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NEW ENGLAND AND THE SPACE PROGRAM

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After papers by experts like Hugh Dryden, Robert Seamans, George Mueller, and Homer Newell, and by heads of the NASA Centers, what can there be left to tell about NASA? What can be added as comment on the New England scene after James Gavin, James Killian, and Jack Parker have made their remarks? Perhaps there is something that can be said about the experience of NASA's North Eastern Office over the past 19 months.

The North Eastern Office was created in September of 1962 as a kind of management experiment on the part of NASA. We were not meant to be a forerunner of an Electronics Research Center, although we have been that too, but were meant to be a new management tool of the agency.

First, NASA recognized that it could benefit from having an agent regionally involved in guiding its existing contract and grant program with the industry and the universities in the area.

Second, NASA appreciated that there was an untapped competence here that should in some way be encouraged, on its own initiative, to become a part of the Nation's space effort. After all, the Space Act of 1958 which created NASA calls upon us to use effectively the scientific and engineering resources of the Nation in the program.

Meeting the first of these goals has been a matter of establishing sufficient competence in the North Eastern Office to provide contract administration and technical monitoring and liaison services, quality assurance monitoring and training services, and educational program services.

The second goal has been a more difficult one to meet—perhaps because there are few criteria by which one can judge the degree of success achieved, and because there is a long difficult road to be followed for

any contractor trying to compete successfully for space program business.

In one of Boston's papers last week, there was a report on the results of last year's Conference on the Peaceful Uses of Space that was held in Chicago.

That Conference—was an all out effort by Chicago's business community to stimulate interest in space and science industry and garner NASA contracts.

It cost us plenty to put it on—but economically we didn't benefit to a great extent.

We went all out and we didn't get one single significant contract.

These statements attributed to a Chicago spokesman, illustrate one of the common misconceptions of doing business in this program. There is, in fact, no way one can ingratiate himself so that business automatically comes his way. Competition is keen and widespread throughout the Nation, and in the long run the payoff is for excellence.

We have counseled with representatives of more than 500 companies or major divisions of companies over the past 19 months; all of them thought they had something to offer NASA or one of its prime contractors. What do we see as the key to a company's success with NASA?

First, they must in fact have an idea or a product that is relevant and good enough to interest NASA's program specialists and managers.

Second, they must have the skill and persistence to market their proposal.

The most frequent problems that we have identified are associated with the second point—marketing. A company wishing to be an effective partner in this program must examine its marketing procedures on a continuing basis. This may seem to be too elementary an issue, especially to those who say they know the

importance of marketing—take another look, I urge you. There will be no panacea to problems, but the thoroughness, the persistence, and the skill employed in marketing are vital to NASA's acceptance of ideas and products. This incidentally, is as true for universities as it is for industrial concerns, both large and small.

Few of the companies represented by the audience at this conference have the resources to cover even a significant part of NASA, let alone all of it. In the interest of making fullest use of NASA's competence, the Agency is decentralized to give our Centers and program managers the greatest degree of operating autonomy. A company, on the other hand, must look for the needle in the haystack—the one office or one program to which it can contribute. It must use all of its resources as it tries to home in on its prospect—NASA's abstracts of reports, congressional reports on NASA programs, the counsel of the North Eastern Office and others who can guide contracting efforts. Of course, through your presence here you are making use of another medium—the conference, seminar, or briefing. In our experience, companies may know of these sources of assistance but do not always make optimum use of them.

New England's universities—especially those in Greater Boston—are legendary, and their influence on industry (as, for instance, represented by our Route 128 Development) is being copied the Nation over. In such places as North Carolina—where the research triangle was formed in 1954 for the purpose of strengthening the graduate study programs at three universities, and through this, enticing new research oriented industries to the state—Pittsburgh, Baltimore, Dallas, Buffalo, Minneapolis, Portland (Oregon), are all trying to emulate New England. Our universities are no longer going to be a unique asset upon which to trade. But we do still have a head start over many competitors.

Electronics has been one of the cornerstones on which much of our postwar changeover has taken place, and this has implications that extend into many fields—that of life sciences, to mention only one. The marriage between electronics and medicine is only in the honeymoon stage; its maturity in the future should be a base on which many new and exciting business ventures will be built.

What about the so-called big, prime contracts? Can New England industry compete successfully for these? Examining those awarded over the past, we

find that in many instances there was no New England company bidding.

We are not suggesting there should have been bids from this region on these programs. What this does suggest is that New England companies may find limited opportunities to compete effectively for certain kinds of business because of the size and composition of our industry.

But what about subcontracts? They are going to become more and more important in the period ahead to concerns representative of New England—but only if the full ingenuity and competence of the region is brought to bear on them.

Good subcontracts under which a company can develop and realize a satisfactory return are also competed for actively; and, of course, we know of the concern of subcontracting firms over the tendency of prime contractors to do more and more of their work *in house*. Although NASA does not encourage this tendency of the "big to grow bigger", we know it as a fact of the American business scene.

Industry in New England is indeed diversified. With apologies to the larger companies, we really have no giants of the business community, or an industry such as textiles that if in trouble can deal an almost irreparable blow to our economy. This diversification fits in well with the rapidly changing technology base that supports us and should be a stabilizing influence on industrial development. Because of this diversity and because we have so many small concerns with highly developed special skills, we are still debating whether or not we need some kind of an organizational structure that would permit many companies to work as a single unit. Perhaps some banding together in formal relationships would be helpful. Attempts at this Research Foundation are being explored through the Bay State, but whatever we do must produce a substantive relationship, the advantage of which is apparent to the customer, the Government in this case, and which can not be obtained more effectively through traditional business relationships.

This paper would not be complete without some recital of the growth of NASA's stake in New England. There are substantial differences in the amount of participation of the six New England States, but NASA's prime contract awards have increased from \$11.2 million in fiscal year 1961 to \$24.2 in 1962, to \$53.7 in 1963 and to an estimated \$67.7 in 1964. This last figure is based on a projection of the first

9 months of our current fiscal year which ends this June 30, and it may turn out to be much larger than \$67 million because the year was half gone before we received our appropriation. Studies made of sub-contracting practices indicate about equal amounts spent in New England via this route.

Will these dollars continue to increase although it looks as if NASA's budget is leveling off? The answer to this depends more on the New England community than it does on decisions in Washington. The

competition is fierce for NASA work. With the specter of defense cutbacks looming over the Nation, this competition will increase. There is no automatic percentage of even the Electronics Research Center's program that can be assured for Boston or New England. If we can adapt ourselves, be alert to an accelerated changing scene, and not hang on to the traditional beyond its usefulness, we will certainly be able to make bigger and better contributions to the Nation's space effort.