

Date ----- Doc. No. -----

X.9 Wood, A.J.

20 JAN 1964

PURCHASING AND CONTRACTING
AT THE
GEORGE C. MARSHALL SPACE FLIGHT CENTER

It is always a pleasure to compare experiences with fellow purchasing agents and it is a privilege for me to have this opportunity to tell you a little about our contracting work at the Marshall Space Flight Center.

The Marshall Center is one of the 10 Centers of the National Aeronautics and Space Administration Space Agency (refer to Organization Chart). The National Aeronautics and Space Administration was established by the National Aeronautics and Space Act of 1958 for the purpose of promoting the peaceable exploration of space which is, as expressed by the late President Kennedy, "one of the greatest adventures of our time." The Marshall Space Flight Center was established July 1, 1960, and has for its primary mission the development and production of large launch vehicles. The Marshall Center is somewhat larger than the other installations, and it is unique in that it has a highly trained and experienced group of engineers and scientists who carry ideas for a launch vehicle and its guidance system from concept through the entire development, manufacture and testing cycles and then closely monitor further development and production, most of which is performed by industries under contracts.

About 30,000 procurement actions were processed by this Center during FY-63 amounting to approximately 1 billion dollars. This amount of money expended on contract work amounts to about 90% of the total Marshall Center budget for FY-63. About 75 to 80% of the contracting dollar was applicable to R&D work. Approximately 300 million dollars were used by the Marshall Center during FY-63 in its construction of facilities program at Huntsville and at various contract locations. Nonprofit study contracts accounted for

approximately 6 million dollars during FY-63 with 60% of this amount going to universities. The pattern for FY-64 seems to be shaping up in a similar fashion with possibly a somewhat increased percentage of work done by contract.

Constant efforts are being made to get the most from our resources. Management improvement and cost reduction actions are continuing activities. Considerable reorganization has recently occurred which was designed to make management more effective. Organizational changes both at NASA Headquarters and at the Marshall Center have been made in a continuing effort to streamline Marshall contract administration by bringing more closely together all personnel working on a given project, thereby more directly placing responsibility. Both NASA Headquarters and the Marshall Center are making use of top flight personnel from industries to man some of the key jobs.

These organizational changes resulted in the splitting of what was the Procurement and Contracts Office into the Contracts Office and the Purchasing Office. The Contracts Office is located within Industrial Operations segment of the Marshall Center and is under the same management as the Project Offices responsible for the various stages and propulsion systems. The Contracts Office is responsible for negotiating contracts in these systems and for contract administration and business management of project related contracts. This includes a process of continuing negotiations of considerable magnitude. These are multimillion dollar contracts and require on site technical and contract resident offices. We have about 100 employees engaged in the Contracts Office activity.

The Purchasing Office where I am employed has for its mission the direct

approximately 6 million dollars during FY-63 with 60% of this amount going to universities. The pattern for FY-64 seems to be shaping up in a similar fashion with possibly a somewhat increased percentage of work done by contract.

Constant efforts are being made to get the most from our resources. Management improvement and cost reduction actions are continuing activities. Considerable reorganization has recently occurred which was designed to make management more effective. Organizational changes both at NASA Headquarters and at the Marshall Center have been made in a continuing effort to streamline Marshall contract administration by bringing more closely together all personnel working on a given project, thereby more directly placing responsibility. Both NASA Headquarters and the Marshall Center are making use of top flight personnel from industries to man some of the key jobs.

These organizational changes resulted in the splitting of what was the Procurement and Contracts Office into the "Contracts Office" and the "Purchasing Office." The Contracts Office is located within Industrial Operations segment of the Marshall Center and is under the same management as the Project Offices responsible for the various stages and propulsion systems. The Contracts Office is responsible for negotiating contracts in these systems and for contract administration and business management of project related contracts. This includes a process of continuing negotiations of considerable magnitude. These are multimillion dollar contracts and require on site technical and contract resident offices. We have about 100 employees engaged in the Contracts Office activity.

The Purchasing Office where I am employed has for its mission the direct

support of the entire Marshall Center including support of all the various laboratories (refer to Marshall Organization Chart). The Purchasing Office is a Staff Office reporting to the Office of the Center Director.

The work of the Purchasing Office is heavily oriented toward R&D requirements as our technical people are constantly trying to conceive and develop the most effective and most reliable launch vehicles possible. The "state of the art" in many major areas of science is being steadily advanced by this group. Contract support calls for the following types of contracts:

Study, Engineering Services, Fabrication Services, Conceptual Design, Prototypes, continuing R&D with limited production, etc. We have numerous service type support contracts and the Purchasing Office buys all administrative supplies, component items, equipment, raw material, electronic items, special and standard hardware and many other items totaling in all many thousands of line items.

The organization of the Purchasing Office consists of the Office of the Chief (Mr. Garland G. Buckner is Chief of the Office), and a Policies and Procedures Staff. The Branches of the Office are: Program R&D Branch, Engineering and Studies Branch, Construction and AE Branch, Flight Hardware and GSE Branch, Plant Support Branch, and Administration and Services Branch. Approximately 200 people are employed in this activity.

The majority of our key procurement employees are recruited from other Government Agencies and industries as well as development from within. We also recruit clerical employees and trainees upon graduation from various schools and universities. We have people with legal, engineering, and

administrative backgrounds. An active training program is available and to the extent permitted by a very heavy workload our people take advantage of training offered through Government and universities channels.

The problems related to an operation such as I am describing are many and varied. The multitude of cost reimbursement type contracts make price analysis and negotiation extremely important. The team concept in negotiation is employed with the negotiator as Captain of the team with heavy support from the technical people in connection with the scope of work to be performed and with the price analyst to very carefully analyze and evaluate cost breakdown and related price factors and a legal representative to assure legal sufficiency. Other personnel such as industrial property specialists, incentive contracting specialists, and so forth are called upon to assist as required.

Ways and means of creating contractor incentive to reduce cost become a prominent exercise. One method currently under very active consideration is the use of incentive contract provisions which hopefully will assist in reducing cost and improving quality and delivery. Training courses have been offered in this area and our office has a section devoted to incentive contract work. This is an interesting development and, to the extent this method of contracting can be utilized, one of the main weaknesses of CFF type contracting can be, at least, partially overcome; namely, lack of incentive on the part of the contractor to hold operating costs down.

Another problem is source selection and evaluation. We have some seven or eight thousand sources listed in our sources files, but the selection of a

contractor to perform some of our highly technical and complex requirements becomes a difficult and important task. When the estimated amount becomes substantial, Source Evaluation Boards composed of our best technical and business people work hard and long to search out the best contractor for any given job.

Major procurements are not started until a comprehensive procurement plan has been prepared and approved by appropriate procurement and management personnel. This plan becomes the blue print of a particular procurement. Improvements in this phase of the process are constantly being sought, for example, basic "cradle to the grave" management plans are being developed for some of our more difficult and involved procurement requirements which may in the courses of fulfillment require implementation by a series of more detailed procurement plans thus tying the whole operation into one big bundle.

One means of better acquainting prospective contractors with a requirement is the preproposal conference at which time the site (if applicable) may be inspected and questions and comments may be discussed between the Government and prospective contractors. Last week one of our Branch Chiefs attended a preproposal conference on board ship on the Pacific Coast for a requirement to modify the vessel for adapting it as a transportation vehicle for large Saturn Stages. As a matter of interest, the Marshall Center also has contracted for the use of an aircraft known as the "Pregnant Guppy" for air transportation of the SIV Stage. The "Pregnant Guppy" is a modified version of the "Boeing 377 Strata Cruiser" and has an "inflated" cargo compartment and provision for "breaking" the plane apart for purposes of loading the Stage.

Goods or services for which adequate specifications are available are procured by formal advertising which is a sealed bid procedure which I am sure you Gentlemen are familiar with. It is often difficult or impossible to obtain adequate specifications to permit this method of contracting and competitive negotiations are authorized instead of formal advertising. Sole source negotiations are used only when specific and detailed justifications are agreed to by procurement and management personnel responsible for the procurement. A type of contract most appropriate for the requirement is negotiated and developed. Fixed price contracts or CPFF with incentive provisions are preferred when the scope of work can be sufficiently definitive. The regular CPFF contract is used only when one of the more preferred types just won't fit the job.

Regulations under which NASA operates are similar to those used by the Department of Defense. Careful consideration of the multitude of procurement regulations and frequent changes to these regulations is a continuing responsibility of our personnel. Our Policies and Procedures Staff implements and assimilates applicable regulations and procedures for the office and our Contract Review Section makes sure that contracts meet regulatory requirements before they are released.

Some of the multitude of more or less special topics with which the Government Purchasing Agent is confronted are as follows:

Small Business, Labor Distressed Areas, Equal Employment Opportunity, Foreign Made Goods, Construction Labor Laws, Patents, Adequate Competition, Synopsizing of proposed procurements and of awards, non-

restricted specifications and geographic distribution of contracts--just to mention a few.

Procurement is a field of work which is indeed interesting and challenging which you men well know, and our work at Marshall is no exception unless it is just a little "more so." I find it very interesting and stimulating.

I am happy to have been with you this evening and extend to each of you an invitation to visit our office at the Twickenham Building down town Huntsville.