhat afraid to take on an unknown quantity and openly discuss other sources. Thus, phase procurement may even reduce the chances of a new company's becoming a subcontractor. Industry countered that one criticism of phase procurement was that the development of a new subcontractor source may be a proprietary matter. It may be one of the competitive edges which a company doesn't like to give away, but in phase procurements this is one thing which the Government does get a good look at. This type of procurement gives the Government the opportunity to select and join subcontractors to other key prime contractors, and as long as the Government engages in this practice, it should fund the phases adequately to pay for this prerogative. Although it was recognized by industry that probably 90 to 95 percent of their subcontractor sources are generally known by everyone in the business, once in a while a company can achieve a competitive edge by obtaining a unique subcontractor source.

Two-Step Procurements

Some Government agencies have attempted to broaden the base of competition by using the two-step procurement method. Here, in the first step, the Government invites the submission of technical proposals (without pricing information) for evaluation. In the second step, those who submit acceptable technical proposals are asked to bid their price. Industry considers two-step procurement an expensive process which is a useful tool only when a given requirement is likely to produce a wide range of technical response. The Government ends up in two-step procurements getting something that it may not like, because it lacks the opportunity to make tradeoffs in quality and price that exists in the usual negotiations in an R&D procurement. The moderator pointed out that the problem here was similar to the source-list situation: Often you issue an RFP to a company on your source list, and it is embarrassing to say later that the company is incompetent to perform the work. It was pointed out that some recent Comptroller General opinions have stated that, in two-step procurements, the Government could not challenge the competency of a firm in the first step.

Perhaps two-step procurements could be used to broaden the base of competition if the Government could follow industry's lead and use a source list of previously established competent firms in soliciting companies for the first step.

PROBLEMS ATTENDANT ON INDUSTRY MARKETING TECHNIQUE

NASA Responsibility

The Government is responsible for maintaining the integrity of its procurement system, and for ensuring that its procurement specifications reflect its needs but are not directed to a particular product offered by a manufacturer. There is an inherent problem in meeting this responsibility in the research and development area where information and ideas are constantly exchanged between the technical staffs of industry and Government. In classic Government procurement language it would be improper for people to say that they try to influence either the Government's requirements or the timing of procurements, or that they try to have specifications incorporate their ideas. This is an ancient icon that needs to be shattered in the R&D environment, because all these things do occur. They are not evil per se.

One industry panelist pointed out that this classic view was particularly surprising in the research and development field. In complicated technical areas, such as weapon or space systems, industry has always been involved with its customers in the flow and exchange of information. Development of new devices and techniques is the aim of the entire technical community. Ideas of engineers from industry are of great value to the Government. Any information that the Government can distribute about its needs and any technique that enhances this exchange of technical views are of long-range benefit to the Government. If industry is to contribute to the Government's plans, it needs all the information that can be given it as early as possible. This, to some degree, has always taken place.

On the other hand, the Government must recognize that, in exchanging this information, company management expects to derive an advantage in getting Government business. Company management does not expect an unfair advantage, but realistically, if they have worked hard on an idea and have sold it as a valuable concept, they expect to have a competitive edge. While everybody understands that there will be competition for the job, that it is not a sole-source procurement, the company who had

the basic idea initially expects an edge because its people have been working on the idea for a long time. Even with this background of experience they sometimes lose.

Another industry panelist felt that any company intending to be in the business had better spend time trying to influence the Government. What is wrong is if one company influences a specification so that only its unique capabilities meets it. As long as it is understood that the Government agency is seeking an exposure of industry's capabilities and of the current state-of-the-art, it is a company's duty to make its capabilities known. Conversely, the company should not tout the things that are impractical now, and that in the company's judgment will be unavailable for 2 or 3 years. Industry must convince Government personnel of what is achievable -- that is, within the state-of-the-art -- because no company can afford to have the Government come out with an unfeasible RFP. If the system is basically unsound, industry will have spent time and money responding to an RFP that either will not work or will be cancelled. That is why it is to the mutual interest of both parties to see that these exchanges of information continue.

One can see how the constant contact between industry and Government, exchanging information and views, may lead to procurement abuses. However, an observation was made that if enough people are involved in this exchange of information, it is doubtful that one company would gain much of a competitive advantage. Further, it appeared that the companies having personal contacts certainly do not relax or feel that they have much of a competitive edge, as they know other companies have also been in contact with the technical staff of the procuring activity. Thus, as long as all this is done openly and there is in fact no preselection of a company, information exchanges work to the Government's benefit.

After the technical discussions have taken place, it is up to the Government to come up with its RFP. If the Government staff is naive enough to write an unbalanced specification, based on exchange of information from one company, the Government specification writer is the wrongdoer. The drafter of the specification should be technically oriented with common sense sufficient to come up with a better specification because of information exchange than he could have drafted without this exchange. He should not, of course, slant his specification in favor of any one company.

There is also the practical matter that proprietary data should not find its way into a specification. If a firm submits an unsolicited proposal on a proprietary item and this is then used in a solicitation, industry will question the integrity of the procurement system, because it will know that the specification really calls for a specific company's proprietary item.

Visits

The value to industry of visits with Government technical people has previously been emphasized. What value do these visits have to the Government activity and what are the attendant problems?

Industry felt that, to a large extent, personal visits were a two-way street, both the companies and the Government benefitting from such visits. A company doesn't expect to tie up busy people in the Government looking for information and give nothing in return. Knowledgeable companies gathering information and trying to piece it together, in turn, give the Government people some valuable information and prospectives. One industry panelist compared the company representative who made personal visits to the busy bee who went from flower to flower: the basic aim was to get pollen, but nevertheless the visits resulted in cross-pollenization.

Another company panelist indicated that from his experience technical people are encouraged to go to R&D Centers for technical discussion not to find out what was going to be the next procurement, but to give the company an indication of what was going to happen in the next few years. At least 60 percent of the visits by this company, other than those related to a specific contract, has been made by its technical staff—people who had a good knowledge of what the company was doing or of what it should be doing. The company felt that they were not wasting their time and that these exchanges were excellent. The moderator pointed out that from his experience a company learns less from the procurement people at an installation about future requirements, or pending requirements, than it does from other elements of the activity. The visiting pattern to Goddard indicated that three-fourths of the company visits are made to other than the Center's procuring activity.

The panelists from GSFC's technical staff were asked to comment on their experience and to give their views on the value of these industry visits. First, one panelist pointed out that there was a difference between visitors covering systems and those covering smaller purchases.

Most company people approaching the Government technical staff whose visits pertain to smaller purchases do so on the level of a sales pitch. The Government engineer gets very little feedback information, and it is generally a waste of his time. An engineer can obtain as much information by receiving the company's catalog and the technical specification of its hardware.

In the major systems area, the company representatives usually have fairly reasonable technical discussions with the Government staff. It is felt that the companies do a good job of taking this information back to the corporation and filtering it through their management. Conversely, however, the Government does not do a good job of that. The technical person at Goddard is not required to communicate the information obtained from the contractor either up the line or to other interested Government employees. Nor is it known what information has been given to a particular company or if this information was accurate.

Another problem pointed out by a Goddard panelist deals with the timing of the interchange of information. For example, on a system effort for which the RFP is expected to be released in about a year, the Government technical staff is going through at this time what might be called a program-definition phase. Specifications are not yet developed; the staff is just considering what is needed to do the job. At this stage it is important to hold individual discussions with industry, but these discussions are generally not stopped at the right time. Far in advance of the RFP, the Government should encourage the exchange of views with industry because they are absolutely essential; the Government should hold industrial conferences to express its philosophy of the mission, of the job to be done. Conversations with industrial organizations should be cut off just before the Government technical staff starts writing the detailed specification. People in the process of writing detailed specifications tend to lead companies down the wrong road 50 percent of the time if discussions are held during this time. Many times a poor proposal from a company resulted from its discussions with Government people who were intimately involved in preparing detailed specifications. There is, of course, the other possibility that conversations with a company will influence the requirements in the specification in favor of one or two firms in preference to others. Even though this is a possibility, it is still recognized that discussions between the in-house technical staff and industrial organizations are necessary. What is needed is a formal system to cut off the technical interchange during and, of course, after preparation of the specification and RFP.

The many practical problems in controlling this technical interchange were noted, as it had been done at Goddard. For example, in a large super-speed computer buy, Goddard held a conference 6 or 7 months before the RFP was issued to which industry was invited to discuss what it was doing in this area. During the intervening months, Goddard protected the technical people writing the specification from discussions with industry to the extent possible. Practical realities of life are that this problem can be handled satisfactorily on a 35-million-dollar procurement. However, how can you handle it effectively in the 50-thousand to million-dollar areas and still retain some degree of a free environment in your organization?

All the GSFC technical staff panelists attested to the value of these technical interchanges. They noted that some of the visits result in information verifying their previous thoughts and views, giving them confidence that they were going in the right direction. Rewarding visits also result when information on a particular company's current experience in their other programs are discussed. These discussions generally result in an exchange of experiences of mutual interest, and both industry and Government gain from such interchanges.

Some visits produce more of a one-way transmission of information, when for example, a company working on a contract or study for DOD or for another NASA Center visits the Center to get some knowledge of Goddard's current experiences so that it can apply them to its current work. Here the flow of information is in reverse whereby Goddard's knowledge and experience is feedback to industry for studies pertaining to other programs. Within limits, the technical staff is willing to supply such information.

Another GSFC panelist viewed these visits as about 75 percent mutual benefit to both sides, the remaining 25 percent being visits pertaining to small purchases. A problem exists as to what organization a contractor should approach. Should it be the Center's program office, its technology experts, or a prime contractor? In operational programs, contractors of the smaller items would do better to approach the prime contractor, or in some cases the Center's technology divisions.

An overview indicated that at least 75 percent of these visits have been beneficial to both parties, stimulating the thinking of both industry and Government personnel. Perhaps the best evidence to show these visits are of mutual value is that they continue to occur.

An industry representative noted that some Government people are reluctant to discuss technical matters with industry. Industry realizes that it is its job to demonstrate that these technical discussions are a valid exchange of information of benefit to all. If the Government activity sees the value in these exchanges, and would encourage them, this should be made clear to everybody. The industry representative and a few of the Goddard technical people agreed that there is a group of Government people who resist technical discussions with industry. A variety of reasons for this were cited: Some feel that they are a waste of time, that they may inadvertently reveal something to a contractor that would give a company an advantage, or that if they spoke to one company they had a duty to speak to everyone. Also cited was the working of the NIH (not invented here) factor where a person says he cannot learn anything from outsiders, and the individual's past experience of what was a proper attitude to assume in this situation. Government employees consider that the decision to enter into discussions, and the extent thereof, is personal and depends upon how a person looks at his job. Perhaps the greatest problem is with new NASA employees. In these cases the employee's past experience generally controls his views. If he came from an agency such as DOD, where security restrictions prevail, or from a University or private commercial company having a "closed" atmosphere, he is reluctant to talk to technical industry representatives.

A Goddard panelist agreed that new employees may have this attitude. Although Goddard has no specific policy guidelines in this area, an individual soon learns Goddard's policy through his involvement in evaluating proposal processes and from source evaluation board discussions. Those who come to understand Goddard's policy are fairly consistent in their approach, although it was admitted that new employees would perhaps take some time finding out this policy. An industry panelist reiterated and emphasized the view that it would benefit Goddard to make it clear that the Center encourages exchanges of technical information with industry. If there is confusion in this area, and if the decision to exchange information depends upon the person's employment environment before coming to Goddard, some guidance (i.e. the Center's philosophy) should be spelled out to these people.

SUGGESTED STEPS TO IMPROVE COMPETITION FOR GOVERNMENT PROCUREMENT

NASA has expressed a desire to obtain more competitive procurements and to increase the breadth of competition for its contracts.

Previous discussions indicated that the answer is not in merely placing more requests for proposals for NASA requirements. It seems clear that the proposal preparation and the end product by industry preceded the RFP. Nor is competition increased by merely increasing the distribution of RFPs. NASA should concern itself with different techniques of giving out more advanced information to industry which could be used in its marketing and sales programs. Of course there are constraints imposed upon the broadcasting of this information, but evaluating the effects and use of these constraints may be an area for fruitful considerations in the future.

Publishing Procurement Information – Short Term

Would it aid industry in its planning to know in what quarter a particular procurement was expected? NASA Headquarters could require the Centers to publish a forecast of their requirements and timing of particular RFPs. To do this, perhaps NASA could publish a forecast of when awards were expected on approved line items of the budget.

The usefulness of this method of getting marketing information out to industry was commented upon. The industry representatives felt that the more accurate the information made available to industry, which reflected NASA's plans, the greater the benefit to all parties. But industry must take this information with a grain of salt, because it recognizes the constraints under which NASA operates. Knowledgeable companies would be careful not to misconstrue this information as being a commitment, since they know that NASA is not in a position to make all these commitments. Some of the new companies may not understand this.

One panelist remarked that a danger of publishing such a forecast may be to change the favorable visitor ratio wherein at present 75 percent of the visits to the Center resulted in a valuable exchange of information. Once Goddard published the forecast of when RFPs would be issued, Goddard would perhaps get 90 percent salesmen and marketing people asking, "This was supposed to come out at this time, why isn't it out?"

The moderator noted that NASA Centers need a forecast of RFP's for their own purposes; therefore, if NASA is serious about generating more competition, it may be necessary to find some way to distribute this procurement information to industry. One vehicle discussed was the Congressional Hearing Record printed after NASA officials testify to

Congress. One danger of including this information in a statement to Congress is that it tends to get engraved in concrete and destroys any reasonable flexibility one may want to retain. In fact, it is almost impossible to give Congress a typical list because as soon as it is presented they consider it to be a specific list. It was noted that testimony to Congress does reveal a great deal of this information, as previously discussed.

Another danger in publishing procurement information is that, once printed, it is construed as a commitment. This creates a problem because NASA does make substitutions, and the like, for some of its missions. With a prescribed printed list, however, a Congressional committee could easily note that NASA should have spent less money, or what have you, because programs testified to and published did not happen as predicted. The Committee will want to know why all these things did not happen. On the whole, it is well that in a democratic society this degree of visibility is given to an agency's program. But NASA must recognize the increased vulnerability once it publishes its procurement forecasts.

Another result of publishing such a procurement forecast would be to increase the pressure to go competitive with more buys. This increase in pressure would probably come either from requests to buy competitively all the listed procurements or from more companies, much the way some do now, trying to get earlier knowledge and more confidence to quote on the jobs.

A specific question regarding this scheme is how much procurement information NASA could publish. The NASA budget is usually put together in November or December and NASA cannot talk about the budget until it is presented to the Congressional committees. Normally, because NASA is generally fighting for restoration of budget items or because of further testimony, or for one good reason or another, NASA will not be able to say too much about its plans during this time. Of course NASA may be able to say to industry what it has already said to Congress, but industry indicated that, in effect, this information is already available to anyone taking the initiative to get it. The date that the budget is passed, hopefully by June or July, is the first time NASA has its program. If all funds asked for have been obtained, no major alterations need be made; however, some changes may have to be made. This results in a 2 or 3 month span, from August to October, during which NASA can reveal anything. After that span, the new budget constraints are brought back, because the cycle of the next year's budget has started.

In answer to this, suppose in the worst possible case that it is January before NASA can project its plans for the next 6 months and publish this information. That is more than NASA is putting out now because, it does not project anything for industry. The pressure of publication may also be a good discipline for once NASA has committed itself in print, it may be forced to keep its commitments.

Publishing Long-Term Plans

Another problem of concern to industry falls into a similar category but deals with long-range plans. Companies generally have small advance developmental groups composed of high-powered engineers. It is usually their job to do some studies and in-house work looking ahead for 5 to 8 years. If a company projects itself to be in the business it cannot only think of fiscal years '67 and '68, but must also think about the future. In the first years of NASA it was easier than it is today to make this projection and to use the company's advance research money economically.

It is important not only to know what is going to happen in the next fiscal year, but also to have yearly a meaningful exchange (or even call it daydreaming together) of what may happen in the next 5 to 8 years. One member of the panel suggested that perhaps NASA should consider the DOD system of 5-year planning, which is constantly reviewed. Although NASA has the political problem of convincing Congress what should happen after the Apollo Program, perhaps a 5-year plan, worked out within consultation with industry, could be of value to NASA in determining priorities and recommending missions.

One of the GSFC panelists indicated that mission plans were common to all NASA Centers. Perhaps what could be done was to have the Centers release their plans to industry, with additional information.

RFP Advance Notice

Another suggestion to increase competition for R&D efforts was for the Centers to publish a notice of pending RFPs 30 to 45 days before the actual solicitation. As discussed throughout the Seminar, one must give information to industry early to improve the resulting proposals or to increase the chances that a company will bid on a particular job. When the Procurement Division at Goddard receives a requirement, at least 30 to 45 days are spent in the preliminary stages of getting source-evaluation boards set up, arranging the paraphernalia

that go with the RFP, establishing source list for solicitation, and converting it all to the RFP form. The question is, would it be useful and increase the quality and quantity of competition to issue a notice that a specific RFP is to be released in 30 to 45 days?

The views on this question were mixed. Some industry representatives felt that a 30- to 45-day advance notice would certainly increase the quantity of competition; the quality of competition would depend entirely on what the Center did the first few times that it was inundated with requests from industry about pending procurements. Goddard's technical staff, however, felt that the timing and dates mentioned were the worst possible. Approximately 30 to 50 days before the RFP is issued, the technical staff is finishing the specification, and this is an inappropriate time to talk to industrial organizations. These notices should be released long before this time, because communications with industry should be cut off at least 3 to 6 months before the RFP is released. The 30- to 45-day advance release of information about the pending issuance of an RFP would do nothing but encourage industry to come in and hold discussions during an inappropriate time.

Another industry representative felt that the value of such notice would be that everybody who had not been aware of the pending procurement would welcome the advance notice, whereas those who were aware of the procurement would not.

Timing of Proposal Submissions

The possibility of lengthening the 30-day turnaround time for the submission of a proposal in response to an RFP was discussed. Perhaps if this period were lengthened, more companies would compete. The 30-day response period is considered to be the minimum time which allows a company knowledgeable in a specific area to answer with an adequate proposal. A longer period of time may not result in a better proposal, but certainly will increase the efforts and expense of their preparations. Goddard generally finds that, on the 29th day, companies will complain that they want the period extended for another week, because they didn't find out about the RFP until 2 weeks after the period began. Extending the response time in this way puts the fellows who try to meet the 30-day period at a disadvantage. Some thought has been given to requiring the technical proposal in 30 days, and giving a company an extra week to submit the cost part of their proposal, because some parts of the technical proposal must be arrived at before cost estimates can be made.

Source List - Qualified Sources

The problem of handling the 6000 names in the Goddard source list and of adopting a survey technique for the Government source-list system was reviewed. In the past little response has been obtained from many sources solicited. It was the general view of the panelists that a realistic system to screen source-list applicants before they are solicited would be of value to all concerned, but at present was difficult for the Government to undertake. It was further suggested that, if the present source-list system is a problem and is of such great concern to NASA management, someone should develop an overall plan similar to a qualified bidders or products list. If someone would formulate and coordinate a reasonable basis to tackle this problem, taking into consideration political pressures and everything else, it is quite probable that Mr. Webb would promulgate a system where the NASA Centers would be required to make some judgments on qualified bidders. An objection was raised to such a policy in that sources are dynamic, and that somebody disqualified for a particular product or service at the time of the survey could immediately correct it and at the time the procurement was to be issued would in fact be qualified. They could say, "I didn't have experience before, but I do have the experience now; I just hired a couple of top notch people." Or, "How can I get experience if I don't get contracts?" The manner in which the public looks at anyone's right to bid for a Government job may very well preclude any general use of solicitations limited to previously qualified sources.

APPENDIX

SEMINAR NUMBER TWO

BECOMING ACQUAINTED WITH GSFC REQUIREMENTS

BACKGROUND INFORMATION

This session was attended by three industry spokesmen representing major GSFC contractors. The GSFC representatives included five high-level staff and line officials. The industry and GSFC active participants were seated around a table and a lively discussion ensued following, fairly closely, the lines of the suggested topics.

The meeting took place in the Management Information Center, Building 8, at Goddard Space Flight Center. The arrangement of the active participants was similar to that of the first session except that the industry spokesmen, the GSFC officials and moderator were randomly located around the discussion table. The meeting ran on time with all suggested topics being covered and all participants having an opportunity to express their views.

SUMMARY OF DISCUSSION TOPICS

Industry Topics

The specific topics presented to the industry spokesmen and GSFC participants are as follows:

1. How did you first go about learning what GSFC's procurement program (subject matter) was?

2. How do you now obtain information on pending or future requirements? How effective is this system as compared with comparable efforts with DOD or other customers?

3. How much confidence do you place in the filing of application for inclusion on our Source List? Has this opinion been justified by experience?

4. How important is the personal visit as a means of gaining intelligence about future requirements? What types of people do you use for visiting and why?

5. Do you find GSFC people helpful in discussing future requirements? Is the pattern consistent? Do you feel such information should be divulged freely? If so, how much?

6. To what extent do you feel your company or its representatives attempt to influence the timing or description of the requirement? Do you feel this is a common industry practice? What is your opinion of the practice?

GSFC Topics

1. How do our requirement originators obtain their information about industry competence?

2. Who develops the list of recommended sources, or source, on the original request for procurement action? Who prepares a justification for noncompetitive selection? How are names added to the original list of recommended sources?

3. How effective is our formal Source List as a means of assuring solicitation of all interested firms who have registered?

4. What constraints are imposed on GSFC personnel in discussing pending or future requirements? Why?

5. How important do we consider the personal visit to be? What do we like to know about a firm, and what techniques seem to best serve the purpose?