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Career Path - U.S. Army, Pentagon; 1961 MSC STG
Chief of Training

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training & co-op student programs; year-round
co-op program; graduate study program - agreement
with Univ of Houston for (science, engineering,
admin); Management Intern Programs;
short courses & seminars; middle management
seminars; recruiting; morale & reductions in force;
American Federation of Govt Employees (AFGE); personnel
specialists; programs for disadvantaged (Job
Opportunities for Youth; Youth Opportunity Campaign)
MSC-Sponsored Graduate Study; MIT Sloan
Program (management); Apprentices Program;
Faculty Fellowship Program

new HHH
center in
Clear Lake

Nationwide

INTERVIEW WITH JACK R. LISTER

October 29, 1968

78 I joined MSC in August of 1961. I came from the Department of Army in the Pentagon. My entire experience had been as a training officer with the Army in Washington and prior to that for Stu Clarke at ABMA, Huntsville, Alabama. When Stu became the Personnel Officer of STG at Langley he invited me to be his chief of training. At that time, I had been in Washington only three months but accepted Stu's offer and in August I moved to Langley.

123 It was an interesting situation. At the time I moved to STG, we all knew STB would be moving to some other part of the country and rumor had it that we would possibly go to Tampa, Florida; Houston, Texas; Los Angeles, California; and I believe Portland, Oregon all were mentioned as possibilities for the location of the Center. When I joined STG we didn't know where we might be located. As a consequence we were told not to bring our families to Langley. Stu and Dave Lang had rented about eight homes on Lighthouse Road on Chesapeake Bay. About 30-40 of us professional new-hires lived there for a period of time. None of us brought our families to Langley and we all lived as bachelors--a party every Friday night--and although we really missed our families we had a lot of fun in the meantime.

201 When we joined STG everybody worked all weekend and any number of hours a week. We didn't keep a 40-hour weekly schedule as we do now. There seemed to be more work in getting the Center started than we could ever accomplish.

78 When I first joined STG, the Personnel Office consisted of two people--Burney Goodwin and John Vincent. Burney is still with us today as Chief of our Recruiting and Administration Branch. There was a lot of thinking that

79 we should have a braod training program, but there were none in existence. The 600-800 employees we had onboard at the time were obtaining some training through IRC Personnel Office, but there was no program planning and no special training programs being offered to STG employees. Wes Hjernevik wanted us to do two things: 1) provide on-going developmental opportunities, such as training courses and 2) develop special programs such as had proved successful in other federal agencies--he mentioned specifically co-op student programs. We decided the keynote of our training programs would be joint cooperative effort with colleges and universities. We began planning a co-op student program. I first tried to find out how many co-op students the organizations would like and could use. I got varying responses. At that time the Flight Operations Group was very small and Les Sullivan and Chris Critzos flatly refused to accept any co-op students because they felt they could not train co-op students until they first got journey-men engineers. Other areas that were more fully staffed did want co-op students and I contacted colleges all over the U.S. and visited most of them, and established an agreement with them to provide co-op students to MSC.

199 Our purpose in setting up a co-op program was first of all to provide the Center with an input of engineering training from many different colleges. We quickly found the co-op students are generally outstanding young people with excellent academic averages and can contribute very quickly to the Center effort. The first three or four students came to MSC from VPI, Blacksburg, Virginia. They very quickly proved they were outstanding young men and this caused the entire Center to desire more co-ops. We recruited as rapidly as we could and the program grew rapidly until we had about 100 pair of co-op students onboard.

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The co-op program was an arrangement where colleges and universities would select their better students in engineering or scientific disciplines and send them to MSC for a semester and the students would go back to school for a semester. It was a year round program--they would either go to school or work in the summer. This enabled students to complete their academic program for a BS degree in five years. The students during their work phase of the program were able to get involved in a practical work situation and see how they could apply their academic training. The graduating co-op student is better rounded individually than the person who has just gone through the academic routine for an engineering degree as the co-op student has had some practical experience to go along with his academic training. The co-op program over the years has proved to be worthwhile primarily because in our recruiting in the co-op program we have been able to get students who have B averages or better. The quality of students we obtained has been higher than what we have been able to obtain through normal recruiting of college graduates. Our co-op students have had a B+ average whereas our overall college hires have been between a C+ and a B. We've improved our quality of young engineers recruited, we've contributed to their education by giving them practical experience, and we have strengthened our relationship with the college community. Even more important, we've been able to attract on a permanent basis over 50% of our graduating co-op students.

The co-op program was only one of many developmental programs that we decided to establish at MSC. The second major program was a graduate study program. Langley is fairly isolated from any major colleges and universities, so developed its own graduate study program with the courses primarily

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taught by Langley employees. The courses carried graduate credit, from VPI and University of Virginia, and a few of our employees in the STG were participating in these courses--probably 10 or 20 a year. As soon as we found out we were moving to Houston Stu Clarke and I came down and met with the President of the University of Houston. We established an agreement from the University that they would transfer as many as 12 graduate credits to the University for our employees which was an exception to their normal policy. They also agreed that our students could participate in a part-time basis in their advanced graduate courses. They also agreed to the philosophy that as soon as the Center was established here, we would set up a graduate education center in the Clear Lake Area. The first semester after the Center moved to Houston, we had about 30-35 employees who went to the University to take graduate courses. At that time all the courses were engineering and scientific. Each semester following the enrollment in graduate courses increases substantially, and today we have 500 enrollments a semester. Many of these enrollments are contractor employees, as the courses have been opened to contractor employees as well as Civil Service employees. In 1964 we talked the University of Houston into teaching courses out at the Clear Lake Site. The University of Houston professors travelled out here and taught courses in the afternoons for those employees who wanted to take them. The Center paid the tuition and allowed employees time off to take these courses. The primary objective of a graduate study program is to provide our engineering and technical staff with opportunities to stay abreast of the state-of-the-art in their particular fields. It provides an opportunity to keep them intellectually stimulated and it provides the Center with knowledges, skills, etc., that we wouldn't other-

wise have. An incidental thing is that many of the employees earn advanced degrees as a result of their participation in the courses.

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322 ✓ We became concerned in 1965 about the fact that our graduate study program was primarily engineering and scientific in nature. We prevailed upon the University of Houston to set up a graduate study program in public administration for those administrative employees here who would like to participate. I believe I'm correct in saying we've had one employee, Jim Hollis, who was granted a master's degree in Public Administration this year. This was the first degree to come out of our newly established Public Administration Program.

323 ✓ Our ultimate plans in the graduate study area are worthy of mention. We in our many discussions with the University of Houston, talked to them about establishing a center in this area so the courses would not have to be taught on the MSC site and would be open to the general public as well as to NASA employees and contractors. A couple of years ago, Humble's Friendswood Development Company offered the University of Houston a substantial amount of land in Clear Lake City, located right outside the back gate of MSC. This would enable the University to build a graduate center here in the area. Construction has not begun yet, but there is a plan to build a three million dollar classroom facility. I believe the Humble Oil Company gave the University about five years in which to get the building completed. There are some fund raising drives being contemplated, and that in addition to the state support that can be obtained, should enable the University to get started.

Our third program was the Management Intern Program. Both Wes Hjernevik and Phil Whitbeck were Management Interns. Both felt an Intern program

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could help us attract outstanding young people to the Center to be administrators. Ken Jeffries was the first intern who was hired in January 1962 from the University of Pennsylvania. Actually the first year we intended to get seven or eight interns but intern recruiting is fierce and nobody had ever heard of STG so we were not very fortunate. We didn't do much planning either for recruiting. The following year we were able to get six interns and Earl Young was in that group along with Jerry Penno, Mark Johnston, and Paul Liebhardt (who is working in Program Control and Contracts now). We began the intern program with this small group and since 1962 we've had an average of 10 people a year. These young people have assumed key positions in administrative areas here at the Center. In the Personnel Division almost half of our journeymen employees are ex-interns. We've been very pleased with the quality of people we've attracted through this program. The primary reason we established the intern program was to attract better than average talent in administrative fields and I am convinced the intern program has helped us to do that.

These three core programs we immediately decided upon to be a part of our training effort, and in addition we decided that because of the complex technical nature of our work we would need to have short courses and seminars in many fields of endeavor to keep our people up to date. The computer field for example, was an interesting one. It seemed that every two to three months some new technique in computer programming would come out with a new computer language, requiring some kind of training program to be set up. We began to set up training courses to meet everyday needs of our work force. The training program actually didn't get off the ground until we settled in Houston because it was difficult to plan anything that would be

permanent when we were in a temporary location. It was not possible to do any negotiating with colleges or universities until we had a definite physical location.

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We've always been concerned in Personnel about the kind of managers we have and the quality of supervision at the Center. We were concerned about this from the beginning. There are 100 different kinds of training programs that could be used to develop managers. We felt we had a particular kind of problem in that most of our managers were former engineers and scientists who were good technical people but didn't know much about managing. We've tried to attack the problem in several different ways on how we best develop our managers. When we first came to Houston we set up a middle management seminar program with the University of Houston management development center. We had a number of our middle managers attend that program. It covered techniques such as delegating, control, ^{long} communicating, handling people and it proved to be an effective course (if there is any good way of evaluating a training program). (We never really know how good the results of a training program are.) In addition we established an in-house first line supervisory training program that we conducted in the Training Branch. Jack Pound was our seminar leader. In this course we covered the basic responsibilities of the supervisor and tried to make our people aware of their new role as supervisors.

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There have been a number of programs developed for top management. NASA had what was called a Project Manager's Seminar that many of our top people attended--Division Chief and above. These were held at various locations throughout the country--one was held at New Orleans, one at Williamsburg. This was a program that Jack Young created and pushed strongly. It

was conducted jointly by Headquarters and University people. In addition we've used Civil Service Commission courses to develop our managers. For about three years we've used the Kepner-Tregoe Problem Analysis and Decision Making Program. This is a program that gives managers practice in making decisions and tells how to gather data, and how to use data in arriving at a decision. It's a role playing program where each manager plays a different role every day and is required to make decisions and then is criticized by the rest of his training group. It's been effective, but I don't really feel we have found a good answer to the problem of developing good technical people into good managers. This is an area where we need to try to improve the quality of our overall management here at the Center. Because of the interest of people like Wes Hjernevik and Phil Whitbeck, MSC has had one of the broadest training programs of any federal agency. The support of all the training efforts has been extremely good, even when we didn't know whether the training was worth the effort and when there was no real way to evaluate the results. I ran the training program for about three years until 1966 when Stu Clarke left and Floyd Brandon was selected as Personnel Officer. Jack Cairl was chief of the Personnel Management Branch. Jack was asked to take an assignment with Dr. Berry in the Medical Directorate to be the executive officer there. Brandon needed someone to run his personnel management branch and handle all of personnel operations--classification, pay determinations, adverse actions, promotions, performance appiasal--the whole range of Personnel responsibilities. I had been in training for a number of years and was stereotyped as a training officer, but Floyd Brandon felt I could use a change and a new opportunity and he made me Chief of the Personnel Management Branch. I served in that position

about a year until Brandon went to NASA Headquarters and I was selected as Personnel Officer at the Center.

For the first three or four years of this Center, emphasis on the entire personnel program was on recruiting and retaining a quality staff. Almost everybody in personnel worked continuously on recruiting good people. About half of our people came from industry and the other half from colleges or other federal agencies. We concentrated on recruiting--everything else in our personnel program took a back seat to recruiting because the Center grew as rapidly as any organization in the Federal Government. We grew from 35 in the original STG in 1959 to a peak in 1967 of 5,000 civil service employees. That took a lot of recruiting, when it is remembered that over half of our work force, about 53%, were engineers and scientists. All of this recruiting was done at a time when there was a nationwide shortage of engineers and scientists.

For the past couple of years because of reductions in our overall NASA budget, there has been less emphasis on growth. The Center has leveled off at a personnel ceiling of about 4,600 employees. Our personnel problems are quite different. During the time we were recruiting rapidly with plenty of resources, everybody was engrossed in the program, and our morale problems were no problem. The program was new and exciting. But when adversity comes, the budget gets cut, and there seems to be a waning public interest, there are different kinds of problems. There are problems of morale, motivational problems, problems especially in utilizing people. Our emphasis in the Personnel Office for the past couple of years has been to try to keep the people we have happy, and to make sure we are getting the best utilization of our people. There still is a lot of work to be done in that

area. We've worked with our managers to try to figure out how to use our people most effectively in meeting the mission requirements we have in Apollo. One of the biggest problems we will face in the future is what we are going to do with the people working in the Apollo Program Office when Apollo phases out.

383 Our morale was adversely affected at the beginning of 1968 when MSC attempted a reduction in force. This reduction in force was occasioned by a reduction in our total AO budget while the Center at the same time needed to grow in certain new areas such as the S&AD. Our ceiling was being reduced when we needed to grow in science, we needed to provide additional staffing to meet some operational commitments for Apollo, and we didn't have the manpower billets to do these things. So management decided to effect a reduction in force in certain key areas of the Center to help meet these new staffing requirements. We proposed a reduction in force and we gave notices to 105 employees, only about 60 of which would go out the gate. Others were being reduced in grade. For the first time, we really got into some serious negotiations with the primary employees' union, the American Federation of Government Employees. Most of the employees who were affected in the Reduction in Force immediately joined the union, in fact this was about the biggest recruiting opportunity that the union has had in some time. The union membership doubled and possibly tripled during this RIF and the AFGE began to do everything it could to prevent NASA from having a RIF, primarily because MSFC and MSC both have a large number of support contractor employees. The AFGE took the position that as long as any contractor had an employee at MSC or Marshall doing work that could be done by a civil servant we should not be allowed to

separate any civil servants. The union went to court and filed an injunction and prevented MSFC, (by the way MSFC was having a much bigger RIF than MSC) from carrying out its proposed RIF. At the same time the union informed us that they had their injunction prepared and ready to file against MSC if we carried out a RIF. We very wisely decided to cancel our reduction in force and took our manpower reduction through attrition. This we've done for the past nine months. The problem with taking a reduction through attrition is that management has very little flexibility for staffing new areas of endeavor. One of the most critical problems we have, because our reductions have been taken through attrition, is that our clerical work force is down to an absolute minimum. A manpower freeze has the effect of squeezing the clerical work force, because our traditional turnover (and this is true in any federal organization) is greatest in the clerical area. We lose about 20% of our clerks a year and if we were to be frozen for five years we wouldn't have any clerks left. Right now we are down to about 2/3's the clerks we had a year ago. People are very unhappy because they don't have enough clerks to provide clerical support. One of the main reasons we can't hire clerks and cannot staff other requirements is because we were unable to carry out the RIF that was proposed almost a year ago.

363 Along the lines of current personnel effort here, I have a staff of 15 personnel specialists and each specialist is assigned to certain organizational elements of the Center. Each specialist has about 400 positions that he services and he is responsible for pay administration, and for advising the managers on all aspects of personnel management, and our efforts are to get managers to be more concerned about morale, and to make sure they

are using all of their people properly. We are making an effort to try to be of more assistance to them in managing their organizations. We are trying to make sure that our managers do pay attention to good personnel management principals. Many problems were brought to our attention by the Union and we are sort of the go-between between the employee groups and managers. We try to resolve the problems informally before they develop into formal grievances or complaints.

305-7 About three years ago, we decided this Center should be very active in participating in programs for the disadvantages. We established a number of programs where students from the community work here. We have an arrangement with the Job Opportunities for Youth Office downtown whereby a number of underprivileged kids come out here and work 30 hours a week and receive some training in basic English and math. We have a YOC program, Youth Opportunity Campaign. Each year we hire a number of back-to-school YOC's who work part-time and go to school. The purpose of having work is to help them finish their high school education. We have an arrangement with the Negro high schools to provide students for us. They go to school four hours a day and work four hours a day. Most of these kids are participating in typing training programs at the high schools and they come out here and provide service as secretaries. This is an effort to improve the quality of education that the minority groups get. In the summer we have large numbers of disadvantaged students here on a full-time basis. We participated in the Houston Job Fair this past summer and hired 10 of the applicants from the downtown job fair.

384 In discussing graduate study, I placed emphasis on our relations with the University of Houston in the development of a graduate education center

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at Clear Lake City. I neglected to mention, that in addition to our program with the University of Houston, we have significant number of employees who attend college on a full-time basis at MSC expense. The purpose is to give our employees specialized training not available in the local graduate courses. Many colleges that have special areas in which they excel and we found it to be to the benefit of the Center to send people away to get expert instruction in these specific areas. Each year we've averaged about 10-15 employees almost all scientific and engineering. They have attended colleges all over the country on a full-time basis for nine months. The Center pays the salary, tuition, and all expenses, because the primary purpose of sending these people away is to gain knowledge for the benefit of the Center. Some have gone to MIT, Stanford, Texas A&M, University of Michigan, any number of other schools. In addition, we have a local part-time graduate study program with Rice University. Rice at our request established a Space Science Department about six years ago and the first few PhD's graduating from that department were MSC employees. Jerry Modisette is a good example of the PhD graduate of Space Science. Our program with Rice has not been as large as with the University of Houston primarily because Rice prefers to keep its enrollment small and discourages part-time study. There are certain people at Rice who prefer students be full-time or not have them at all. That's not universal. There are some faculty members at Rice who welcome part-time students. Because of the desire on part of many people at Rice to have full-time students only, our enrollment has been small there. Secondly, we have had a number of people attend fellowship programs throughout the country. Each year NASA Headquarters canvasses the various Centers to see if we have outstanding

296 employees who could attend fellowship programs and as a result be of more value to NASA and the federal government as a whole. We've averaged at least one employee to the MIT Sloan Program each year. It is a management training program whereby outstanding young men get an entire year of management development. They get exposed to some of the best training in the country in the field of management development. In addition we've had employees attend the one-year program at the National Institute of Public Affairs. Jack Cairl was at Cornell University for one year. It would be my best guess that we've averaged about three or four employees a year in these programs.

205-1 I neglected to mention one of our long-range development programs that I helped get started about four years ago. In addition to the co-op program and the intern program, we also started an apprentice program that was patterned after the apprentice program at ILC. The purpose of this program was to take young men right out of high school and train them to be craftsmen in our Tech Services shop. We started this program with about 10 people in 1964. We selected people to learn four trades: electronic instrument maker, spacecraft metalsmith, experimental machinest, and wood and plastic model makers. Each year we've tried to add some young people to this program. This year we had our first graduating class of apprentices. It is a four year training program consisting of both academic training and on-the-job training in the shop. Each apprentice gets about six hours of classroom training per week in related academic courses such as mathematics and blueprint reading. Our program has been designed to train technicians who can be of exceptional value to the engineers in designing and developing hardware. We've given our apprentices some sophis-

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ticated courses in mathematics going all the way up through calculus. Our program is designed so each apprentice when he finishes will have approximately two years of college training and will have learned a great deal about a particular trade or craft. We are trying to develop highly competent engineering technicians who can provide maximum support to our engineers and scientists. The shop training for the apprentices consists primarily of training under the guidance of some senior technician or craftsman in Jack Kinzler's shop. We've assigned each apprentice to journeymen technicians and they teach them how to use the machines, how to perform certain mechanical tasks and they supervise them during the four years of OJT. This is supplemented by academic training at the University of Houston and at San Jacinto Junior College. We started out with 10 apprentices and we've added approximately 10 each year since 1965. We are not sure of the future of this program because of the reduction in billets. The co-op program, management intern program and apprentice program are all affected by the fact that the Center is being reduced in total civil service billets and we are not sure at this point how many billets are going to be available in coming years for the training of young people.

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One other program is our faculty fellowship program. It was always the intent of Mr. Webb while he was with NASA that most of NASA's work would be accomplished through University-Industry-NASA team and we've always made a special effort at this Center to cultivate relationships with the university community. One of the things we've done is encourage faculty members of the various colleges and universities to come here in the summer and work with us in their areas of interest. We established the ASEE summer faculty fellowship program and each year 15-30 faculty members in engi-

neering and science from colleges all over the country come to the Center and work with our engineers and scientists on particular tasks related to their discipline. The primary purpose of this program is to exchange information between NASA and the University community. Many of the things they do will not appear in textbooks for another four to five years from now. One way we can get this information across now is by having these people come work with us in the summer and then they are in a better position to tell their students and others about what's going on within the space program. The primary effort in our summer faculty fellowship program has been to cultivate these contacts and to provide an exchange of information between NASA and the academic community.

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In addition, we've used a number of these faculty people to perform research projects for us. We established our own summer faculty program in administration and each summer we have five or six summer faculty members in public administration or business administration who come here and work on some particular administrative problem. For example, last summer, I had a professor from the College of Business at University of Houston who worked with me on a project of determining what our personnel specialists ought to be doing with their time. Many of the Personnel specialists were spending their time doing different kinds of things. No two PMS's were consistent in how they spent their time. We felt there must be a optimum role for Personnel specialists. The professor stayed here for some time studying the role of the PMS and he has given me a report on what he thinks they ought to be doing. They are paid as consultants generally and that ranges from \$50-\$100 a day, depending on their academic level or rank. We try to match their college salaries, but we don't pay them any more than that.