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Before the
United States
Commission on Civil Rights

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UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Women and Minorities in High Technology

Hearing Held in

**SAN JOSE,
CALIFORNIA**

SEPTEMBER 20-21, 1982

Testimony

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U.S. COMMISSION ON CIVIL RIGHTS

The U.S. Commission on Civil Rights is a temporary, independent, bipartisan agency established by Congress in 1957 and directed to:

- Investigate complaints alleging that citizens are being deprived of their right to vote by reason of their race, color, religion, sex, age, handicap, or national origin, or by reason of fraudulent practices;
- Study and collect information concerning legal developments constituting discrimination or a denial of equal protection of the laws under the Constitution because of race, color, religion, sex, age, handicap, or national origin, or in the administration of justice;
- Appraise Federal laws and policies with respect to discrimination or denial of equal protection of the laws because of race, color, religion, sex, age, handicap, or national origin, or in the administration of justice;
- Serve as a national clearinghouse for information in respect to discrimination or denial of equal protection of the laws because of race, color, religion, sex, age, handicap, or national origin;
- Submit reports, findings, and recommendations to the President and Congress.

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John Hope III, *Acting Staff Director*

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Before the
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Commission on Civil Rights

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UNITED STATES COMMISSION ON CIVIL RIGHTS

Monday, September 20, 1982

The U.S. Commission on Civil Rights convened, pursuant to notice, at 8:30 a.m. in the Montgomery Theatre, San Jose Convention Center, Market Street at West San Carlos Street, San Jose, California, Clarence M. Pendleton, Jr., Chairman, presiding.

PRESENT: Clarence M. Pendleton, Jr., Chairman; Mary Louise Smith, Vice Chairman; Mary Frances Berry, Commissioner; Jill S. Ruckelshaus, Commissioner; Murray Saltzman, Commissioner; John Hope III, Acting Staff Director; Paul Alexander, Acting General Counsel; Michael McGonings, Assistant General Counsel; Peggy Massey, Staff Attorney; Ricki Seidman, Staff Attorney; Donald Chou, Staff Attorney; Marlana Berhane, Staff Attorney; Marvin Schwartz, Staff Attorney; Patricia Dunn, Staff Attorney; Derryl Stewart King, Staff Attorney.

PROCEEDINGS

CHAIRMAN PENDLETON. The hearing will come to order. Good morning. I am Clarence M. Pendleton, Jr., Chairman of the United States Commission on Civil Rights.

The Commission on Civil Rights, pursuant to its statutory authority, determined in June 1982 to make a study of minorities and women in the high-technology industry. Experts in the industrial, finance, and academic communities project that high-technology industry will be a growth sector in the American economy for a long time. Santa Clara County was selected as the site for this hearing because it has the largest concentration of high-technology companies. This concentration of high-tech companies has given birth to numerous small, innovative enterprises.

Our purpose in undertaking this study is to examine the high-technology industry and the opportunities for business development and employment for minorities and women; to evaluate existing and proposed strategies for encouraging business ownership and employment of minorities and women; and to focus on the role of Federal, State, and local governments in promoting entrepreneurship and employment opportunities for minorities and women.

The testimony received at this hearing and other evidence obtained by the Commission will be used to prepare a report to the Congress and the President containing the findings and recommendations. Responsibility for action on these recommendations rests with the Congress and the President. This Commission, however, has, as one of its major mandates,

the responsibility to monitor on a continuing basis action, or the reasons for inaction, on these recommendations.

Beginning at 5:30 p.m. tomorrow afternoon, September 21, we will hear testimony from persons who have not been subpoenaed as witnesses. Those who wish to testify in this open session may sign up with the staff in the lobby outside this room. They will be permitted to speak for 5 minutes and must speak only about the subject matter of this hearing. They may not give any testimony which may tend to defame, degrade, or incriminate any person. They will not be questioned either by staff or by members of the Commission.

Commissioner Berry will now briefly explain the rules of the Commission pertaining to these hearings.

COMMISSIONER BERRY. Thank you, Mr. Chairman. At the outset, I should emphasize that the observations I'm about to make on the rules constitute nothing more than brief summaries of the significant provisions. The rules themselves should be consulted for a fuller understanding. Staff members will be available to answer questions which arise during the course of the hearing.

In outlining the procedures which will govern the hearing, I think it is important to explain briefly the special Commission procedure for testimony or evidence which may tend to defame, degrade, or incriminate any person. Section 102(e) of our statute provides, and I quote:

If the Commission determines that evidence or testimony at any hearing may tend to defame, degrade, or incriminate any person, it shall receive such evidence or testimony in executive session. The Commission shall afford any person defamed, degraded, or incriminated by such evidence or testimony an opportunity to appear and be heard in executive session, with a reasonable number of additional witnesses requested by him, before deciding to use that evidence or testimony.

When we use the term executive session, we mean a session in which only the Commissioners are present in contrast with sessions such as this one in which the public is invited and present. In providing for an executive or closed session where testimony may tend to defame, degrade, or incriminate any person, Congress clearly intended to give the fullest protection to individuals by affording them an opportunity to show why any testimony which might be damaging to them should not be presented in public. Congress also wished to minimize damage to reputations as much as possible and provide the person an opportunity to rebut unfounded charges before they were well publicized. Therefore, the Commission, when appropriate, convenes in executive session prior to the receipt of anticipated defamatory testimony.

Following the presentation of the testimony in executive session and any statement in opposition to it, the Commissioners review the significance of the testimony and the merit of the opposition to it. In the event we find the

testimony to be of insufficient credibility or the opposition to it to be of sufficient merit, we may refuse to hear certain witnesses, even though those witnesses have been subpoenaed to testify in public session. Testimony which may tend to defame, degrade, or incriminate another person is not permitted by witnesses in the open session. An executive session is the only portion of any hearing which is not open to the public.

The hearing which begins now is open to all and the public is invited and urged to attend all of the open session. All persons who are scheduled to appear have been subpoenaed by the Commission. All testimony at the public session will be under oath and will be transcribed verbatim by the official reporter. Everyone who testifies or submits data or evidence is entitled to obtain a copy of the transcript on payment of cost. In addition, within 60 days after the close of the hearing, a person may ask to correct errors in the transcript of the hearing of his or her testimony. Such requests will be granted only to make the transcript conform to testimony as presented at the hearing.

All witnesses are entitled to be accompanied and advised by counsel. After the witness has been questioned by the Commission, counsel may subject his or her client to reasonable examination within the scope of the questions asked by the Commission. He or she also may make objections on the record and argue briefly the basis for such objections.

Should any witness fail or refuse to follow any order made by the Chairman or the Commissioner presiding in his absence, his or her behavior will be considered disorderly and the matter will be referred to the U.S. attorney for enforcement pursuant to the Commission's statutory powers.

If the Commission determines that any witness' testimony tends to defame, degrade, or incriminate any person, that person or his or her counsel may submit written questions which, in the discretion of the Commission, may be put to the witness. Such person also has a right to request that witnesses be subpoenaed on his or her behalf.

All witnesses have the right to submit statements prepared by themselves or others for inclusion in the record, provided they are submitted within the time required by the rules. Any person who has not been subpoenaed may be permitted, in the discretion of the Commission, to submit a written statement in this public hearing. Such statement will be reviewed by members of the Commission and made a part of the record.

Witnesses, including those in the open session, at Commission hearings are protected by the provision of Title 18, U.S. Code, section 1505, which makes it a crime to threaten, intimidate, or injure witnesses on account of their attendance at government proceedings. The Commission should be immediately informed of any allegations relating to possible intimidation of witnesses. Let me emphasize that we consider this to be a very serious

matter, and we will do all in our power to protect witnesses who appear at the hearing.

Copies of the rules which govern this hearing may be secured from a member of the Commission's staff. Persons who have been subpoenaed have already been given their copy.

Finally, I should point out that these rules were drafted with the intent of ensuring that Commission hearings be conducted in a fair and impartial manner. In many cases the Commission has gone significantly beyond congressional requirements in providing safeguards for witnesses and other persons. We have done that in the belief that useful facts can be developed best in an atmosphere of calm and objectivity.

We hope that such an atmosphere will prevail at this hearing. With respect to the conduct of persons in this hearing room, the Commission wants to make clear that all orders by the Chairman must be obeyed. Failure by any person to obey an order by Chairman Pendleton, or any Commissioner presiding in his absence, will result in the exclusion of the individual from this hearing room and criminal prosecution by the U.S. attorney when required. The Federal marshals stationed in and around this hearing room have been thoroughly instructed by the Commission on hearing procedures, and their orders are also to be obeyed.

Each session of this hearing over the next 2 days will be open to the public. The session today begins at 8:30 a.m. and will continue until 5:30 p.m., with 1 hour for lunch. Tomorrow we will begin at 8 a.m., and at approximately 5:30 p.m. an open session will begin and extend until no later than 6:30 p.m. Thank you very much, Mr. Chairman.

CHAIRMAN PENDLETON. Thank you, Commissioner Berry. Next we will have welcoming remarks from Mr. Herman Sillas, Jr., Vice Chairperson for the California State Advisory Committee. Welcome.

WELCOMING STATEMENT OF HERMAN SILLAS, JR., VICE CHAIRPERSON, CALIFORNIA ADVISORY COMMITTEE

MR. SILLAS. Thank you, Mr. Chairman.

The California Advisory Committee to the United States Commission on Civil Rights welcomes the Commission and this proceeding focusing on employment opportunities for minorities and women in high-technology industry.

As you know, many of the members of the Advisory Committee are present here today. Some of them had the opportunity of meeting with you last night and look forward during the course of these 2 days to meet you on a more personal basis.

The California Advisory Committee has had a long-standing interest in employment opportunities for minorities and women in the State. In 1976 the Advisory Committee investigated efforts of the entertainment industry in Southern California. In this report, *Behind the Scenes: Equal Employment*

Opportunity in the Motion Picture Industry, released September 1978, the Advisory Committee concluded that the motion picture industry's commitment to affirmative action was lacking. The Advisory Committee has continued to provide technical assistance to coalitions of minority and women's groups who allege their representation in the industry is still negligible.

In July 1980 the Advisory Committee released the report entitled *California State Employment* which provided an analysis of State civil service employment data for the 5-year period 1974-79. The Advisory Committee found that despite State statutory affirmative action requirements and special emphasis recruitment programs, minorities and women made minimal progress in attaining equal job status with white males. The minorities and women were found concentrated in low-job and income categories. I might add that we are now in 1982 and the stats remain pretty much the same. In addition to its interest in employment, recent Advisory Committee activity has focused on studies of the State role in school desegregation, legislative reapportionment, and immigration. Advisory Committee reports on these topics are available to the public. In all of its studies and reports, the Advisory Committee has made constructive recommendations to increase the participation of minorities and women in the socioeconomic fabric of the State.

It is appropriate that the Commission conducts its hearings on high-technology industries in this section of northern California. Most of what we consider the electronic and computer technologies and associated industries began as cottage industries in Santa Clara County. The resultant economic development brought profound change to an area that had been rural and agricultural. The minority population which supported agricultural production saw their source of livelihood erode without the benefit of training or education in the new skills required by the developing economic base in high technology.

In its 1981 national business forecast, U.C.L.A. Graduate School of Management noted that at a time when the greatest demands for new labor are being made by high communication technology growth industries who are seeking labor with considerable skills, the greatest increase in the labor force will be among those workers with the least skills and the least experiences. During the course of these proceedings, the Advisory Committee hopes that participants will stress how California citizens can be encouraged to participate in high-technology business development and employment opportunities, what are the industry's employment needs, and where can minorities and women receive the necessary training to be a part of high-technology industry.

As we enter the world of robotics and microchips and dots, high-technology industries must play an expanding role encouraging all

segments of California population to participate as employers and employees.

As a side note, here in San Jose the population of this school district exceeds almost 50 percent of Spanish-speaking students. Right in the heart of an industry, as just pointed out, very high technological, yet the computers are not in those schools; and so we have, I think, a very appropriate place for you to examine what is happening when an industry such as this moves into an area that was previously an agricultural area.

I want to thank you for your time and consideration and the California Advisory Committee wishes the Commissioners a most productive hearing.

CHAIRMAN PENDLETON. Thank you. Next we'll hear from Mr. Leonard Siegel, director of the Pacific Studies Center. Mr. Siegel, why don't you come up, please.

[Leonard Siegel was sworn.]

TESTIMONY OF LEONARD SIEGEL, DIRECTOR, PACIFIC STUDIES CENTER

MR. SIEGEL. Good morning. My name is Lenny Siegel. I am director of the Pacific Studies Center in Mountain View and a resident of Mountain View. What I will be presenting this morning is basically highlights of the background report which I and my colleagues prepared in preparation for this hearing.

This area has been known informally and universally for the past decade as Silicon Valley because apricots and prunes are no longer the primary crop of Santa Clara Valley; silicon chips or semiconductors are.

There are approximately 200,000 people working the high-technology industries of the urban section of Santa Clara County and southern San Mateo County. There are at least 800 manufacturing firms in Santa Clara County in high technology with more than 10 employees. This is not only the greatest concentration of high technology in the United States and perhaps the world, but it is also the greatest concentration of small firms engaged in that industry, and it is seen across the United States as a model for industrialization. Delegations from Connecticut, Tennessee, North Carolina come out here to try to attract our firms.

In trying to determine where to locate, industrial firms look at transportation, power, land availability, and human resources. And high-technology firms are looking at two things when they are looking for an area to develop: First, by definition, they are looking for professionals, scientists, and engineers. Without those it would not be a high-technology industry. And secondly—and this is surprising to many people—they are looking for a large inexpensive work force of unskilled and semiskilled personnel. Approximately one-quarter of the electronic work force in

Silicon Valley are semiskilled operators. Many people are surprised to learn that.

Santa Clara County is a rapidly growing county. It now has about 1.2, 1.3 million people. As the area has industrialized since World War II, the minorities' populations—Chicanos and other Latinos, Hispanic Americans—made up about 12 percent of the population in 1950; 17.5 percent in 1980.

The small black population has risen from 0.6 percent to 3.4 percent, and the Asian population has risen from 2.6 percent to 7.7 percent, and the makeup of the Asian community has shifted with the greater immigration of Indochinese and Filipinos.

The work force in the high-technology industry of Santa Clara County generally reflects those population figures; however, it turns out that Hispanic Americans are underrepresented in the work force: 10.6 percent of the employees in the high-technology industry are Hispanic compared to 17.5 percent of the population. Asians, on the other hand, appear to be overrepresented with 10.9 percent of the work force, yet only 7.7 percent of the population. Blacks are slightly overrepresented in the industry.

More significant perhaps is there appears to be a hierarchy of employment in which the most—the best paid jobs with the highest status are primarily occupied by white males, some white women, and that the jobs with the least status, the lowest paid, tended to be occupied by women and large concentrations of minority women.

High-technology industry, as I said, includes a number of professionals. In Silicon Valley, according to the best figures that we have available, something like 86 percent of the managers and 83 percent of the professionals are male; 88 percent of the managers and 84 percent of the professionals are white.

Technicians who are skilled people trained to operate technical equipment are 75 percent male, 72 percent white. On the other hand, operatives, who make up about a quarter of the electronics work force, are 68 percent female and only 50 percent white. It turns out that these figures are really standard across the country.

We have presented a staff report which includes figures for other high-technology areas such as Boston, Dallas, Fort Worth, North Carolina, and the trends are essentially the same. There are slight differences, the major difference, of course, being the makeup of the population. For instance, in North Carolina, the largest minority within the work force are black persons as opposed to Hispanic persons in Silicon Valley.

In terms of job mobility within the work force, there are reports from a number of women who start as clerical workers. For instance, it is possible to move into certain kinds of management positions not requiring technical background such as marketing, personnel, public relations. The mobility from assembly lines as operatives is relatively limited. There is a lot of

horizontal mobility, people moving from firm to firm, but very little advancement into technician, although that does exist.

The Silicon Valley turns out, therefore, to be an area where it is a land of opportunity perhaps. For a number of people, it is a land of uneven opportunity and that particular uneven opportunity shows up not only within the work force but within the geography of Silicon Valley. Unlike a lot of more mature urban centers, the commute patterns from Silicon Valley are from the less affluent areas into the more affluent areas; that is, Palo Alto, one of the more wealthy communities in Silicon Valley, has about three times as many people working in the community as living there. Most of the commuters turn out to be the production workers who have to commute the greatest distances. This not only places a strain on these minority women who work here who frequently have trouble finding child care and have to drive 30 miles to work a day, but it has led to problems with the municipalities and unincorporated areas within Silicon Valley. And the problem is that the tax base generated by industry goes to the communities which hosts or where the professionals and managers live rather than the communities where the production workers live. We will present a table to that effect to show the relationship of Palo Alto to one of the stronger industrial areas that has assessed evaluation per capita of \$35,000 than in San Jose, and the problem becomes that the assessed evaluation there is \$21,000 per capita. If you include east Palo Alto, which is technically not part of the Santa Clara County but in every other measure a part of Silicon Valley, these discrepancies are even greater. The assessed value per capita in the unincorporated areas of east Palo Alto and San Mateo County is about \$10,000. That has created enormous problems for efforts in that community to create a city government there.

There are political problems as well, but the major problem that they experienced in the last 15 years of the drive towards municipality is the fact it has no tax base. Yet just across the freeway is one of the strongest tax bases in California.

The creation of Silicon Valley in all of its high-technology companies is in many ways a creation of policies of the Federal Government. For instance, Stanford University in the 1950s and 1960s campaigned to build an industrial park and engineering school which provided the core for this industry. Turned out they relied very heavily on funds from the Pentagon to finance it. Stanford had millions of dollars, \$16 million a year, for instance, in military contracts. Companies located on Stanford land or used Stanford faculties, who formed the firms, and had millions [unintelligible]—today, there are about \$2.7 billion each year in high-technology contracts in Silicon Valley from the Federal Government, or at least from the Pentagon and more from other aspects of the Federal Government. So

that's one way in which high-technology industry in Silicon Valley has been encouraged by the Federal Government.

There are other ways—and I'm not going to go into every single one—but another way in which the Federal Government's policies have influenced development of Silicon Valley is through tax policies.

In 1969 finances dried up for some of the entrepreneurial firms in Silicon Valley. With the reduction of the capital gains tax—*increase in the capital gains tax*—with the reduction which was lobbied for heavily by the American Electronic Association in 1978, an enormous amount of funds opened up again, about \$1.6 billion nationwide, and there has been a whole new rash of business startups in Silicon Valley, including semiconductors, computers, and peripherals, DNA firms, largely as a result of the capital freed by this change of the capital gains tax. Silicon Valley has perhaps a unique history in the ability of entrepreneurs to take advantage of that sort of venture capital which the capital gains tax tended to open up again.

The history of the semiconductor industry in Silicon Valley, in fact, is based upon engineers and scientists and managers at Fairchild and other successor firms who are unhappy with conditions at that firm—maybe they were unable to build a particular piece of equipment they wanted to build—going off and setting up their own firm. A spinoff phenomenon has created an enormous number of independent firms run by scientists and engineers. This also occurs at lower levels within the plant. A graphic specialist may set up a graphics firm. A study done of 250 high-technology firms in 1960 in Silicon Valley basically showed that the firms who were most successful as high-technology startups were those who were spinoffs of large firms. This is the story of Silicon Valley: We have those hundreds of firms full of people who have worked at other firms. Those people who have been able to establish firms and to establish contacts for marketing, supplies, and obtain financing are those people who have been able to advance within the industry. Thus the question that one would ask about where are the opportunities for business development for minorities and women in Silicon Valley turns out to be the same question, where are the employment opportunities for minorities and women in Silicon Valley.

MR. ALEXANDER. Thank you, Mr. Siegel. Mr. Chairman, I'd like the report of the contractor submitted to the record as an exhibit.

CHAIRMAN PENDLETON. Thank you. We will now call the first panel.

MR. ALEXANDER. Dr. Lucius Walker, Carole Morning, Hartford Boykin, and Dr. Judy Larsen.

[Lucius Walker, Carole Morning, Hartford Boykin, and Judy Larsen were sworn.]

TESTIMONY OF LUCIUS WALKER, DEAN OF ENGINEERING, HOWARD UNIVERSITY; CAROLE MORNING, VICE PRESIDENT OF PROGRAM PLANNING AND RESEARCH, NATIONAL ACTION COUNCIL FOR MINORITIES IN ENGINEERING; HARTFORD BOYKIN, PRESIDENT, TECHNOLOGY, RESEARCH AND COMMERCIALIZATION, INC.; AND JUDY LARSEN, SENIOR RESEARCH SCIENTIST, COGNOS ASSOCIATES

CHAIRMAN PENDLETON. Counsel?

MR. ALEXANDER. Thank you. Starting with Dr. Walker, could you each identify yourself for the record, your name and position and city?

DR. WALKER. Lucius Walker, dean of engineering at Howard University in Washington, D.C.

MS. MORNING. I am Carole Morning. I am vice president of program planning and research of the National Action Council for Minorities in Engineering, and we are housed in New York City.

MR. BOYKIN. I am Hartford Boykin, president of Technology, Research and Commercialization, Inc., Los Angeles, California.

DR. LARSEN. I am Judy Larsen, a senior research scientist at Cognos Associates in Palo Alto.

MR. ALEXANDER. Dr. Larsen, we will start with you. I understand that you have been working on a book called "Silicon Valley Fever"; is that correct?

DR. LARSEN. Correct.

MR. ALEXANDER. That traces the history of this industry; is that accurate?

DR. LARSEN. Yes, that's right.

MR. ALEXANDER. Could you just briefly highlight for us what some of the key developments have been in the creation of this industry?

DR. LARSEN. I would be happy to, yes. The birth of Silicon Valley, according to some people, actually occurred in 1912 in Palo Alto when Leadey Forrest and two of his colleagues heard a fly walk across a sheet of paper. That event was the first time that a vacuum tube had amplified a signal, and it marked, at least, one of the births of Silicon Valley and of electronics.

At that time there was a group of pioneers in Palo Alto who were working in the fledgling radio industry and the electronics industry. These people were all connected with Stanford University, and most of them—in fact all of them—were connected with each other, too; that is, they were friends and they shared information. They would call each other and talk about what was going on because, of course, nothing was written at this point. Most of their work was being done in garages or back rooms, and Stanford, in fact, would send students to these laboratories, so to speak, to see what was going on; so one other factor that was important in these early days was that these early pioneers were intimidated to some extent

by the large electronics firms in the East, and so they had to work together to catch up with these other firms.

And already we can see some of the factors that led to the rise of Silicon Valley, that is, a close industry-university tie, an informal information exchange network among the inventors and pioneers, and a catchup spirit.

Now, Stanford University and its visionary vice president, Frederick Terman, were also critical in the rise of Silicon Valley. During World War II, Terman went back East to direct the Radio Research Laboratory which was housed at MIT and at Harvard. When he came back after the war, he was convinced of the importance of forming Stanford Industrial Park for the purpose of attracting industry to the university and getting some very well-needed dollars at that time for the university, but also to provide jobs for the graduates of their electrical engineering program.

Dr. Terman himself was a professor of electrical engineering before he became the vice president of the university. One of his most direct influences in the rise of Silicon Valley was his role in launching Hewlett-Packard. Hewlett and Packard were Stanford's students who first became friends on the football team, but who also were students of Dr. Terman in the engineering department. And Terman, in fact, encouraged them to form a partnership to build the oscillator which Hewlett developed as his master's thesis at Stanford, and Dr. Terman loaned them \$538 to begin their business in 1938. In 1954 Hewlett-Packard became one of the first firms to locate in Stanford Industrial Park.

Now, one of the other births of Silicon Valley, of course, occurred in New Jersey in 1947 with the invention of the transistor at Bell Labs, and two of the inventors were retained by the lab and stayed in the East, but the third, William Shockley, decided to apply his invention, and he did it by coming to his home town of Palo Alto; so Shockley Semiconductor Laboratory was started in 1955—only a stone's throw, by the way, from Hewlett-Packard.

Shockley's reputation as an inventor helped him to attract bright young men to work with him; however, he wasn't the easiest person in the world to get along with and in 1957, eight of these bright young men split off and started their own firm, Fairchild Semiconductor, which was financed by Fairchild Camera and Instrument Company; and throughout the sixties Fairchild actually was the university of Silicon Valley because engineers came to work and learn at Fairchild, but then in succession split off and started their own firms.

MR. ALEXANDER. Dr. Larsen, the networking that you spoke of back in the early days and then the network that you spoke of that was generated out of Stanford, you have mentioned bright young men, so we assume they were predominantly male. What was the race of all of these individuals or most of these individuals?

DR. LARSEN. As far as I know they were all white.

MR. ALEXANDER. As far as you know, during the period of time, did Stanford have on its faculty black engineers? Did it have a recruitment program for blacks, Chicanos, or women students at the time while this industry was generating?

DR. LARSEN. Not as far as I know.

MR. ALEXANDER. Dr. Walker, you have been the dean of Howard Engineering School for how long?

DR. WALKER. Approximately 6 years.

MR. ALEXANDER. And you have been an engineer for how long?

DR. WALKER. Twenty-five years.

MR. ALEXANDER. You would have been graduating around the time some of this was going on out here in Silicon Valley. What was the market for black engineers when you were graduated from engineering school?

DR. WALKER. I would say that Federal agencies were most active in recruitment of graduates from our school. There were a few private industries that would seek graduates from our school. Of course, in recent years that has changed considerably.

MR. ALEXANDER. The few industries would be the exception—was the rule generally that employment was not available to blacks in the electronics industry when this industry was in its generation stage?

DR. WALKER. I would say by and large the opportunities for black employment in engineering were with the Federal Government.

MR. ALEXANDER. Approximately how many black engineers at that point in time were there being generated by schools such as Howard and other schools back in the fifties?

DR. WALKER. An extraordinarily small number were being generated at that time. I would estimate 200 to 300 per year nationwide.

MR. ALEXANDER. And was it the small—not so small, predominantly black colleges that were at that time the major source or the only source of engineers?

DR. WALKER. By and large they were the major source of engineers prior to the late sixties. I guess I would estimate that the historical black schools graduated as many as 50 to 80 percent of the black engineers in the early fifties, early sixties.

MR. ALEXANDER. You stated earlier that the major employment market for these individuals was government and that remained true for how long?

DR. WALKER. I'd say that remained true up until the beginning of the seventies.

MR. ALEXANDER. To what do you account, though, the major lack of black engineers in the country today, the fact that currently there are so few still?

DR. WALKER. Historically, I mean, there were a limited number of opportunities for black Americans in technical fields, and, of course, the

intergenerational effects of discrimination and racism which limited opportunities for black Americans, I think, have resulted in the supply being quite low.

MR. ALEXANDER. When you say intergenerational effects, could you expand on that? What do you mean?

DR. WALKER. Well, in the sense that, if my father didn't have an opportunity—well, let me explain that by way of an example.

MR. ALEXANDER. Fine.

DR. WALKER. A personal example. My father has a very strong interest in science, in fact, acquired a master's degree in physics. When I elected to pursue engineering, he actively encouraged me, after earning my bachelor's degree, to consider going to a teacher's college so that I would be qualified to work in the public school system, so clearly his perspective about what opportunities in this country was rather limited by his experiences over the years.

MR. ALEXANDER. Ms. Morning, could you describe the program that you are with?

MS. MORNING. Yes, the National Action Council is an organization whose mission is to increase the participation of underrepresented ethnic minorities—black, Hispanic, and Native American—in undergraduate engineering education.

MR. ALEXANDER. Could you give us just a very quick overview as to where we are today in terms of the number of engineers in those fields, Dr. Walker? If you want to add onto that, that will be fine.

MS. MORNING. Total of all engineers or ethnic?

MR. ALEXANDER. Ethnic engineers as opposed to the total.

MS. MORNING. Well, I would say today there are roughly—3 to 4 percent comes from those ethnic groups.

MR. ALEXANDER. And that is a major improvement over the last 10 years?

MS. MORNING. Oh, yes.

MR. ALEXANDER. Could you describe some of the programs that your organization is involved with monitoring and promoting to increase that?

MS. MORNING. The largest program that we administer is the scholarship program. When the national minorities in engineering efforts started in the early 1970s, the lack of financial aid was seen to be the major barrier inhibiting the participation of minorities, and so we devote some \$3 million for scholarships and undergraduates.

MR. ALEXANDER. And your funding for this program comes primarily from where?

MS. MORNING. Exclusively from the private sector.

MR. ALEXANDER. As I understand it from some of your literature, one of the current problems with minority students in engineering is the issue of retention?

Ms. MORNING. That's right.

Mr. ALEXANDER. Is that accurate? What efforts are underway to try to deal with that issue?

Ms. MORNING. Well, last year we undertook a major research study in which we gave grants to some 11 campuses which we chose very carefully because of the diversity in student body and governments they represented. And we gave it in support of minority engineering support programs on campus, but with the provision that we could study very closely the mechanisms that we used, because there are a number of ways in which these programs work, but there has not been very good documentation as to what assists retention and the outcome.

Although the study is not complete, we have identified some three or four very major factors that impact upon retention.

Mr. ALEXANDER. What are those?

Ms. MORNING. Very simply, some of them are not at all are related to the academics as you might imagine. Some of them simply have to do with keeping the student well informed, giving him early feedback as to how he is doing in school. Minorities in particular seemed to go to engineering college without a clear idea of what is expected until it is too late for them to recoup.

Another is just an early familiarity with the campus. If you bring minority students on campus some time during the summer before they attend school and make them aware of where things are, where the services are, that seems to reduce quite a bit of the anxiety that is involved in starting school in a rather alien environment.

The third is to build into the program strong interaction between faculty and students, and that works two ways: Students learn what is to be expected of them, what standards really are in engineering school, and faculty becomes more acquainted with minority students and begins to see them more as people.

Mr. ALEXANDER. Could you comment on what you think the major factors have been for the increase of minority students within the engineering field in the last decade?

Ms. MORNING. Well, certainly the provision of financial aid has been important. The monies that have been given by private industries, NACME, for example, are given directly to the schools and given on an incentive grant basis: We will give you money for X number of additional students, for example, has been the incentive built into it and we have encouraged the growth of enrollment.

Another—and this is changing—has been the provision of information. As Dr. Walker explained, the information about opportunities in technical fields has been quite lacking, but I think that is less a problem today. It has been stopped, but it certainly was a problem in the startup. Right now I think one of the most severe problems has to do with the preparation at the

secondary level of minority students. The minority students simply do not take preparatory math and science courses that majority students do, or women, for that matter.

MR. ALEXANDER. What role would you say that the Federal Government's affirmative action policies have played in producing an increase in minority students in engineering?

MS. MORNING. I think there has been strong encouragement in the past for industry to look to where their future manpower is going to come from. I think they have been very positive.

MR. ALEXANDER. Dr. Walker, would you like to comment on that question?

DR. WALKER. I would concur with her answer. Certainly, affirmative action has kept the problem in focus. The problem is one that obviously requires a sustained effort. The campaign for manpower development is long. Any recession in attention to this problem will mean the problem will never likely be solved. The current rate of progress suggests that in terms of graduates, at least for black Americans, we might achieve parity, say, by the year 1995, but when you consider the fact that the manpower in any profession is an accumulation of people graduated over a long, long period of time, unless there is somehow an excess production of people in these fields, parity is not likely to be realized until 2030 or beyond that time, so I think one of the key things to the affirmative action efforts is keeping the problem in focus.

I think there has been some healthy legislation in this regard. With respect to government, the concept of merit advancement based on, that is, a necessary condition to satisfy the criteria for advancement being some kind of EEO activity. I think it is significant in maintaining the attention of the leadership at various levels to the problem of overcoming the underrepresentation of minorities in different fields.

MR. ALEXANDER. I would like to ask both Ms. Morning and Dr. Walker, the graduates, the female and black graduates, and other minority graduates being turned out by engineering schools today, do those people seem to have the problem getting a job initially?

MS. MORNING. No, not at all.

MR. ALEXANDER. Are you aware of what happens to them once they get into corporations? Has your organization monitored that?

MS. MORNING. Well, yes, we have begun, but of course, we don't have many. We are only graduating something like 3,000 minority students a year, and the initial studies, of course, are geared to our recent graduates who are in first jobs. They appear to overwhelmingly—well, 60 percent, at least, go to work for private corporations that employ large numbers of engineers. They are, in effect, going to work for the companies that helped to undergird and encourage their undergraduate education.

MR. ALEXANDER. Do you know whether these graduates, for example, are moving into positions of leadership within the corporate structure or is it too soon to tell?

MS. MORNING. I think it is perhaps too soon to tell.

MR. ALEXANDER. Dr. Walker?

DR. WALKER. We might note in that regard that I would say half of the minorities in engineering and science are people who graduated within the last 10 years and, you know, obviously when you say positions of leadership, I would presume you are talking about the CEO level and, of course, that normally takes a fair amount of time.

MR. ALEXANDER. Mr. Boykin, we spoke earlier about the networking that has existed in the electronics industry. I understand that your firm is involved in the generation of companies; is that correct?

MR. BOYKIN. That's correct.

MR. ALEXANDER. Could you just briefly explain what your company does?

MR. BOYKIN. Technology Research Commercialization, Inc., we call TERC for short, operates something called a Technology Commercialization Center, which I will refer to as TCC.

In 1974 the Department of Commerce, then Office of Minority Business Enterprise, began kicking around the idea that some business development assistance effort was needed for minority firms entering the technology-based and higher technology types of industries. One of the interesting points during those discussions was that quite a few private sector corporations were also in agreement with the Department of Commerce staff that such activity could, in fact, benefit the minority community in moving into the economic mainstream.

In '76 the first of these TCCs was established in Washington, D.C. I established the first regional one in the State of North Carolina in '77, and now under the new Minority Business Development Agency in '82 we are 10 strong nationwide.

MR. ALEXANDER. What are the problems that a small entrepreneur generally faces in going into the market? What are the issues that you have to deal with in your resource center?

MR. BOYKIN. Well, I think we might talk basically in four areas, problem-wise. One that comes up more often than not is what I might call access to research and development financing, the R&D activity being, let's say, the food that feeds that old slogan of necessity being the mother of invention.

We find that many minority businesses with the technical expertise, or with the talent in general, that have the ability to come up with new technology-based products and services are at a loss when looking for funding in many cases for that activity primarily from a business standpoint of this activity being soft, if you will. There may not be much of a

collateral position that one could take in the outcome of such an activity in loaning funds to support such an activity.

The second problem, I would say, would be access to markets, sort of have a term that—NIH, “not invented here.” That can further be defined in terms of one’s credibility: How can you external to this business situation come up with the answer to a problem in this business situation?

Thirdly, access to venture capital, venture capital being used—the term being used in this sense of dollars that will start the pilot operation of the business, that is, bringing about proof positive that we can go from this theory or this paper concept to an actual real-world bricks and mortar business operating.

Then, finally, access to the final round of financing which would be that large sum of money necessary to create the mass production and distribution of products and the provisions of the technology-based services.

MR. ALEXANDER. Do minorities and women face distinct problems in this process that are not apparent generally for the majority persons?

MR. BOYKIN. In my opinion it’s one of credibility.

MR. ALEXANDER. Could you explain what you mean by credibility?

MR. BOYKIN. Yes. We have already heard something of evidence earlier this morning that the spinoff type of business generation, that is, an individual coming from a larger corporate entity or already established, well-respected business entities now moving into their own business. In my experience in this area of technology commercialization and the clients I have worked with, we have a minority of those clients being the engineers, the technical-type people with the years of experience in, let’s say, an already credible business or institution now coming out and trying to open their own business.

The majority of the people that we have been dealing with are small inventors and, let’s say, individuals who have not worked with quite as credible former organizations.

MR. ALEXANDER. Credible in all levels of the sector, both in marketing and also in access to capital?

MR. BOYKIN. Credible in terms of the product area; let’s say, to give an example of sorts of this kind of thing, if one has worked for a major computer manufacturer and has a good work record, there is identified with that major computer manufacturer, in terms of the individual’s capabilities and expertise, then when that individual decides to go in his or her own business, the credibility that was gained within that computer manufacturer will go a long way, if in fact that individual is opening a small business of their own that is involved in that computer manufacturing area.

MR. ALEXANDER. When the staff had spoken with you earlier you indicated that when you package a product for financing and marketing

and so on, that frequently the people you are packaging it to do not know that a minority or a woman is involved until the very end of the process; is that an accurate reflection?

MR. BOYKIN. In most cases, yes, and the theory being there that we are dealing with a commercial situation. We are dealing with a product that works, a product that delivers what it says it will deliver, a product that has reliability, a product that is not overly involved in high maintenance costs and so forth and so on.

When we are talking about technology-based products and high-technology-based products, we are also talking about lesser numbers of comparable products existing in the world today.

If I were going to try to work with a conventional business, there may be quite a few business entities of a similar nature to mine that exist from which one can compare my marketing strategies, my financing strategies, my personal staffing schemes. When we are looking at technology-based products and high-technology products, especially those that have never been seen before, a series of assumptions have to be made about the product requirements and its financing, marketing, personnel, etc.

These seem to be the main points of interest, the main selling factors in terms of the use of the product and the financing of the venture.

MR. ALEXANDER. Have you had some successes in doing this?

MR. BOYKIN. Yes, we have.

MR. ALEXANDER. Could you give us an idea of what range of business that's been able to be generated through the companies and what it has cost us taxpayers?

MR. BOYKIN. Certainly. Probably the most advertised success of the Technology Commercialization Center is one of an American Indian client, whom I worked with, in the San Bernadino, California, area who took steel waste scale, a waste product produced by steel mills, especially the ones here in America, based on the open hearth and blast furnace technologies for making steel, and basically developed a system of recycling which takes that steel waste scale and renders it a reusable raw material by extracting certain portions from the waste.

I would venture a guess that we spent, we being the technology centers, approximately \$150,000 total of the Federal Government's money to assist that client in bringing that technology to a fruition. The client currently enjoys a \$8.5 million sales contract for the product from one steel mill here in the country and just recently an approximate \$14.8 million sales contract from another steel mill utilizing that process. In support of those contract dollars, we were able to amass approximately \$2.9 million in financings to support that level of activity.

MR. ALEXANDER. Dr. Larsen, I understand your research also has a focus on what has happened to women within the high-technology industries; is that correct?

DR. LARSEN. Women in professional and technical roles, yes.

MR. ALEXANDER. The questions that I asked Dr. Walker before about black engineers and other minority engineers within the corporate structures, have you found any patterns or evidence as to how well or how poorly women in the category you mentioned are doing in the company?

DR. LARSEN. There might be one particular finding that you would be interested in—we have conducted research, I might say, in three general areas: first of all, research based on surveys of women in professional technical jobs in Silicon Valley; secondly, research based on interviews with women in these areas; and, thirdly, research based on archival data. And some of the archival information, I think, in response to your question.

We looked at three particular things, at the involvement of women in three areas; that is, women in decision-making roles with venture capital firms, women as members of corporate boards of directors, and women as corporate officers. Incidentally, when I say corporate boards of directors, I mean Silicon Valley corporations.

I will, just very briefly, tell you how we did it, and I will be happy to answer more detailed questions if you would like. But from collecting data from Pratt's guide to venture capital sources and data on dollar investments which were published in *Venture* magazine in June 1982, which reports on 1981 data, we identified a sample of 108 largest venture capital firms in California, and referring to these sources that I mentioned, we try to identify women who are listed as presidents, associates, partners, principals, or any other title that would indicate an active role in decisionmaking in these venture capital firms. Of the 254 officials and officers listed for the 108 firms, there were no women.

In regards to the second question, women as members of corporate boards of directors, we identified a group of 20 highly successful high-technical firms that have their corporate officers and a major operation here in Silicon Valley, and again I will be happy to tell you those firms if you would like.

We then identified the names of the members of the boards of directors taken from Moody's, Standard and Poor's, Walker's, and the annual reports of the corporation. These 20 firms had a total of 150 directors, and there were no women on any of the boards of directors at any of the firms.

In regard to the third issue, women as corporate officers, the same group of 20 highly successful firms was included in this study and information taken from these same sources that I mentioned previously, there were 209 persons listed as officers of these 20 firms and of these 209, 4 were women.

MR. ALEXANDER. You also, I believe, interviewed a small sample of women in the industry about upward mobility problems or upward mobility successes. Could you give us the tentative results of that?

DR. LARSEN. Yes. We did a survey of women and this survey was actually a pretest conducted with the cooperation of Women in Electronics, which is an organization here in the valley. Relevant findings for— incidentally, I just should say that a larger survey is underway now and the data from that are now available. Data from the pretest indicate that although women may be relatively new in the electronics industry, they are not new in the work force. That is, the median number of years of women working in the electronics industry was 3; however, the median number of years of women working in any industry was 12 years, so that these women are coming to the electronics industry as experienced members of the work force.

Another finding that was very significant is that the majority of these women, that is 70 percent, are single or divorced, and 60 percent are the major economic support of their family, so these women are not working to supplement a husband's income but, rather, are working out of necessity and are economically self-reliant.

Most of the women in professional and technician positions are well educated. Some 81 percent of our sample were college graduates and 33 percent held master's degrees.

MR. ALEXANDER. What about the issue of discrimination for these women? Is it still there or is it gone?

DR. LARSEN. Yes.

MR. ALEXANDER. Stereotyping and such?

DR. LARSEN. I think you might be very interested in the results of some of the interviews. If possible, I would like to report just one story. This is a woman who is now in sales with a major semiconductor firm in the valley, and her story is rather typical.

She majored in French in college and taught for 2 years and then found she didn't really like it, and so she wanted to change jobs and she got a job, first of all, as a distributor in customer service where she learned the industry, the electronics industry. That was in '72.

She says: "I worked there"—I am reading from her transcript—"I worked there for a year and then I moved to my present firm in inside sales, so there was no place for me to go at that time."

That was 1974. "An opening came up in product marketing with the military group, and I could see there would be room for advancement. I got that job in 1979. Now in both inside sales and product marketing I was the first woman in the company to get the job. It was touchy because of the people I worked for. They were leery about my abilities since I was a woman.

"The big problem with both these jobs was traveling. They all hear stories about men traveling and they wondered about a woman. I told them I could mind my Ps and Qs and that shouldn't be an issue, but it was, and I resented it. Now there are two women in product marketing, but my

next goal is to be the regional distributor sales manager. There are no women in this position now. The drawback is that I don't have field sales experience but how do I get it because they won't let me travel." Now that's data from a couple months ago, so that gives a graphic answer to your question.

MR. ALEXANDER. I would like a few exhibits at this time. Dr. Larsen, if we could have the data breakouts on the information you just provided for an exhibit? Mr. Chairman?

CHAIRMAN PENDLETON. Love to have it.

MR. ALEXANDER. I would also like to put in the record Dr. Walker's article, "Science Technology and Black America, The Future Is Now."

CHAIRMAN PENDLETON. Thank you.

MR. ALEXANDER. Mr. Chairman, I have no further questions at this time.

CHAIRMAN PENDLETON. Don't leave. Thank you, Mr. Alexander. Are there questions from the Commissioners at all? Why don't we just start down the line with Commissioner Berry.

COMMISSIONER BERRY. Okay. First of all, Ms. Larsen, based on your research and the information you have given us, would you think that it would be possible for almost any geographic area to develop high-technology emphasis as has been done in Silicon Valley if one has a research university, a labor force from which one could draw, operatives and like, and some strong leadership from somebody on the campus, and some contracts from the Defense Department? Or is it just something that can only happen in Boston or Silicon Valley or the Research Triangle?

DR. LARSEN. Well, that's a good question. Certainly, the presence of a research-based university is very important for two reasons, not only to supply the research information but to supply the bright, young minds as Frederick Terman would say, so that you've identified one factor that seems to be critical. Whether the presence of military funding or whatever is critical is not clear. That seems to work, and the defense contracts are important sometimes but not always.

Another factor that was instrumental in the rise of Silicon Valley, at least, is the pleasant climate, and I'm sure there is not much that one can do to change the climate. There is also the factor of availability of space for corporate expansion and for living, but I think that there is another very, very important point that must be emphasized and that is that here: There is this very well-functioning informal network, and it's really mandatory for the person to be here to participate in that network. It just is a characteristic that seems to be critical, and the reason I keep coming back to that is because, if one is hooked into the network, that is fine; however, if one isn't in it, it's a major barrier, period.

COMMISSIONER BERRY. I know that the climate in Boston is not as salubrious as it is out here, and that the climate even in the Research

Triangle is not perfectly analogous to the climate out here, and they seem to have some development along those lines, but I ask this question because it seemed to me, as we focus in on trying to get more minorities and women, or create opportunities for them, or worrying about opportunities for them, and what is a growth industry that, if some of those factors could be replicated elsewhere, in particular in places where there are a lot of minorities and women, in particular minority groups, larger concentrations of women, say, in graduate schools or in undergraduate schools and the like, that it might be possible to take a sort of shortcut to trying to getting some people in rather than starting with elementary school and working all the way through high school. That's why I ask.

A followup for that is for Dean Walker to ask, why would it not be possible for some place like the institution where you are, or some other place where there are large numbers of blacks or Hispanics and the like in and a research university and some population from which one could draw operatives to try to get together some funding, and don't you think that would be a good idea? Maybe we could short circuit some of this problem of getting into the industry.

DR. WALKER. I'll say we're moving in this direction at Howard University. We've been in graduate education about 10 years at the master's level, Ph.D. level about 4 years. We have established several centers of research, for example, in our school with solid-state electronics, incidentally, through which was initiated partially through a gift from Rockwell International here in California. We've developed at least an academic research enterprise which now is attracting as much as a million dollars a year in research support, but we are only spending presently at about a half a million dollars a year. We feel that over the next few years it might be possible for us to consider implementing something along the lines of Howard Engineering Institute, or a research center that would be more in the commercial marketplace and offer job opportunities for the public at large as distinct from purely academic kinds of research endeavors.

COMMISSIONER BERRY. Yes. The last question I have is for Ms. Morning. In response to one query you mentioned the problem of inferior secondary school preparation. I think it was related to retention of students once they are in schools.

Whenever we talk about a education, if we talk to people in the graduate schools, they always tell us that the problem is undergraduate education; if we talk to people in the undergraduate education, they tell us the problem is in high school.

If we talk to the people in the high school, they tell us the problem is in the middle school, and when we talk to the people in the middle school, they tell us that the problem is in the elementary school, and when we talk to people in the elementary school, they say the parents. When we talk to

the parents, they say it is the community. So I just wondered, since private industry is funding this organization that you are involved with and in trying to increase the number of minority engineers, does the same private industry have strong ties with secondary and elementary schools in terms of developing programs and emphasizing math and science and doing something about the inferior preparation at the school level?

MS. MORNING. I think traditionally industry has not much been involved with secondary education, but through this effort, I think they are very much involved and I think not only do they contribute to our national organization, but they contribute to a hundred or so other precollege efforts.

There is one here in California called California MESA, for example, which is industry supported and receiving quite a lot of contributions from industry.

They are also running programs of their own. Organizations like RCA, for example, actually make inkind services of their profession available to work directly with students down in the junior and senior high school levels. I think our efforts, the national minorities in engineering effort, is probably the largest intervention effort going on in the country now at the secondary level, and it is completely run by private industry.

CHAIRMAN PENDLETON. Thank you, Commissioner Berry. Commissioner Saltzman, I'm sorry, you want to—

DR. WALKER. I would like to add, certainly industry has provided leadership, but there are a lot of inputs from various segments of the communities to these programs.

MS. MORNING. Right. Certainly, the engineering schools are very active and others, too.

DR. WALKER. No, engineering schools, community organizations, government agencies. It really depends upon the setting. There are a lot of people participating on a volunteer basis from a variety of technical communities, although industry took the leadership, I guess, in 1972 in terms of establishing the national opportunity to increase minorities in engineering.

CHAIRMAN PENDLETON. Commissioner Saltzman? Thank you, Dr. Walker.

COMMISSIONER SALTZMAN. Dean Walker, you indicated, I think, that young blacks did not go into engineering if their backgrounds in terms of their families and the lack of opportunity, I think—but both you and Ms. Morning indicate that now, as many blacks as you produce in the engineering school, there are jobs for all of them.

DR. WALKER. Yes.

COMMISSIONER SALTZMAN. Why then now aren't more blacks going into engineering?

DR. WALKER. There are more blacks going into engineering.

COMMISSIONER SALTZMAN. Presently than what it was?

DR. WALKER. It's a matter of perception over a long period of time. But it is also a matter of feeding back this information to the black community. We have seen a rise of black enrollment in engineering of, what, maybe 10 to 15 percent a year over the past decade.

COMMISSIONER SALTZMAN. In black institutions?

DR. WALKER. No. I mean in institutions nationwide.

COMMISSIONER SALTZMAN. The proportion—

DR. WALKER. The pool of black students pursuing engineering, in higher education in engineering, was relatively constant up through the beginning of the national effort to increase minorities in engineering. At that time, typically, maybe 3,000 or 4,000 black American students were enrolled in engineering schools nationwide, maybe half of those in the historically black institution. An outcome of this effort has been an increase in this number from 4,000 to some 16,000 black Americans enrolled in engineering schools nationwide, and maybe 30 percent of these black Americans are now enrolled in historically black institutions and the balance being distributed over the institutions nationwide.

I think in 1972 only 6 percent of the 285 schools offering engineering in this country enrolled a black student. Today, something like 65 percent of the 285 engineering schools in the United States enrolled at least one black student.

COMMISSIONER SALTZMAN. So I'm gathering from what you are saying that the adverse impact of discrimination in the field of engineering in general is being mitigated at the present time?

DR. WALKER. Yes, it is being mitigated.

CHAIRMAN PENDLETON. Dr. Walker, would it not also be fair to say, I think one would leave the impression, that all the students that attended Howard University Engineering School are black students? From my time, probably that dates you and Dr. Berry, I do know there was a tremendous influx of foreign students in engineering school at Howard primarily because of the fact that there was a lack of preparation on the part of many black students to enter, and when the Silicon Valley, in a sense, began to burst open with opportunity, then there was a need to get a lot of minority students, particularly black students, in engineering, but we find that predominantly the larger number of students during my time at Howard were not black students; they were students from other countries, and then it began to change.

I just wanted to indicate that there might be an impression among those who have not been to the campus who don't understand Howard University that the policy hasn't been to exclusively black, but there are other students. I don't want to leave the impression that the only students there are black students that are American black students; is that accurate?

DR. WALKER. That certainly is accurate, even though when I account for black American students I am talking about people born in this country. Certainly, we have made opportunities available to students from all over the United States and all over the world to pursue engineering, and at one point a substantial percentage of our enrollment was foreign.

CHAIRMAN PENDLETON. I guess my point, as we began to move more toward a global economy, I think it is important to understand that Howard has prepared, laid a foundation for things to help not just in this country, but the availability of engineering students to do things in other countries to understand or take advantage of American technology. I didn't mean to cut you off. I just wanted to establish the point.

DR. WALKER. That's a good point.

COMMISSIONER SALTZMAN. One final question. Mr. Boykin, you were giving us the recipe of that which goes into the initiation of high tech and to entrepreneurship, and I think it did speak to this, that there were points of discrimination.

Can you specify at which point in particular you think—I understand the network and that becomes a serious problem for the minority individual and the woman. Are there any other points at which race and sex enter into, in addition to the network, creating obstacles for entrepreneurship on the part of minorities and women?

MR. BOYKIN. Well, Commissioner Saltzman, in thinking of specifics, the specifics can differ according to the situation. I think, that as I said before, financing is one very big area, and, really, any area in what one might call the product cycle to development of this product where ample emphasis has not been given to show the technical soundness, technical feasibility, commercial feasibility.

COMMISSIONER SALTZMAN. But isn't that, in general—I mean, specifically for the minority person, are there obstacles that the minority person will encounter that the majority will not?

MR. BOYKIN. Well, in many cases when we're talking about the early research and development stages of the product, the service, the business venture itself, I found that the minority or the woman will have extreme difficulty in generating capital necessary to flesh out, if you will, the idea.

I would say all people at that point—minorities, majority, male, female, whomever it may be—in looking at research and development capital, will have a problem if they're not able to show that what you are about to put your money into is good, but a minority and a woman would have to flesh that out considerably farther than, let's say, a nonminority or nonmale at that early point.

COMMISSIONER SALTZMAN. No further questions.

CHAIRMAN PENDLETON. Thank you very much, Commissioner Saltzman. Commissioner Ruckelshaus?

COMMISSIONER RUCKELSHAUS. I have a question for Dr. Larsen. I was interested in your statistics about the number of women, lack of statistics there, lack of women on boards of directors, and the number of women who have actually become officers in these top corporations here in the valley.

Do you know of any self-awareness within those corporations themselves that those numbers are kind of shockingly minimal? Is there any effort at all internally to address that problem?

DR. LARSEN. I don't know about awareness within the corporations. I know that when I have made these comments, people often say they don't believe them, and that when they are substantiated by the annual reports of the corporations, people are generally quite surprised, but I am not aware of any corporate—I never heard a corporate statement to this effect.

COMMISSIONER RUCKELSHAUS. You were speaking of how many corporations when you gave those statistics? Did you say 20?

DR. LARSEN. Twenty, that's right.

COMMISSIONER RUCKELSHAUS. What would be the largest number of employees in any one of those companies? What is the largest?

DR. LARSEN. Oh, my goodness. Twenty thousand—maybe 25,000.

COMMISSIONER RUCKELSHAUS. In one single company?

DR. LARSEN. Yes.

COMMISSIONER RUCKELSHAUS. And there were four officers in the aggregate group?

DR. LARSEN. Four women who are officers.

COMMISSIONER RUCKELSHAUS. Four women officers in a group of 20?

DR. LARSEN. In the group of 20 corporations, of 209 corporate officers, 4 were women.

COMMISSIONER RUCKELSHAUS. Well, I find that just amazing. Dr. Walker, do you have any idea how many of your graduates are finding an upward mobility path open to them? How many perhaps become officers since they left the university? Is there any way of tracking that? Do you have any informal feedback if not statistics?

DR. WALKER. As I pointed out earlier, our early graduates, for the most part, were employed by the government and, of course, many of them have achieved middle level management positions.

The most recent graduates largely are employed by industry and I don't think have been in industry long enough to fully assess their mobility, although some are on what appears to be the management track, but I think it is too early to tell the story at this time.

COMMISSIONER RUCKELSHAUS. Those corporations would have EEO officers? Would they not, Dr. Larsen?

DR. LARSEN. Did they have EEO officers, did you ask?

COMMISSIONER RUCKELSHAUS. Yes.

DR. LARSEN. I don't know. I don't think so, but I don't know.

COMMISSIONER RUCKELSHAUS. I would guess a corporation with 20,000 employees would have a personnel department in which there is an EEO officer.

DR. LARSEN. Personnel department, an officer, an EEO officer, I don't know.

COMMISSIONER RUCKELSHAUS. Thank you.

CHAIRMAN PENDLETON. Commissioner Smith?

VICE CHAIRMAN SMITH. Dr. Larsen, drawing on your own personal, professional experience and the research you have done, could you pinpoint, or attempt to identify, in your opinion, the one most important thing that would at this time lead to overcoming the lack of women or their upward mobility in this industry or in this group of industries? And then, the second part of that question is, do you find that women are taking steps to correct this within their own circles, for instance, with networking? Is there networking among women in high-tech industries? Is it working? Do you have any examples of where it has been effective?

But mainly I'd like to know, if we were to go out of here, if we could identify one thing or two things that would be the most helpful, whether it is the spirit of encouragement, whether it is education, whether it's networking, whatever. I just would like to have you respond in that vein.

DR. LARSEN. Could I try the second part of your question first about the networking? The answer is absolutely yes, there are a number of organizations in Silicon Valley that provide this kind of information exchange.

I referred earlier to the importance of informal communication in the industry as a whole, and women professionals and technical realize that this not being able to have access to that information is one of the biggest problems, so, yes, those networks are designed to try to provide that, and it has worked. In fact, I think there are a number of firms that have been started by women, but they are all tangential firms, if I will, or their activities are not mainstream activities but are on the fringes perhaps because there is less resistance to starting businesses in those areas.

Your question about what's the one thing that can be done is a very good question. I wish I'd thought of that earlier, but I think that it probably is just having an awareness that somebody is out there paying attention, and that someone is looking at these kinds of problems and at the state of things. It is very discouraging when one is aware of it, but no one else is aware of it, no one seems to be interested, so an increase in awareness and maybe an increase in urging a change would be one thing.

The second, if I can suggest a second, would be gaining access to that informal information network that I think would be critical.

Let me add one comment there. You see, this is one reason this is very troublesome—is that often the explanation is given of to a lack of background, not enough women have enough technical background and so

forth; however, when you look at the data I presented on venture capital, no women are involved in decisionmaking roles. The criteria for working in a venture capital firm is such a background as business, finance, economics, and so forth, and there are a very large number of women who are trained and have perfectly adequate credentials in those areas, so it becomes very troublesome in an area like this.

VICE CHAIRMAN SMITH. Thank you.

CHAIRMAN PENDLETON. Just a couple of questions I want to make. Mr. Boykin, I think for the record we need to look into the background of you and make sure that you are not any longer identified as a white male. I am looking down at the record here, just to make sure we don't get it into the record wrong.

Murray and I saw something happened over night, but we hoped it did not. Well, I came across an article yesterday in the *San Diego Union* that I wanted to put in the record, and I think it answers part of the point you raised. It has to do with in 1979 the Ford Foundation reported 25 million Americans can't read at all; 35 million more could be considered functionally illiterate, and 60 million native-born Americans are unable to cope with the routine work of life, which is a classified job ad, instructional manual, and what this article goes on to say is there are some problems with that, certainly, in industry, and then that America will continue to lose its competitive edge if that is not corrected.

And what is happening here apparently—some corporations have decided they want to put money into the preparation arena to make certain we don't have to fake it and lose our position later. I would like to put this into the record as a piece of information that might be guidance for the future.

The other one is in terms of where you are with venture capital. I ran across a little booklet here called *The State of Small Business, A Report to the President in March 1982*—and I don't know whether you have seen it or not, but I think copies are available in Washington. An interesting study was done about the financial viability of minority businesses, and it has to do with the collaborative study conducted by the University of Texas, the Minority Business Development Agency, and Dunn & Bradstreet, and they did a sample of 6,000 business firms and worked on their balance sheet and income data for 1978.

The principal findings in the study show three things: Minority firms which were not assisted by MBDA were found to display the same profit characteristics as nonminority firms; however, minority firms which were being assisted MBDA were generally those which needed the greatest support. The MBDA-assisted firms reported more debt than other firms, and the reason for this finding may be that the least profitable minority firms are those in need of capital and, therefore, those most likely to apply for loans.

I am only supporting what you are saying here. I will skip the second finding about, in a sense, minority loans received at banks, but the third one interested me a lot in this. It is, "Minority ownership does not predict performance." For example, if firms were randomly selected from each of the categories noted above—that is, assisted and nonassisted and controlled—minority firms would not be represented among the firms showing losses more frequently than would nonminority firms. The conclusion is that minority firms are no more risky than controlled firms, nonminority firms.

I think it is important that we indicate, if we are looking at some policy directives here, that there is evidence on record that minority firms are no more risky, and I think the point you are making, Dr. Larsen, is that there's a need to somehow circulate this kind of information so those among the lending institutions can see there is not the kind of liability they assume it to be and that should not necessarily always be a factor on how people get loans.

I guess my question to any of you is, is underrepresentation a problem of discrimination? Or preparation? Motivation and counseling—that is, a minority in this field? That's an open question to the panel. Is underrepresentation of minorities a problem of discrimination, or is it one of preparation and motivation and counseling? I get to that from the standpoint I think Commissioner Berry's question was—everybody blames somebody else, which I somehow learned in college was something called "projection." If you don't do something, you project the blame on someone else. And is the problem of underrepresentation because we are excluded as minorities or is it because of the preparation route, the counseling route, or the motivation route?

I guess I go further even to say that maybe I can help some more. There is a 57 percent black teenage unemployment rate in this country. Now somehow, that's almost a generation of black youngsters among other youngsters who have been excluded from this mainstream. Are they being steered away at an early age from taking the tough courses? And is that a problem, or is it because of discrimination once they get through? I am trying to get to some root cause thoughts from you about why we have underrepresentation in the areas.

DR. WALKER. I think all of these matters are interrelated. I am not sure you can delineate a clear set of priorities as far as the cause goes. It's a very dynamic situation that we are talking about where the discrimination, racism, has somewhere in our history led to discouraging black youth from considering the mainstream of American life, and it's a rather complex web of circumstances which I don't think can be simplified in the way of cause.

I think the question is, what actions does one take in order to realize some advancement in this area?

CHAIRMAN PENDLETON. My other question is kind of a followup question: What local level public policies would you advocate to make some changes in this underrepresentation situation?

I think we add, in terms of our work, we want to be able to make some recommendations to the President and Congress, and I would like to know if you have some ideas about those public policy alternatives to correct either a real or a perceived problem.

MR. BOYKIN. Chairman Pendleton, I'd like to make a few comments from the standpoint of minority businesses in the technology-based and high-technology areas. As Dean Walker sort of alluded to, it's been going on a long time before me, the problems, the preconceived notions, the misconceptions of minorities in business.

Now I come along, trying to work with technology-based businesses for minorities, and I see a couple of things happening: One is that when we're talking technology-based businesses, we are talking very, very capital-intensive businesses so, if you had a problem with minorities dealing with money previously, you're going to have even more of a problem with that now because we're talking about more dollars.

We are also talking growth industries. We are talking about industries that have not fleshed themselves completely out and have not been around for years and years and years. We're talking about industries that are just reeking with opportunities currently as opposed to being well on their way where the opportunities have diminished, and when once the opportunities diminish, you usually find the lower dollar volume-type business opportunities in that aspect of the industry growth.

We are talking about very high risk. If you look at a lot of the small business in this country, I would venture a guess that it probably employs more new people every year than some of the old well-established businesses. I would suggest that small business may be in a position to take a bit larger risk in the development of new products and services as the board of directors will not have to be all that concerned with maintaining already existing high levels of earnings per share and dividends on stocks and things of this nature.

So from a policy standpoint, I represent one Federal agency's attempt to provide the support both in a monetary sense and in an inkind services sense to help the minority business high-technology venture startup frequency increase.

I think that the government should stay in this area on the local, State, and Federal level if nothing else from the example, the business numbers I gave you in terms of financing and contract dollars would lend itself to a considerable injection into the tax base of that locale of that State, of that Federal jurisdiction from the success of such a business.

CHAIRMAN PENDLETON. I guess what I'm really looking at—we have heard a lot, read the background reports, and we have heard some

testimony, and our job of going back to the Congress and the President, I think I would—those who are coming after you as panelists, I think we would like to hear. I hope I am not speaking out of turn for my Commissioners, once we talk about these things, what are the public policy initiatives or things that should be sustained so, as we begin to make recommendations on this matter, we have something.

I think that we can glean a lot of that out of what we already have heard, but if you have something, somebody else has something, somehow specific in that respect, I would like to know it. It would make my job a little bit easier.

COMMISSIONER BERRY. Can I ask one other question? It brings to my mind as I try to sharpen it just a bit. Ms. Larsen, for example, you talked about women not being employed in various sectors in this industry, and then you said in the case of venture capital firms and the like that one with a business degree, for example, could work in those areas. When I look at the background reports and all the interviews and so on, it seems to me that people who are in the industry keep saying that one needs to be an engineer in order to work anywhere in the industry.

Would you think, based on your experience, that maybe one public policy concern might be validating what is required for certain kinds of jobs relating to the industry so that people who have certain qualifications can move in? In the example I gave you—is so you can answer that and understand what I mean better. I am not explaining it—I used to work in an industry in one of my other lives where it was thought you needed to have a very specific technical degree to even be a personnel officer in the industry, and I worked in that industry during transition from an immature industry to a mature one where they recognized finally that you needed people with all sorts of degrees that weren't technical to run the management side of operations, the personnel things, and we were able to validate what was necessary.

Do you think that would be something that might be a public policy kind of concern in the industry? Anybody?

Ms. MORNING. I would like to respond. I don't think there is any doubt that the employment opportunities of the future are going to require a much broader scientific and mathematical literacy on the part of citizens. That may not translate into specifically an engineering degree, but certainly a public policy issue ought to be that there is equity and greater participation in high quality scientific and mathematics background.

I think to respond to Chairman Pendleton's question, too, that there is a role to be played at the local level in assuring that secondary education does meet the needs for future manpower, but I think you cannot get away from the fact the Federal Government has a very strong role to play.

Our effort, what progress has been made, has really come from the compliance required by the Federal Government in the affirmative action

area. I think volunteer activities are wonderful and they do help, but the strongest stick is that somebody is watching and somebody is requiring. I think that networking is quite a nice notion, but in reality there's only so much you can ask the victim to accomplish for themselves. Still somebody has to watch.

I would like to close with an anecdote from my own experience. I graduated from Stanford in 1960. I was not a poor student and I had no job offers. The other girl that graduated with me went to work for the Army because that was the only place that would hire her. I had no choice but to go to graduate school, and when I got my master's in 1961 from Stanford, the same place that graduated all the people that have pioneered in Silicon Valley, I got my first job because the Air Force came through the aerospace industries in California and took note of the fact there were no blacks and there were no women. I'm sorry to say but I think much of that same situation still obtains today.

COMMISSIONER BERRY. I just wanted Ms. Larsen to comment on the question.

CHAIRMAN PENDLETON. Miss Larsen.

COMMISSIONER BERRY. The question that I asked, would you mind?

DR. LARSEN. Yes. I absolutely agree with your comments as well. Your question, I think, dealt more with whether the qualifications that were required are actually necessary to perform the job.

Well, certainly there is no doubt that when you look at any corporation in Silicon Valley, there are a wide variety of skills—engineering, manufacturing, and production is one, but there are many others, and there are corporate officers who are in charge of many of those other activities that have nothing to do at all with engineering, a very little.

I would also like to make two more points: One is that there—I think one might be surprised at the level of expertise that is already existing among women in this area, I mean in this geographic area—that there is no reason to expect that women don't have the qualifications technically.

And the second is that, when I have been speaking today of a Silicon Valley as an entity, which is not really accurate because there is a great amount of variance among firms in Silicon Valley in their diligence in trying to hire women and minorities.

I would just like that point to be made.

CHAIRMAN PENDLETON. I want to thank you. I think we are going to try to keep as much as we can to our schedule. I would like to thank you all very much. I hope there is other information you would like us to have at some point that might come up as a result of this exchange. I think it is very helpful. Please put that in writing. And, I think, the staff will give you some time, or a time date by which that is due.

We can't thank you enough for appearing before us today and hope what we can do in the end will certainly make a difference in the way that

we have representation of minority groups within the industries like those in Silicon Valley. Thank you very much.

VICE CHAIRMAN SMITH. At least possibly raise the awareness which we have been talking about.

CHAIRMAN PENDLETON. I'll call the next panel. We can take a short break in between, about a 5-minute break in between.

[Recess taken at 10:21 a.m. and reconvened at 10:32 a.m.]

CHAIRMAN PENDLETON. Will you please stand so I may swear you in?

[D. Thomas Herrman, Charles Dixon, and Marjorie Balazs were sworn.]

TESTIMONY OF D. THOMAS HERRMAN, VICE PRESIDENT, CROCKER NATIONAL BANK; MARJORIE BALAZS, PRESIDENT, BALAZS ANALYTICAL LABORATORIES, INC., AND CHARLES DIXON, VICE PRESIDENT FOR MARKETING, HURRICANE LABORATORIES

CHAIRMAN PENDLETON. Thank you. Please be seated. Mr. Queen is en route. As we say in my city council—enroute to the chamber.

MR. CHOU. Mr. Herrman, will you describe your duties with the business banking department and its role in the organizational structure of Crocker National Bank?

MR. HERRMAN. I am the senior product manager for government-guaranteed lending in the bank. I also have a role in what we call formula lending, which is a accounts receivable and inventory financing program. I was hired by the bank actually to establish a new government-guaranteed SBA, State of California, Farmers Home Administration program.

MR. CHOU. I'm sorry. I forgot to ask you state your name, address, and occupation for the record.

MR. HERRMAN. Okay. David T. Herrman. I work at 74 New Montgomery Street in San Francisco, and I am vice president and senior product manager at Crocker Bank.

MR. CHOU. Ms. Balazs, Mr. Dixon, would you state your name and address and occupation for the record?

MS. BALAZS. My name is Marjorie Balazs. I'm president of Balazs Analytical Laboratories, Inc., a company in Mountain View, California. The address is 2284 Old Middlefield Way, No. 10; zip is 94043.

MR. DIXON. My name is Charles Dixon. I am vice president of marketing for Hurricane Labs. Our address is 5149 Moore Park Avenue, San Jose.

MR. CHOU. Mr. Herrman, will you briefly outline the loan application process of the bank and the factors that you consider in making a determination as to whether to extend credit?

MR. HERRMAN. In this environment especially, the loan application processes are relatively long-term situations where there is something of a mating dance that takes place between the prospect and the bank where we

gather a rather large quantity of information geared to tell us as much as we can find out about the management, capitalization, financing, operating history, and the operating environment of the prospect before us.

In a traditional loan application process, the lender will ask for a business plan which would include all of that information and, from that, with the addition of current financial statements, the bank makes a determination as to whether or not the prospect is in fact creditworthy in that particular judgment and then move to structure a credit facility that meets the need of the client.

MR. CHOU. What types of equity factors are you looking for and what types of management factors are you looking for?

MR. HERRMAN. In this particular economic environment, the management and equity factors have become far more important to us than they ever have been in the past. I would say that every business—I suppose any banker who sat here this morning will tell you the same thing, that any business that comes before him, equity is going to be looked at on a sliding scale with a determination as to what that particular type of business may need. It's a unfortunate aspect of our industry that certain types of lenders will move early to establish ball park equity figures, say, 25 or 30 percent, before they'll talk to a particular prospect.

And I think that you may hear numbers as high as 50 percent in some environments. That's an unfortunate attitude to take because it negates the overall importance of the management capability of the business that we are looking at, and for our own particular situation—and I think in most government-guaranteed application situations—the management expertise that is being presented is perhaps more important than the equity that's just a cold hard fact of life.

MR. CHOU. Is the process a little different for conventional lending versus SBA-guaranteed lending?

MR. HERRMAN. I think it is the generally accepted fact for an SBA—let's use the general term “government-guaranteed situation.”

The application process is substantially more cumbersome because of the additional documentation that's necessary to satisfy the particular government agency that is involved, but in general you are going to do exactly the same credit analysis, you're going to do exactly the same background checks, what have you, as you would in a conventional environment. In our particular case, we don't modify in any way, shape, or form the criteria for a loan because of the government guarantee; we may be able to apply somewhat different factors in structuring the credit because of the guarantee.

MR. CHOU. How does the bank make a determination whether credit is extended with a government guarantee or whether it's a conventional loan to a business?

MR. HERRMAN. Generally, we look at what the bank considers to be its maximum acceptable exposure in an environment. Let's say that right now I have some rather volatile financial markets—I may opt to not make any loan longer than 2½ to 3 years. An applicant comes to me, especially an applicant in a new business or business still developing its track record, and requests a credit facility. Two and a half to 3 years don't do him an awful lot of good. The cash flow in that business will probably not allow him to repay a loan in that kind of time frame.

So turning to a government guarantee, we are allowed a great more flexibility because of the nature of the guarantee, and we may go 7, 10, 15 years in some situations, where 2½ to 5 years may have been the maximum before.

We will also look—and this is where we get into a difficulty with looking at the leverage factors, the equity factors in a business. We will also look at a substantially higher leverage situation with a government guarantee than we would without it, figuring that the existence of that government guarantee allows us additional profitability. We feel that it's an acceptable risk to go to the higher leverage factor.

MR. CHOU. Do you have a ball park estimate in terms of the outer limits of the maximum exposure of the bank in a conventional lending situation versus government guaranteed?

MR. HERRMAN. Well, if you accept the fact that there is a spectrum of lending programs going on in the bank and that one end of that spectrum is what we will call the secured lending, which will be the real estate programs, receivables and inventory financing, in those situations you will probably accept a pretty high leverage factor in the business itself. You may accept a factor out into the vicinity of maybe seven or eight to one, meaning that we'll put in \$7 or \$8 for every one that is presented to us as equity.

In the unsecured facility you are looking at one to one or less, so we slide across that spectrum. The government guarantee may put us out at the eight to one factor. It only may mitigate making a loan of one to one where you have some other factors in the business that make it inherently risky.

MR. CHOU. Could you tell us what the size of the bank's SBA-guaranteed loan portfolio is?

MR. HERRMAN. At the present time, probably is \$15 million.

MR. CHOU. Could you tell us in terms of percentages, both in dollars and numbers of companies, how many are minority owned and how many are women owned?

MR. HERRMAN. Looking at it the other day just doing one more check, we have relatively a weak handle on exactly on what those numbers represent, but we figure that 75 percent of the numbers of loans in our portfolio are minority- or women-owned businesses, and that somewhere

between 40 and 45 percent of the total dollars outstanding are in those categories.

MR. CHOU. Could you tell us how many high-technology companies are in the SBA portfolio, about?

MR. HERRMAN. Well, it's going to depend on how you define high technology. If you take into it all electronics-related firms and all aerospace firms and related firms such as broadcasting, probably in our particular portfolio there are no more than 15 or 20 of those that are high tech by classification.

MR. CHOU. What would the percentage be if you excluded broadcasting from that?

MR. HERRMAN. If we excluded broadcasting, it's substantially changed. That would just be a parameter, but let's say it would probably be 15 of the 160 loans or so that we have are actually really in the meat of the high-tech area.

MR. CHOU. Could you tell us in terms of your formula lending area what percentage of those companies in that portfolio are minority and women owned?

MR. HERRMAN. It's only a guess, because the bank maintains no records whatsoever of the makeup of its commercial loan portfolio. But I would say that, watching sampling, what I have seen within the last year and a half in that particular portfolio, I'd say we are probably talking about 30 percent of the numbers, and it's almost impossible to guess about dollars.

I couldn't begin to guess about dollars. I can tell you there is \$250 million committed in that portfolio. The line size goes up and down, and I would say that the relationship in that particular type of lending between dollars and numbers of loans is much closer than it is in the SBA portfolio, so you might say 30 percent of the dollars.

MR. CHOU. Of that 30 percent, what is the breakdown in terms of minorities and women?

MR. HERRMAN. I couldn't even begin to tell you. I would say because we are talking more about the ideal here than anything else—I would say that a very low percentage of that is women.

MR. CHOU. Mr. Dixon, could you briefly describe Hurricane Laboratories and your duties with the company?

MR. DIXON. Hurricane Laboratories is a small organization that started up in September of last year. Our basic business mission is to produce add-ons for the personal computer marketplace at this particular time and, to be more specific, to develop to put CPM, which is an operating system, on non-CPM computers at this point in time.

MR. CHOU. How long were you planning the opening of the company before you actually started operations?

MR. DIXON. Two months.

MR. CHOU. Did you come out of industry?

MR. DIXON. I worked at Hewlett-Packard in the marketing capacity for 15 years. Ron Jones, our R&D manager, worked at Hewlett-Packard for 5 years in the R&D facility.

MR. CHOU. Would you say it is pretty typical for entrepreneurs in the high-technology area?

MR. DIXON. I think a lot of the entrepreneurs meet at these larger companies and find an idea, and then they go off and get financing and start their own company—yes, that's true. Hewlett-Packard and Fairchild have spawned a large number of smaller companies that are quite successful in this valley today.

MR. CHOU. Ms. Balazs, will you briefly describe the formation of Balazs Analytical Laboratories and your duties with the company?

MS. BALAZS. Balazs Analytical Labs is a chemical facility that services the semiconductor and electronics industries, presently internationally. We do primarily wet chemical and service analytical chemistry. I started the company in 1973. What else do you want to know?

MR. CHOU. How was your Balazs Analytical Labs capitalized?

MS. BALAZS. I didn't hear you.

MR. CHOU. How was Balazs Analytical Labs capitalized for its startup operations?

MS. BALAZS. I worked several jobs at the same time until I had saved approximately \$7,000 upon which I started the laboratory with.

MR. CHOU. Mr. Dixon, how was Hurricane Laboratories initially capitalized?

MR. DIXON. The initial capitalization of Hurricane Labs was \$2,000.

MR. CHOU. Where did that come from?

MR. DIXON. That came from private investors.

MR. CHOU. Would you say that's pretty typical in terms of initial capitalization for minority and women high-tech companies, Mr. Dixon, first?

MR. DIXON. Yes and no. I think startup companies in this valley who are venture capital funded start off at about a million dollars, anywhere from \$500,000 to \$1 million in venture capital. For minority companies, I would say it's normally typical they start from \$2,000, \$3,000, \$10,000, \$15,000 because it normally comes out of their own assets.

MR. CHOU. Could you tell us if you have attempted to obtain debt financing for the company and what the results—

MR. DIXON. We went several routes: One, we went to the banks. We were not successful there. We also went to the SBA, and we basically decided to bite the bullet and just come out with the basic line of products, be successful in the marketplace, and then we could get the funding we required to move on the the next phase of our operation.

MR. CHOU. Ms. Balazs, could you tell us if you have attempted to obtain debt financing for Balazs Analytical Laboratories and, if so, what results have you had?

MS. BALAZS. Initially, I made no such attempt. After the company was approximately 3 years old, I made several attempts. I went to several banks, most of which would not listen to me at all or pay any serious attention to me. I went to the SBA and—

COMMISSIONER SALTZMAN. Could you comment why wouldn't they pay serious attention to you? Do you have any explanation?

MS. BALAZS. I really do not have an explanation. What I meant wouldn't pay serious attention to me, I was met frequently with a rather cool, almost belittling attitude. If I did get someone to sit down and listen to my tale of what I needed and what I had accomplished in the 3 years I have been in business, some were sympathetic, but it never resulted to obtaining a loan.

I ultimately went to my own personal bank and explained in detail and really almost with a plea—no one would listen to me because my personal financial situation was quite sound, but it had nothing to do with getting a business loan. They did listen to me and I looked like I was going to be getting a loan, but the fellow who was handling it quit the company and that put an end to my getting a loan there.

I did go to the SBA in both San Jose and the SBA in San Francisco. SBA in San Francisco was of absolutely no help to me whatsoever. They simply told me if I had adequate financial stability, that I probably could not get an SBA-backed loan. San Jose SBA, which I have a great deal of admiration for, particularly in terms of the programs they present for small businesses, also could not come up with any help for me in obtaining a loan. At that particular time I was looking for a loan of about \$12,000.

MR. CHOU. Mr. Herrman, in your opinion, are traditional lending institutions an appropriate capital source for financing high-technology ventures?

MR. HERRMAN. They are an appropriate capital source for certain phases of the financing of the high-technology business. Your question is blanket in nature and, if we are talking about startup financing for the high-technology business, no, we are nowhere near an appropriate source.

There are risks involved. Talking about a business, businesses like we are talking about on this panel—in one of those instances we are talking about so much competition in the marketplace that for a bank to enter as part of the financing to the business itself would be risk beyond which we would be prepared to go.

MR. CHOU. At what stage would a bank be an appropriate capital source for a high-technology company?

MR. HERRMAN. We generally enter into the environment when there is a demonstrated need for financing of the receivables and inventory in the business. We generally enter into the relationship when there is a

demonstrated track record and a need for intensive capital acquisition in that business. Let's say, I think that's generally described and you will hear more about it, I am sure, in the second panel as the second line of financing.

CHAIRMAN PENDLETON. Excuse me. May we take a little break here? Mr. Queen, we have to swear you in, please. Please stand.

[Thomas Queen was sworn.]

TESTIMONY OF THOMAS QUEEN, PRESIDENT, CALIFORNIA REGIONAL URBAN DEVELOPMENT CORPORATION

MR. CHOU. Mr. Queen, could you tell us a little bit about Cal Regional and its programs for financing minority-owned businesses?

MR. QUEEN. Yes, I will. California Regional Urban Development Corporation is a nonprofit corporation that is funded by the State of California. The purpose of the program is to make loan guarantees and management and technical assistance to firms who would not be able to get the financial support they need on their own without those guarantees.

The program is approximately 15 years old, and Cal Regional is entering its fifth year of business. We will essentially work with a client that has a good idea, a well-thought proposal that he feels will be successful and that offers the opportunity to employ at least three to five individuals.

Usually that client is deficient in some form or other. For example, the idea may call for a capital injection on the part of the client of \$25,000 and the client may only have \$15,000, so he may come to Cal Regional seeking additional support. He may approach the bank. The bank may say, "We like your idea but we think your net worth is weak and, therefore, we are unable to fund this specific project. We need to get a government guarantee." Basically, we work with most of the banks in the bay area or throughout California but we do work hand-in-hand with the Small Business Administration.

The object of Cal Regional is to get the client the funds he needs to get the business off the ground. If that calls for a joint venture with a bank and the Small Business Administration, we will. There's a basic difference, however, between Cal Regional and the Small Business Administration. We are not limited by statute as to the types of loans that we are able to make. We can make lines of credit available to a client, accounts receivable loans, and we can help them with equity financing. We can do lease deposits. There is just all sorts of financing tools that we have at our disposal that are not available with the Federal Government.

MR. CHOU. Could you tell us in terms of the Cal Regional's portfolio the breakdown in terms of direct loans, loan guarantees, and equity investments in companies?

MR. QUEEN. Can I break out the portfolio for you?

MR. CHOU. Yes.

MR. QUEEN. In terms of how many loans we have in each specific category?

MR. CHOU. Yes, in direct loans, in loan guarantees, and also equity investments in companies.

MR. QUEEN. Okay. We have approximately, maybe five direct loans. Initially, we made the statement that we would stay out of the direct loan category, and the reason for that is that entails bookkeeping, collection efforts, calling a client. We think that the banks and other financial institutions are better equipped to do that, so the direct loans are made very sparingly, and I would say at the present time we probably have about five direct loans on our books. The reason we made those loans is because the client just could not get the funds from anyplace at all, so we had to make a direct loan to help that specific client.

As far as loan guarantees, I would say approximately 95 percent of our portfolio are loan guarantees, and as far as equity is concerned, we probably have another three or four loans that are involved with equity financing. Our total portfolio at the present time is about \$15 million.

MR. CHOU. Are there any high-technology companies in your portfolio?

MR. QUEEN. We have just one high-technology company in our portfolio at the present time.

MR. CHOU. Could you give us a breakdown in terms of those businesses which are minority owned and women owned in the portfolio?

MR. QUEEN. Hold on. In terms of numbers, 80 percent of the portfolio are minorities and another 20 percent are females.

CHAIRMAN PENDLETON. How many female?

MR. QUEEN. Twenty percent.

MR. CHOU. We just heard Mr. Herrman speak to the issue as to whether traditional lending sources are an appropriate capital source for high-technology ventures, and he indicated that the startup level it was not but later on in terms of accounts receivable loans, lines of credit, that would be appropriate. Do you agree with that assessment?

MR. QUEEN. I'm sorry, I didn't hear all of that.

MR. CHOU. I'm sorry. Mr. Herrman mentioned just as you were walking on stage that in terms of financing high-technology ventures, traditional lending sources are not an appropriate capital source at the startup stage for high-technology companies, but he indicated that during the second-round financing or later on, it was an appropriate source for lines of credit, accounts receivable-type loans, and I just wanted to know if you agreed with that assessment.

MR. QUEEN. Yes, I would. The reason is, as Herrman probably knows, the risk is too great to start up, and it's no telling whether a firm in high tech is going to be successful or not in additional R&D, and capital that is required is very extensive. It's something ourselves and I'm sure that the major banks will not get into it.

MR. CHOU. In that case, what is the appropriate capital source for a high-technology startup?

MR. QUEEN. Well, I would think that it probably would have to be a venture capital firm.

MR. CHOU. Is that market accessible to minorities and women in the high-tech area?

MR. QUEEN. I would say no.

MR. CHOU. Why not?

MR. QUEEN. I just think that most minorities and most women who have that sort of background, engineering, and the other backgrounds that are required for high tech, probably take a safe position rather than going to an entrepreneurial position. After going to school—and basically most engineers come out now with an engineering degree and a master's degree—it is such a difficult task just to finish school and the costs involved and so forth, they usually will work for a major firm to try to gain some experience; however, once taking that job and begin to reap some of the benefits, it is difficult to give that up and think about going into a high-tech business where the potential for success is limited and where the cost is so high. So, basically, I think most women and most minorities don't go into the entrepreneurship of high technology.

MR. CHOU. Mr. Dixon, Ms. Balazs, would you care to respond to that question? What is your assessment?

MS. BALAZS. I can't respond in terms of minorities, but I can respond in terms of women, and I disagree in terms of what women would like to start into businesses for themselves. I find that in my experience—and I've been in chemistry now for 3 years—that men and women probably progress initially along the same path.

The deviation comes after about the first 3 or 4 years that you're in your particular technical career. I think that women get highly discouraged, are prevented from moving to positions within a corporation that allow them to gain the knowledge and expertise that is required to run a company.

I think those who do take the risk and want to go out and start their own company find an almost impossible situation that confronts them in terms of obtaining money, in terms of being taken seriously, in terms of getting other support that they need to start that company.

I also have found in owning a company for myself that frequently the talent that I need is male and expensive, and I have found that frequently these individuals did not take me seriously.

So there are a lot more obstacles, in my opinion, for a woman to try to get into a high-tech business for herself than are confronted by the normal male individual, and Mr. Dixon can speak for that.

MR. CHOU. If I can follow that up for a second. Are there similar barriers in the educational process in entering high-technology professional fields for women?

Ms. BALAZS. I don't think as seriously today as there was in my day. I came out of school in 1954, and at that particular time there were not any really significant jobs for high-tech women, nor anyone really seeking us out. I think today, because of the serious lack of engineers all over the U.S., but particularly in the bay area here, that women and minorities coming out of schools such as Stanford University are highly sought out today and have a very good opportunity of getting a significant position.

The unfortunate thing again, however, for these individuals is the rate at which they progress through a company once they get into a company. I think small gains have been made, but I don't think anything major has changed after the first 5 years or so that a woman is in a high-tech position.

MR. CHOU. Mr. Dixon?

MR. DIXON. I think that Mr. Queen is correct in what he said about the risk. After you invest a substantial amount of money to either get an MBA or engineering graduate degree, you tend to say that you will stay with the larger company for a longer period of time.

I disagree in the fact that minorities will not take the same risks that you see in the general population; the problem is more of networking in finding out where the venture capital people are located and being able to get into that network. For example, now that banks are not giving out loans anymore because of the economy, a lot of people are starting to write business plans and calling them new ventures to get loans, so the access to the venture capital community is really being limited by a great degree by the economy.

MR. CHOU. Mr. Herrman, did you have a comment there? You raised your eyebrows.

MR. HERRMAN. It was only the first time I had heard I was out of business, and I was a little surprised about providing financing, but I understand what Mr. Dixon means. It is a much more restrictive environment now for the new venture no matter how financing for that venture is sought than it was 3 years ago, 4 years ago, or 5 years ago for that matter.

And I think it should be noted that there are general guidelines that either Mr. Queen or myself would give to someone looking for financing for a business. And when we say that debt financing is not the proper way for them to go at the start of a business, that is not to preclude the fact that they may be looking at borrowing against the personal assets of the individuals that are involved in that business; it only is to say as a fact of life of lending to a new business startup itself, generally we're going to be less than interested in that.

MR. CHOU. I have a question for Ms. Balazs and Mr. Dixon. Have you been seeking—if debt financing is not available for you, have you sought venture capital, and with what success and have you been able to obtain financing for your companies, and how are your companies doing?

MS. BALAZS. Yes, I have obtained debt capital. I have obtained debt capital twice during the past 7 years, but particularly during the past 3 years in order to buy more capital equipment that I desperately needed to grow.

The financial situation of my economy is superlative. We have never been in the red. We have always had a rather impressive profit margin. We grew the first 3 years by 100 percent per year. We grew in subsequent years about 60 to 80 percent, and last year's very tough market we still grew 17 percent, and this year we will probably show about a 30 percent growth.

We've always had a good spendable cash reserve, and we have a portfolio that is quite impressive. Today we probably would not have any difficulty in obtaining funds. We just simply today don't need those funds to survive and to grow. Venture capital I went after once, more for purposes of making a giant leap ahead since I had some competitors beginning to move in on my expertise, and I found that venture capitalists don't really entertain venture capital that runs around \$50,000 to \$100,000; they're really looking for venture capital that starts at half a million, and I had no need for half a million dollars, so I had no interests in venture capital, and I didn't had anything to talk to them, venture capitalists, about.

MR. CHOU. Mr. Dixon?

MR. DIXON. Okay. First of all, our stated objective was to become—and you may laugh at this—a Fortune 1,000 company. That was our stated objective. The other objective was that within 5 years we wanted to be at a level of \$45 to \$60 million in sales.

We started with \$2,000. We were able to generate \$120,000 in sales in less than 6 months. We think we will have an annualized sales in excess of, in '82, of \$1 million. We went to the banks and, of course, we did not have a track record.

In order to secure a limited amount of funds, it meant that we had to tie up a lot of personal assets. I worked at Hewlett-Packard for a number of years and saw a lot of people start companies and tie up nothing in the way of personal assets because they had access to that venture capital community. A VC firm will tell you that, if you're running a business, you have two types of stress: You have business stress and personal stress. What they try to eliminate in your life is the personal stress because you just can't contend with both. So basically, it's been difficult, but what we decided to do was really go after some larger contracts from larger computer companies in the area and compete and bid, and that's what we did in the last 7 months and also write a business plan. So we now have our business plan out to several venture capitalists, as well as we are starting to close some of these contracts that we needed.

MR. CHOU. Were these traditional venture capital private or MESBICs [minority enterprise small business investment corporations] or what?

MR. DIXON. They were traditional venture capitalist firms in the true sense.

MR. CHOU. Mr. Chairman, I have no further questions.

CHAIRMAN PENDLETON. Thank you. We'll now move into some questions from my colleagues on the Commission and will start again with Commissioner Berry.

COMMISSIONER BERRY. Let me first say, if I understood your testimony correctly, Ms. Balazs and Mr. Dixon, what has happened with your companies is evidence that there's no need for any additional public policy initiatives to help minorities and women to develop high-technology firms. You've talked about not being able to get loans and all these problems, but still your company is thriving, so does that give the lie to any notion that there is discrimination and that somebody needs to do something about it, either one of you?

MS. BALAZS. I wish somebody would do something about it. We're successful because of my capability. I happen to be filling a need for the semiconductor industry that was definitely wanted. Actually, they didn't even know they wanted it when I started it, but it came out there was such a useful activity they began to realize there was a hole in their ability to do processing.

I think I am successful because I developed some new process that is totally proprietary, and they simply—some can't get it anywhere else. However, I think my growth rate would have been dramatically larger had I been able to get the equipment I needed and even today would be dramatically larger if I had been able to get the equipment to hire the personnel that I would like to have to make the presentation that would greatly promote our company.

High stress—I had both personal and business high stress, and there were definite times when I really seriously wondered if I was going to be able to make it. All the necessary secondary jobs I had to do myself in evenings and weekends. That meant anything from laying a floor, painting a room, building a cabinet, cleaning out the cabinets, taking out the trash—just anything that constituted keeping a company going at all had to be done by me and subsequently one or two employees that I was able to afford.

I was not able to afford to hire the high-technical people I needed, which made even greater pressure on me and my company, and even today that I'm showing a very good financial picture for the first time have I been able to finally afford to buy into my company the type of significant personality that I need to take some of the stress off of me.

I don't know what kind of legal rules and regulations need to be imposed. We're working with a very serious social problem here. I think people like me that succeed may turn around some of the banks—certainly, the banks have turned around since they have. I do public speaking

frequently, and I have done a speech at one time where bankers were present. I have bankers calling me today, but it's for the same old reason—when you have money that they could make money with, then you are very attractive to them. As far as what could the U.S. Government do, I really have no idea. I felt that I could have gotten a lot better support from SBA than I did. I think that probably stands out in my mind as one of the more serious deficiencies that I was confronted with from an organization that was supposed to be helping small businesses.

COMMISSIONER BERRY. So essentially, you probably would have been in a position to do a lot better with a lot less stress if you hadn't had all those.

MS. BALAZS. I would have been in a position to probably grow three or four times as fast with a lot less stress.

COMMISSIONER BERRY. Would you agree with that generally, Mr. Dixon?

MR. DIXON. I would agree and it would have meant we wouldn't had to take on a lot of outside contracts. We would have been able to hire a good controller instead of doing our books on the weekend, and it would have been a lot of things which would have been made a lot easier, if not the personal stress been introduced into this situation.

COMMISSIONER BERRY. I am interested, Mr. Herrman, in whether generally you believe that there already are too many high-technology firms in existence, in addition to the risk that's involved in the startup, as a factor that would make you believe one should not really give loans to people who are trying to start up firms? Do you think there are too many firms already, or is it just the high risk involved, or what is it, the startups?

MR. HERRMAN. We're talking about an extremely high level of risk on a business-by-business basis. I am a very strong believer in economic Darwinism, and I have, over the course—well, the 5 years at SBA and 4 years at the bank—heard this same story that you heard here on this panel so many times that we sort of lost count, but it always comes back to the same thing: Anyone in this country who has an idea worthy of consideration in the marketplace deserves the right to take that idea to the marketplace as an independent businessman. That is a cornerstone and, from the standpoint of public policy, it galls me, having spent the substantial portion of my employed life working for the government, that the one agency that was supposed to be doing a good for people like the people here has completely failed in its mission in the last 3½ to 4 years, that we have seen the services of Small Business Administration completely fall apart.

We would have been, if we were able to deal with SBA loans the way we have historically, we would be able to help a Hurricane Labs or a Balazs Analytical Labs today if SBA was in a position to come in with the kind of guarantee that they had in the past. The simple fact is that what

you have heard is the parameters for these businesses getting started simply do not generate any interest at SBA.

And I would dispute the fact they don't generate any in the bank. In our bank in particular we have structured—and I know that our competitors have big institutions within the institution on the peninsula—for the purpose of looking at businesses like this, but when we are faced with a situation where there is risk and no mitigation for that risk, we have to make the hard choice, and the hard choice is usually saying no; it's an easy choice to say yes.

MR. DIXON. May I add something to that? I think Mr. Herrman is correct in fact that banks do a good job in what they're supposed to do, and I think they have a basic structure and philosophy, and what we had to understand in starting up our business was that a bank was not the proper place for us to go for startup capital. And once we made that decision, we were able to make a lot cleaner business decisions about financing in general.

MS. BALAZS. I want to make a point that at the point where in my business where I went to get some financing, the financing was not enormous and I had already established a 3-year track record and a highly profitable business, and from that viewpoint the fact that so many banks would not even entertain sitting down long enough to look at my portfolio and our profit picture to give us some help was dismaying to me.

Secondly, I personally had accumulated enough wealth to more than far exceed that \$12,000 that I wanted for the business. And I was told repeatedly that my personal wealth had nothing to do with my company and, therefore, they would not even give a personal loan on such things as my home which had over \$60,000 worth of equity in it, not counting various pieces of land that I own.

I want to also add another point: Due to the fact that we did not have the capital backing that we needed, I found that vendors demanded cash on the barrelhead. And because it was cash on the barrelhead, it constituted special handling. So, instead of getting discounts on purchases, I paid 105 percent of the actual value of what I purchased because it had to be handled as special handling.

This was another very serious problem to me the first 3 or 4 years I was in business. Until I had actually adequate financing in the bank and had an adequate credit rating for the company—and my personal credit rating could not be considered at any point in developing the company, even though it was the sole proprietorship. My final ability—and this was only by creative thinking on my part to get competitors—to get some competition going between vendors making statements like, "Vendor A told me he'd give me a 15 percent discount on this product. What will you give me?"

And then vendor B says, "I'll match that or go to 20."

And I'd go tell vendor A, who I had never spoken to before, "Vendor B said he will give me a 15 or 20 percent discount. What will you give me?"

By setting up that kind of competitive situation between vendors, I finally got off of the 105 percent cash special handling basis.

COMMISSIONER BERRY. If I understand correctly—and, Mr. Queen, something you said about minorities and women—once they have the education to get jobs, then they are not able to bend security. If you tie all this together, it sounds like minorities and women generally do not have access to venture capital because of the kind of networks. They shouldn't come to the bank to ask for loans for a startup because of the risk. They shouldn't ask California Regional, with which you are affiliated, because you prefer to deal with going concerns as anybody who has a risk. So unless you are just an extraordinary individual who is willing to bear all the stress that these people are talking about, then one might as well forget, unless you are independently wealthy, about going into a high-technology business if you are minority or female, no matter how good an idea you have. You don't feel that Cal Regional, for example, ought to have any responsibility, or using the examples of their success stories ought to make you feel better about startup enterprises?

MR. QUEEN. Well, I guess essentially you're correct. I hate to say that, but I do think that trying to start a high-tech business, a good successful high-tech business, is a very difficult job. I just think basically that it's something that most minorities and young women really don't give that much thought to, and my examples are we have seen over at least—I'd say, between phone calls, actual visits, and talking to—at least 3,000 clients in the last 5 years.

I'd be willing to bet you we have not talked to 10 clients out of that 3,000 about a high-tech entrepreneurship. So basically, it's something they don't think about, but the examples given here are something that we readily could have handled.

When you're talking about \$12,000, \$25,000, \$50,000, those are things that we will look at and where we play an integral part in that we would consider the assets of the owner if we could put that loan together.

We will consider her personal credit rating if we could help that firm. What I was talking about initially was that most of the high-tech companies that we looked at were asking for \$500,000, \$600,000. We do not have that kind of money to take a risk—\$50,000, \$100,000, \$200,000, if we can protect ourselves with her personal assets, with her good credit rating, or going to her suppliers and saying, "We want you to give her 30 days like you would give anyone else. We will guarantee that you will get your money," those type of things that I said that we can do that where most of the other institutions cannot do it. We can guarantee suppliers. We can do anything you can think of here financially as long as it is legal. We

have the capabilities of doing it and we have done it in the past, so we could help small business like these on the platform.

COMMISSIONER BERRY. I have no further questions.

VICE CHAIRMAN SMITH. Rabbi Saltzman?

COMMISSIONER SALTZMAN. Just let me pursue for one moment, Ms. Balazs, in terms of a minority person or a woman starting up business. While you indicated you weren't sure you could advise us or give us recommendations how government might help, what advice would you give to that person for starting up a business?

MS. BALAZS. The first and most important piece of advice I'd give that person is to make sure they had a paying market out there.

The key to success of any business is to know that the reasons you are going into business are going to be received and that you have someone who will actually pay money for whatever it is you are trying to deliver. So that, to me, is probably the most important aspect of going into business, is doing your market analysis and doing it very diligently.

I think the second piece of advice that I would give someone going into business for himself is be prepared and have your family prepared for the fact that you will become a disappearing individual and that you probably would not be evidenced again in public life for at least 3 years. I think anyone who hasn't got the creative imagination to overcome all kinds of obstacles probably should not take the risk. The obstacles are enormous. They're not something that cannot be overcome, but you frequently have to deal with them in ways that you never imagined that you would probably behave before, at least from my perspective of what I went through. I never imagined that I would be behaving in some of the manners in which I behaved. You have to be really gutsy. This is possibly one place where women are a little bit at a disadvantage.

CHAIRMAN PENDLETON. I would ask if we could make the answers and the questions brief. We are little bit over time. I want to make certain that we can stay pretty much on schedule. Are there questions from my other two colleagues on my right?

COMMISSIONER RUCKELSHAUS. One question for Mr. Herrman. You spent a lot of time at SBA—you spent 5 years plus at the SBA, and I assume at one point you thought the SBAs were performing properly and serving a useful function. What is your understanding of the purpose of a MESBIC?

MR. HERRMAN. My association with SBA is specifically now and was specifically then in the lending function.

My relationship with MESBICs as entities can—as perhaps they provided gap financing to clients that I had at SBA where they provided additional equity to my customers so that the leverage ratios in the business could be brought down to acceptable levels for the risk that was involved.

I think—should say that there is nothing in the law that has changed the way SBA operates. It is an attitude within the agency, and I think as you talk to the people from the MESBIC in these hearings you will find that they are afflicted with it as the banks are. And it's we do not have the latitude to deal with it—small business community—as we once did.

COMMISSIONER RUCKELSHAUS. If the law hasn't changed, what has changed then?

MR. HERRMAN. The policies of the administration in the way those laws are applied to the community that we are serving. And you see differences in management styles in SBA offices, and the result is that what I can do, for instance, in Fresno I cannot do in San Francisco. What I have been able to do in Philadelphia, I can't do in San Francisco. It is that kind of environment that we are working in, and with an uncertain environment we are left as bankers holding the bag. We are not able to assist.

COMMISSIONER RUCKELSHAUS. You are talking about an uncertain economic environment or an uncertain?

MR. HERRMAN. I am talking about an uncertain management policy.

COMMISSIONER RUCKELSHAUS. It is not a conservative management style; it is rather an ill-defined management style?

MR. HERRMAN. That's correct. That's exactly correct, yes.

COMMISSIONER RUCKELSHAUS. Thank you.

CHAIRMAN PENDLETON. Commissioner?

VICE CHAIRMAN SMITH. Ms. Balazs, do you belong to either, formally or informally, organized or unorganized, any women's network, and are you called upon to counsel other women in beginning or wanting to undertake projects or businesses such as yours? Do you respond to those requests if you get them?

MS. BALAZS. Oh, yes, I do. I do public speaking three or four times a year in response to requests on how does one go about starting their business or a business.

I also am the past president of the Peninsula Professional Women's Network, which is an organization of very high achieving women in management, middle-management level or higher. About 50 percent of that organization are entrepreneurial women. Of the other 50 percent, are approximately 30 percent of the women in that organization are in high technology in the valley. The conversation among these women frequently is one of starting their own company. It is not an idea that is not prevalent in the mind of practically any woman who thinks she has the capability and a good idea to progress on.

I am involved in the Seminar by the Sea Business Woman's Conference which is held every year. I have been on the council for that for 2 years now. I have spoken to women in business from the San Jose chamber; I speak before women entrepreneurial groups all the way from here to Washington.

VICE CHAIRMAN SMITH. Do you believe that these activities are making a difference or that they can be encouraged? Are there things that the general public can do to enhance or encourage activities of this kind? Is it making an impact?

MS. BALAZS. I think it is making a dramatic impact. The greatest impact is the information exchange that occurs between businesswomen.

One of our biggest difficulties is not knowing the person to go to who really can give us the help that we need, and by the transfer of information that goes between us, and even the introductions to the proper person to go to for whatever your particular need is, has been dramatic.

I think the number of times that I speak before women's groups that have not yet reached the level of thinking to actually start a business but the idea has popped into their heads, gets a tremendous amount of guidance from people like me who do public speaking. And I have had many fine letters of appreciation from people who have not only listened, but who have gone ahead and done it and have been successful at it.

VICE CHAIRMAN SMITH. Thank you.

MS. BALAZS. You asked me one question about how could we get some help. These organizations suffer also from lack of publicity and lack of money. If we could get any support in either activity—I also belong—I am on the National Alliance which is a network of professional networks, and the National Alliance likewise struggles dramatically with making ourselves publicly known so that businesswomen's networks all over the United States are aware of our existence and could join in the effort.

The networking is too isolated—dramatically needs to be tied together. We could use a lot of help in that area.

VICE CHAIRMAN SMITH. Thank you very much.

COMMISSIONER PENDLETON. For the sake of time, I will just abbreviate some of my questions. There are two I really want to know about, and perhaps, if not today, you would do us privilege of making an answer in writing, and I think that would help us an awful lot.

I would like to know how the Economic Recovery Act of 1981 with its reduction of the capital gains tax, accelerated appreciation schedules, small business investment tax credit, and research and development credits provided incentives for small business development in the valley? If they have, I would like to know what these are because I'm interested in knowing what the economic policy mix is that we could suggest that would make a difference. And if there is any information anybody has about startups of new businesses within the last 12 months based upon how that act has been in place, I would like to know some more about that.

The other one is, if there is regulatory stifling in the process, if regulations are stifling the development of small businesses and things you want to do, I will like to know some more about how you feel about that.

The other—the only other response that I have to you is that I understand what you're saying. I have the advantage of being chairman of a board of the number one SBA 503 program in the country, the one in San Diego County. Crocker has done some work, and I must say, not as much as they could do. But \$85 million in debt financing on the ground is not too bad for businesses that do begin, that are operational. What I am looking at, I think, Mr. Herrman, from your point of view is perhaps we need to have some suggestions from you that if bankers know—like venture capitalists know that it takes 5 years to get ROI, or return on investment, and you say you only want to lend the money for 2 years unless there is a government guarantee, I want to know how we can reduce the necessity to have those kind of guarantees on the taxpayer. And how come the banking institutions themselves cannot use that time frame and the performance of people like Mr. Dixon and Ms. Balazs to say, "Here, they have put up their own money and they have good companies. They have done what Americans are talking about, and they are doing all the right things."

It's been difficult, but I failed to understand in the process with their success how come that does not become a part of the template or scenario by which you protract those loans out over a period of time so they can pay them back. We all know that when you start up businesses that even if you don't have the equity and you've got to borrow money, you still have got to pay it back, and if you have a good business, you might not want to share that; so you don't want the venture capitalists. It seems to me it would be productive for the lending institutions—I am not talking about Crocker—to give back the private sector's scenario of how they see, not the high-tech businesses, but people in small businesses who have a good track record. Why can't their loans go out over a 5-year period to give them a chance to be a bit more profitable—I know you are a little shaky now that we did the oil things in Texas or Oklahoma, but I would hope that we could have some information perhaps from you as to how you see that happening.

Ms. BALAZS. I would like to ask—to inject a comment. Your questioning is sparking an awful lot of questions and a lot of answers in my head. I think there is a great deal that the government can do and it is not doing.

Number one, when I started having employees, I had to start filing all kinds of forms and paperwork. There was a great deal of it which I did not understand. I spent 3 days and talked to 10 people to try to get one answer to one question. That was just absolutely excruciating to me.

The number of people who do not know how to answer questions on forms that they're handling is just mindboggling. The number of forms—when we needed help to get forms—the little statement on the bottom of your forms that says, "If we don't give you a right answer, if you make a mistake on the form, you're still liable, not us."

I kept some of those forms because I think that's such a ridiculous statement to make on government form, when you're trying to get help from a government employee. The tax structure on small businesses is absurd. At the time when we are making our most substantial growth and when we are making a profit, if we cross over that minimum tax rate and bump into the higher tax rate, we are just absolutely devastated. It practically clips our wings before we even have a chance to fly. The government should impose an a graduated tax structure on small businesses. The government should even give a prolonged rate at paying taxes when we can show that the money that we are using is in capital equipment and showing a substantial growth to our business.

We get no assistance in that way. The government has a tendency to pass on their responsibilities to other agencies, and then not even train them well enough to allow them to do their job well. I think what President Carter started, when he had the small business meetings, should definitely be continued. The information that you got from those groups that met all over the United States was absolutely essential to your understanding of what you can do to help small businesses.

I think there is a great deal the government can do and I don't think they should—they should take here wondering what they should do. They should be taking—they should be taking the initiative as they did in 1979 and 1980 to find out what they can do.

I certainly hope this Commission will have some effect on getting some of this work done.

CHAIRMAN PENDLETON. Thank you, and thank you to the panel.

Our next panel will convene immediately and that is Mr. Dugger, J. Peter Thompson, and Craig Taylor. If you are all here, I will swear you in. Would you come forward, please.

[Edward Dugger III, Craig Taylor, and J. Peter Thompson were sworn.]

TESTIMONY OF EDWARD DUGGER III, PRESIDENT, URBAN NATIONAL CORPORATION; J. PETER THOMPSON, PRESIDENT, OPPORTUNITY CAPITAL CORPORATION; AND CRAIG TAYLOR, GENERAL PARTNER, ASSET MANAGEMENT ASSOCIATES

MR. ALEXANDER. Starting with Mr. Dugger, could you each identify yourself for the record, and that will be your name and position and city that you are from.

MR. DUGGER. My name is Ed Dugger, and I am president of the Urban National Corporation, a Boston-based venture firm.

MR. ALEXANDER. Thank you. Mr. Thompson, you're going to have to speak into the mike. There is a little problem picking up.

MR. THOMPSON. My name is Peter Thompson, and I am president of Opportunity Capital Corporation, a operator MESBIC based in San Francisco.

MR. ALEXANDER. Thank you.

MR. TAYLOR. My name is Craig Taylor, general partner of Asset Management Associates, a venture capital firm in Palo Alto.

MR. ALEXANDER. Mr. Taylor, could you briefly describe for us what the role of a venture capitalist is in the high-technology industry?

MR. TAYLOR. Well, primarily our firm looks to invest in the very early stage startup of high-technology ventures. We act as a funnel of funds from our limited partners into those firms.

MR. ALEXANDER. Basically, where are the sources of the capital that you invest?

MR. TAYLOR. Our limited partners primarily consist of pension funds, university endowment, money funds, insurance companies, and several wealthy California families.

MR. ALEXANDER. Not your company alone, but generally what is the available pool these days for venture capital?

MR. TAYLOR. Well, it depends on which numbers you read, but it's anywhere from \$500 million to a billion dollars a year.

MR. ALEXANDER. Is this a substantial growth in the venture capital pool in recent years?

MR. TAYLOR. Yes, it is; it's phenomenal growth.

MR. ALEXANDER. And what would you attribute that to?

MR. TAYLOR. Well, let me give you an idea of what the type of growth is. When I joined the venture capital community 5 years ago, there was approximately \$30 million raised. In the type of funds we work with last year there was between \$800 million and a billion dollars raised. I guess you can attribute that to two things: (1) The reduction in the capital gains rate had a major effect. (2) Resurgence of the stock markets—the time period of 1976–77 saw a number of firms the venture capital firms had invested in go public realizing liquidity for ourselves and limited partners and also substantial gains.

MR. ALEXANDER. For your company, what is the process? Do you seek out companies or engineers or ideas? People seek you out? How do you get involved with a potential company as a general rule?

MR. TAYLOR. Okay. As a general rule, the last 2 years we have been sought out. We had more opportunities to invest than we had either the time to evaluate or the money to invest in them—primarily the time. Previous to that, we would be actively seeking out venture opportunities.

MR. ALEXANDER. How would you go about seeking out venture opportunity?

MR. TAYLOR. Oh, attending trade shows, talking to the people at the trade shows whose products you thought were interesting, reading trade journals. We've gone so far as knocking on doors of incubator facilities.

MR. ALEXANDER. Could you lay out what the factors are that you utilize in making a decision as to whether a particular package is something that's attractive for your firm or not, and what are the issues that you look for in a package?

MR. TAYLOR. The primary concern we have is the quality of the management and we look at that. Our weighting would probably be almost 60 to 80 percent of our decision is based on the quality of the management for the marketing product area that they are pursuing, their experience level, their educational level, their drive, and their perceived ability to work together.

The secondary factors are the particular product that market area—that they are addressing, the amount of capital they require to address that, and if all goes well, what is the type of market position both in terms of the proprietary market position, the size of the potential company, the potential profitability, and the potential liquidity for our firm.

MR. ALEXANDER. For your company, basically how much capital are we talking about having out in investments and what sort of average, or what is the range of investment we're talking about?

MR. TAYLOR. Our company is somewhat unique in that we do specialize on the startup end. Over a time we'd like to have a maximum of \$1 million in any one firm and a minimum of \$500,000; however, our first investments, which can be seed financings of two or three engineers who want to leave a job and write a business plan, could be as low as \$100,000.

MR. ALEXANDER. As low as \$100,000?

MR. TAYLOR. Right.

MR. ALEXANDER. How many packages do you have out over the last few years?

MR. TAYLOR. Our financings, we typically do from 5 to 10 investments a year.

MR. ALEXANDER. And you have how many investments outstanding at this time?

MR. TAYLOR. In our portfolio?

MR. ALEXANDER. Yes.

MR. TAYLOR. Outstanding at the moment, we have 28 investments.

MR. ALEXANDER. Are any of those investments with female or minority firms?

MR. TAYLOR. One.

MR. ALEXANDER. Which is female or minority?

MR. TAYLOR. Minority.

MR. ALEXANDER. A minority firm. Do you find that you get a high number of applications or a reasonable number of applications from females or minority firms that you say people seek you out?

MR. TAYLOR. We see very few.

MR. ALEXANDER. Very few. Do you see any differences in the packages that you get from minority firms than you get from majority firms?

MR. TAYLOR. I guess. Well, when I say very few, we tend to receive a tremendous number of phone inquiries. Our staff of people is two people—I mean two general managers, research assistant, secretary, controller. We can't look at everything so we field phone calls, and if it is something we don't feel we are likely to invest in, we generally don't look at the package. And because our firm is highly motivated to invest in high-technology firms if someone who calls us up and wants to start something which is not in that area, we generally say, no, we're not an appropriate source of capital.

MR. ALEXANDER. Mr. Dugger, could you briefly explain what your capital investment firm does?

MR. DUGGER. Urban National is a private venture capital firm which specializes in investments in minority businesses. We're much like Craig's firm except that as a venture capital firm, with this kind of specialty, we're also greatly involved in business development work. By business development work, I simply mean that, in addition to providing risk capital to early stage businesses or helping in the financing of acquisitions and so forth, we also devote a substantial amount of time to preinvestment development activity, working with the entrepreneur over a month, or a period of a year, to develop a quality opportunity. We also devote a substantial amount of time to postinvestment monitoring and counseling and advocacy and so forth, so that the promise we saw in an early stage venture, a minority venture in general, has an opportunity to blossom.

MR. ALEXANDER. Are all the firms in your portfolio either minority- or female-owner firms?

MR. DUGGER. Yes, with the exception of one which represents a workout situation.

MR. ALEXANDER. Are those investments that come to you? Or do you seek them out? Or both? Or some mix?

MR. DUGGER. We receive a large number of proposals each year although we don't stop there because we find that in order to develop high quality investment opportunities we have to play a much [larger] entrepreneur role ourselves in identifying who's who among minority business people. Therefore, we have an active marketing program which is designed to identify both people and opportunities.

MR. ALEXANDER. Do you get referrals from other capital venture firms—majority capital-venture firms?

MR. DUGGER. Yes, we do. In fact, one of the characteristics of Urban National that I think makes it effective is that we have partnerships with traditional venture capital firms. As a matter of fact, we have some partnerships with some 15 different traditional venture capital firms.

MR. ALEXANDER. When Mr. Taylor laid out the factors that were considered in the decision as to whether or not something was an appropriate investment, would you agree with those factors?

MR. DUGGER. Absolutely.

MR. ALEXANDER. Is there anything that you would highlight that would be a different issue or a more involved issue for minority- or female-owned firms?

MR. DUGGER. I think the point that Craig made about the emphasis being on the quality of management and capabilities of management holds true for just about anyone involved in this business. In our case, by far the most important decision that we can make is about the management team. Within our more narrow universe, i.e., dealing with minorities, having narrowed it to that point, the issues with regard to the evaluation of the deal are quite similar.

The special issues you confront, however, are perhaps different because many times, because they are receptive to it, we see deals in an early stage which are not quite in the form that would be attractive to perhaps a traditional venture firm, so we spend time to make it a quality deal.

MR. ALEXANDER. Mr. Thompson, could you explain to us what your MESBIC does?

MR. THOMPSON. Yes. By way of background, Opportunity Capital Corporation is a MESBIC. We are licensed and regulated by the Small Business Administration, and we are also partially financed by the SBA.

From a functional standpoint, Opportunity Capital, commonly referred to as OCC, is quite similar to Ed's company and Craig's company in that we function as a source of long-term debt and equity capital to—in our case, attractive to minority-owned firms.

MR. ALEXANDER. What kind of portfolio does your company hold? What is the number and size of minorities or women involved?

MR. THOMPSON. Well, at this point our portfolio is made up roughly of 15 companies. Over our 10-year life we have made between 35 and 40 investments. Over that time period two of our investors have been female.

MR. ALEXANDER. And the rest?

MR. THOMPSON. The balance are other ethnic minorities, blacks, Hispanics, etc.

MR. ALEXANDER. How many of those would be in high tech?

MR. THOMPSON. Over the years, I would say that two may be categorized as high-technology companies.

MR. ALEXANDER. What's the average amount of capital that you have invested in an operation?

MR. THOMPSON. The average tends to change all the time. Currently, our preference is to provide a maximum of \$200,000 per deal, a minimum of \$100,000. A good working figure is about \$150,000. Very significantly, though, our preference, as in the case with many other venture capital companies, is to provide your capital in participation with other venture capital sources so that in a single financing you can put together a million-dollar deal without exposing yourself to an unnecessarily high level of risk. You spread the risk and, of course, you spread the reward.

MR. ALEXANDER. Did you gentlemen hear the testimony of the panel that preceded you at all?

MR. TAYLOR. Some of it.

MR. THOMPSON. Some of it.

MR. ALEXANDER. Ms. Balazs was indicating in starting of her business she was looking for an amount considerably less than \$100,000 or \$500,000 and that the traditional debt financing system did not seem to be appropriate. Is venture capital appropriate for that type of business that she described, the situation, Mr. Taylor?

MR. TAYLOR. It could be. We wouldn't do an investment that small unless we felt there was going to be an subsequent investment that would get our holdings in their company up into at least the quarter million-dollar area fairly soon.

MR. ALEXANDER. From your knowledge of the industry in this locale, are there venture capitalists who specialize in \$25,000, \$50,000, small amounts like that, or is that not the name of the game?

MR. TAYLOR. Not unless it is that type of scenario.

MR. ALEXANDER. Unless it is seed for a larger investment?

Mr. Dugger, in your situation, in the company you run do you get involved in the type of investment?

MR. DUGGER. No, we don't. Our minimum investment is approximately \$150,000 to \$200,000, the reason being it's simply an effective way of screening the deals. In fact, I think that's typical. We do receive proposals from time to time of that amount and what we try to do is refer them to individuals who have that kind of capability to invest on a personal level in their companies.

As a matter of fact, if there is a weakness in this scheme of things with regard to risk capital financing, it is in that segment I think. There are many deals we see that are more appropriate for individual investors, and there is simply not the network available to minority firms to access that capital.

MR. ALEXANDER. Mr. Thompson, does your organization get involved with the types of loans that the previous panel were seeking?

MR. THOMPSON. I did not hear that particular discussion.

MR. ALEXANDER. Startup first year, first 3 years, talking under \$100,000—in one case significantly under \$100,000—\$12,000 equipment loan was the beginning investment.

MR. THOMPSON. I see. Generally, we would not be interested in a financing of that size. We do, on selective occasions, finance startup of companies.

MR. ALEXANDER. To your knowledge of the industry and other MESBICs, do any of the other individuals in your industry specialize in that type of loan portfolio?

MR. THOMPSON. Based on my knowledge of the current investment preferences of the more active MESBICs, the answer would have to be no.

MR. ALEXANDER. Would you agree with Mr. Dugger's assessment that in order to get that type of funding you would need to have access to the network of private individual investors, be part of, if you will, the buddy system?

MR. THOMPSON. That would certainly represent a reasonable alternative source of financing.

MR. ALEXANDER. Mr. Dugger, in staff interview with you, you indicated that you run a management resources file. Could you explain what that is and explain what role it plays in developing a minority firm?

MR. DUGGER. As part of our marketing effort to identify those individuals who have entrepreneur interest and who have the capability to pursue it, we have put together what we call a management resources file, which is a file on individuals, primarily those who have professional education in business as well as professional corporate training. We put this list together some 4 years ago using the top business schools as our starting point, to gather information concerning minorities who have graduated from the top 20 or so business schools in the country over the last 20 years. We then [had] a questionnaire to be completed on the self-selection basis based on their entrepreneurial interests. And what we simply asked them was whether or not they did have an entrepreneurial interest; if so, in what area. If so, how soon did they plan to get started if they hadn't already. And in addition we asked them questions concerning their educational background, business training, and the type of resources they themselves had to bring to bear on their own venture. Based on that we got about a 15 percent response from those individuals we sent it to, which was a little surprising to me. It was higher than I expected.

And we have, over the course of time, stayed in touch with the people by periodically writing them and informing them as to Urban's interest in them as entrepreneurs. This represents a valuable resource to us because it allows us to, on the one hand, identify our future client group and on the other to know those that are—at what stage in the pursuit of their entrepreneurial interests various entrepreneurs are so we have an opportu-

nity to focus on a core group of people with whom we worked over a period of time.

MR. ALEXANDER. In earlier testimony today, we heard that being part of the industry was frequently a prerequisite for becoming an entrepreneur. I gather, from our interviews, that your organization is also pursuing the route of acquisitions for people. Could you explain that a bit, please?

MR. DUGGER. We have really provided three types of financing: financing risk, financing for early stage companies, and acquisition financing for management teams that have the wherewithal to acquire and run independent business and thereby create minority firms where they currently don't exist. We also provide followup or interim financing for companies that need money over perhaps a 2- or 3-year period. But with regard to the acquisition financing, that has been an important part of our investment strategy because it offers minorities an opportunity to quickly become a part of the mainstream rather than starting behind the eight ball with regard to penetration of marketing and so forth. Acquisitions offer minority management teams an opportunity to begin with a beginning marketing share, middle management in place, and a network of business contacts which allows it to prosper that much more quickly.

MR. ALEXANDER. Mr. Chairman, I have no further questions at this time.

CHAIRMAN PENDLETON. Thank you. I think I'll start on the other end at this time with Commissioner Ruckelshaus, if she has a question.

COMMISSIONER RUCKELSHAUS. I would like to ask a question to Mr. Taylor and Mr. Thompson—and Mr. Dugger, you can answer it if you like. What do you mean exactly when you say you take a look at the quality of management? What are the factors you are looking for specifically?

MR. TAYLOR. Primary people we like to see [are those] who have essentially done what they are trying to do—either they were chief executive officers or have been divisional managers with profit and loss responsibility at a company, probably selling a very similar product.

If they are going to be a financial officer, chief financial officer, they may have been the CFO for a smaller company or a comptroller for a larger company.

COMMISSIONER RUCKELSHAUS. We just heard some testimony in the previous panel that there were so few women in positions such as the ones you are describing, officers in previous 20 random sampled groups here in Silicon Valley—so that's a real problem, isn't it? If you're looking for that sort of experience, that's an area in which women and minorities are not easily identified, so they've already got a problem with that kind of history. What else then are you looking for?

MR. TAYLOR. Typically we want somebody who has a—well, you know, it gets back to track record. We do extensive personnel checks with

both peers, subordinates, and superiors. We try to get somebody who works extremely well with people, has a very high energy level, and has a real track record of success in terms of the people.

Also, if the company is going to start out making perhaps a computer printer, we'd like someone in the manufacturing slots and marketing slots who typically worked with electromechanical assemblies before; what we don't want is on-the-job training, basically. We want someone who can hit the ground running.

In addition, the type of people that we like to bring into our companies are people who, for instance, as a manufacturing manager can probably staff his or her entire group from some people they know. They can call up purchasing agents that they've worked with before, and they can call up comptrollers, cost accountants, and so on and so forth in the financial area or in marketing where they can probably staff regional or maybe even local sales offices from people in their experience they've worked with.

COMMISSIONER RUCKELSHAUS. You're looking for people who had experience?

MR. TAYLOR. Lots of experience.

COMMISSIONER RUCKELSHAUS. Who are not trying to do something they've never done before?

MR. TAYLOR. Right. It raises the risk. We will back someone who hasn't done it before, but it takes longer for us to get comfortable with that situation.

COMMISSIONER RUCKELSHAUS. What do you think are the most common problems that confront women and minorities as they try to get some capital behind their high-tech entrepreneurialships? There are not very many. They have found difficulty in going to common sources of commercial banking; they can't seem to get the service they want in the SBA, and they don't seem to fall in the guidelines I'm hearing.

If you were advising that group in a speech, what would you be advising them to do to seek the kind of financing to get a startup?

MR. TAYLOR. Well, I guess the first thing I'd do is recommend that they try and get in those positions with companies who can afford the learning curve, first, and learn on somebody's nickel. I think that would have the greatest effect on their careers—is to have it done somewhere else.

COMMISSIONER RUCKELSHAUS. We heard from the last panel from a fellow who had worked for Hewlett-Packard for 15 years, so he had been in the process for a while. He understood what he was doing, but he couldn't get any financing. So if he's gone through that hoop, then what's he supposed to do?

MR. TAYLOR. Well, I'm not familiar with the particular situation. It also depends on what they're trying to do. Most venture capital firms, such as ours, are not particularly interested in backing companies that don't have fairly steep growth rates. There's lots of companies that can get \$1 or \$2

million in sales—and be a very nice company for the employees and for the management of the company—but don't represent an adequate return to the venture capitalists.

That doesn't mean they are not good companies; that doesn't mean they are not worthwhile working for. But they just don't offer the economic scope that is required to make it worthwhile both for the management and outside investors.

COMMISSIONER RUCKELSHAUS. So it is not going to happen with your firm or other venture groups if it doesn't represent enough of a return for your partners?

MR. TAYLOR. That's right.

COMMISSIONER RUCKELSHAUS. Where could they find that \$5,000 to \$15,000 or \$100,000 they need?

MR. TAYLOR. Typically, for the smaller amounts of money to get started, we do things very similar to Ed's firm in that we introduce people to individuals who are interested in this, and these are typically business individuals who can afford \$25,000 to \$50,000 to help companies get started. After that I don't know where they go.

COMMISSIONER RUCKELSHAUS. Mr. Dugger, could you give me any help with that?

MR. DUGGER. Just to pick up on what Craig has said, I think that for the most part it is fair to say that the venture—traditionally the venture capital community is not structured to deal with this development issue; it's not a criticism or otherwise; it's simply not designed to do that.

They are structured, as Craig indicated, with a small staff, and their focus is to optimize the return on investment for their investors. They are not structured to spend a lot of time working with entrepreneurs. When it comes to them, it should be ready. They are prepared, perhaps, to spend time once the investment is made working with it, so they do realize the return, but they are not structured to do anything but what they're doing.

COMMISSIONER RUCKELSHAUS. But what we're looking at here is trying to encourage more participation by minorities and women in the high-growth industry. And we are seeing that a lot of these entrepreneurial efforts are falling between the cracks so that traditional funding sources—by nature of being women and minorities, probably, but not necessarily that—and so I was just looking for perhaps some suggestion you might have—not that it is the responsibility of the venture capitalist or Crocker National Bank—but what can you imagine might be available, might be an effort that private or even the Federal Government can do?

MR. DUGGER. I think you have to continue to strengthen those organizations, such as the MESBIC community and efforts like Urban National's that do have as their focus to strengthen development of the minority business sector. It does require a specialized approach, a

specialized approach which results in the creation of mainstream companies.

We are not in the business to generate things that aren't going to be viable, but I think that a specialized approach which deals with the issues and has a kind of structure, organizational structure, that allows it to address them is the proper way to go.

COMMISSIONER RUCKELSHAUS. Okay. That's all.

VICE CHAIRMAN SMITH. Mr. Chairman?

CHAIRMAN PENDLETON. Yes.

VICE CHAIRMAN SMITH. Mr. Taylor, your testimony includes a figure, 250 to 300 proposals a year and very few of them from female-owned businesses and minorities. And then another part of the question is that you, I think, testified—or it is in your written testimony—that management experience is a common ingredient that's missing from proposals by minority and women entrepreneurs.

My question is this: You joined Asset Management in 1977, became president in 1980. Are we showing progress in these areas? Are there more proposals by women and minorities than there were in '77, and to what degree, and are you seeing less serious absence of management experience between those in that same period of time?

MR. TAYLOR. Okay. First of all, we're seeing more proposals from everyone. I think—I'm not sure—whether in proportion there are more women and minorities; we just don't track those numbers. But because we're seeing more proposals from everyone, we are seeing more from women and minorities. I think there are definitely a lot more women, for instance, by business class and so forth who are very interested in getting into smaller businesses, and we see a large number of resumes from other business schools—from Berkeley and so forth—from women who are very interested in getting into some of the more entrepreneurial small companies. So we see people who want to get into the companies; they haven't formed a company and come to us with a proposal for funding. In other words, they are really looking for referral, particularly to a company we've already funded, and they want to join in some capacity. We definitely see a very large increase in that, particularly from women.

VICE CHAIRMAN SMITH. Like out of 250 to 300 this year, how many would have been female owned?

MR. TAYLOR. Of the proposals that we've got, may be one, two.

VICE CHAIRMAN SMITH. One or two?

MR. TAYLOR. Yes.

VICE CHAIRMAN SMITH. Thank you.

CHAIRMAN PENDLETON. Commissioner Berry?

COMMISSIONER BERRY. Mr. Dugger, is your organization—which is unique in that it is prepared to provide venture capital for minority firms—

is it financed through the corporate responsibility section of the private companies that do finance you? Is that part of the pocket it comes out of?

MR. DUGGER. It is a little difficult to say. Urban was capitalized initially 10 years ago, and so it grew out of the concerns of the late sixties and early seventies, so I think that to a certain extent the response to Urban as a private sector effort with major corporate factors came from that sense of social responsibility. The investment, however, is not handled through public affairs or through community affairs. It is handled by the bond department of Prudential or the corporate finance area of Aetna.

And just to elaborate a little bit on that question, Urban is in the process of raising capital now, so I have a fresh view, a 1982 view, of what's important. I think that for the most part I'd say about 80 percent of the consideration is done by the investing side of the companies I have approached. Certainly, it goes by those areas of the company that are concerned with their corporate responsibility, to get its blessing and that sort of thing, but the evaluation and recommendation typically comes from the investing side.

COMMISSIONER BERRY. What is the source of funding, in your opinion, for entrepreneurs who have very risky ideas, or the kind we heard from the other panel, that do want small amounts of money? If it is not from the bank and it is not from the venture capital people, where are they supposed to get things like that? Volume is not enough for you or Mr. Thompson or Mr. Taylor, and the bank says that's high risk, so what is the source of funding for enterprises like that?

MR. DUGGER. It's a real Catch 22. I think, if you were not talking about minorities, what you would be talking about is private investors, and you would be trying to access that network which constitutes uncles, aunts, business relations, and so forth to allow you to raise that amount of capital on a private basis. Minorities don't have that legacy of business activity and the network of friendships or relations or family relations that allow us to finance businesses that way. It continues to represent a big void.

COMMISSIONER BERRY. To anyone on the panel, what would you think would be the—I'll ask each one of you and that will be my last question, Mr. Chairman—what specific steps do you think the Federal Government and the private sector, either together or separately, could take to increase the numbers of minorities and women in high-technology entrepreneurship, either private, public—I don't care who does it. Do you have any ideas how we can increase the numbers beyond what's being done now?

MR. THOMPSON. I can try to start the answer by responding to the question prior to the last one, which has to deal with what happens to the entrepreneur or the prospective entrepreneur who has a unique concept but is unable to attract the attention of an active venture capital firm.

Possibly it would be productive and useful if there could be some source of financing or funding that's designed to take this minority entrepreneur

from the concept stage to the working model stage, or possibly even to the test-marketing stage. That source of funding perhaps would not have specific return on investment expectations but would be judged primarily, for example, on the basis of how many minority entrepreneur concepts it was able to get financing for from the traditional or the MESBIC venture capital community.

COMMISSIONER BERRY. Okay. Mr. Taylor, do you have any comment on that at all?

MR. TAYLOR. Yes. I think one thing is that if—

CHAIRMAN PENDLETON. If you could, could you make the answer a little brief because I want to move on as soon as we can.

MR. TAYLOR. First of all, if it makes financial sense, the markets have shown a willingness to finance women and minorities. In the specific case of women, where it financially makes sense, there is money available. So I guess if Ed's company and OCI has rates of return that were in excess of what the people felt they could get elsewhere, you'll see a lot of people move in there and trying to hone in on their turf.

I will go back to trying to get an awful lot more minorities and women in engineering. In my classes in engineering and physics, there were no women and no minorities, so if you go back and start getting a lot more women and minorities into various types of careers, you will get a lot more high-tech entrepreneurs who understand high technology.

CHAIRMAN PENDLETON. Thank you. I guess the question at the beginning is—that I guess we are concerned about the inclusion rather than the exclusion or the appearance of exclusion. I realize that we can't always socialize business, especially minorities and women. Not only that you must have the capabilities to go into business, but there is also the matter of having the other things to go along with it. There is also the problem of my definite business point of view. I just have a couple little points. I am reading in a report here, the President's report—and he thinks that in 1981 the venture capital pool in this country was about \$5 billion, about one-third is liquid assets and another one-third available for reinvestment. What I am interested in, by having some feel for the private sector, is that in 1959 there was an increase in the capital gains tax and the increase goes up to 1977 when it was decreased. There was only about \$39 million in the pot for venture capital in 1977, but in 1981, because of the changes in the capital gains tax and the matter of the return on investment, apparently, venture capital—the private capital committee that venture capital fund had \$1,300,000. Does that figure make any sense to you? I'm trying to authenticate this report here. Does that make sense to you, as to 1981, or do you have any idea?

MR. TAYLOR. Probably a little high.

CHAIRMAN PENDLETON. A little high. Okay. Now, given that as the case, you do get pension funds. Do you get union pension funds?

MR. TAYLOR. Not us.

MR. DUGGER. I haven't been successful.

CHAIRMAN PENDLETON. You don't get union pension funds. There is no problem if I ask you some questions about that. Okay.

Now, given the scenario that has been developed here in panels this morning, I want to know whether or not it makes sense—I want to take Dr. Berry's idea here and suppose Dr. Walker at Howard University wanted to do what you've done here at Stanford, which essentially, as I understand it, is to sell the research. I mean, however it has been arranged in the sale process, there has been selling of research having been sponsored by either government dollars or public enterprise. And then we used that selling process for land acquisition to put up the industrial parks; Stanford Industrial Park was created and that, of course, provided money to do work. What would happen if Dr. Walker decided to get together with a group of venture capitalists and decided they wanted to sell their research? Would that be a good venture for you get into, a good high-tech venture? So you wouldn't be interested in a university selling their research, establish their own research park, establish a Silicon Valley like at Howard University? Would you be interested in that kind of investment if it made sound financial sense? Let me go back at Howard University: If they are able to acquire some land and they did the same thing at a predominately black institution that Stanford did 30 years ago, and begin to sell their research that was already federally financed, would you be, at some point, interested if the ROIs were right and if the deals in high tech were right, would you be interested in going into that, do you think?

MR. DUGGER. I think under certain circumstances we would, provided that we could identify the management team that would take that research and if you felt that you could build a business organization around that research and commercialization of that, we would be prepared to work with them over time.

I think that that's one area in terms of—as I talked to various large companies about raising capital, some other things come to mind, too. Companies such as DuPont who have research, do research and development all the time and do not commercialize many of the things they do often are amenable to selling that research or providing that research to minorities, often through Federal contracts that they have that require minority subcontracting; they are prepared to work with companies over a period of time, provided that they don't put themselves in the position of running the companies for them. There are lots of opportunities to take that kind of idea, I think, and making something of it if you are prepared to invest the up-front time.

CHAIRMAN PENDLETON. Now, let me be specific with you. Jonas Salk did something within the last year or so that I thought about giving to the Urban League, except it made more sense to the venture capitalists. Salk

was not able to attract as much money as he did ordinarily with respect to the institute so quite naturally they got together and they formed a for-profit subsidiary of a nonprofit corporation and it was capitalized at 39 percent with \$50 million, and they are sitting there now selling that research.

What I'm really saying is that there are minorities in this country, in predominantly minority or black institutions, that have the same kind of skill and capability—and I know, having gone to Howard, there are more “Dr. Drews” than Dr. Drew there who invented the blood plasma.

The point I'm making, I would hope at some point that you as venture capitalists would interest universities into doing that. Not that you have to make the petition and say, “Here's what we want to do,” but I think there is kind of a marketing role, if that's possible, for you to say, “Here's what some possibilities might be,” then to expand it even further. I would hope that venture capitalists could talk to the youngsters in this country. I'm really concerned about counseling and the like at the grade school, and what it really takes to be what you are.

I mean, he who has the goal makes the rule, and if you got the goal and you make the rules, there are a lot of people who want to be in your position. I think that what I hear some of my colleagues saying here, is there some way to translate what this is all about into people that don't know what it's all about and in a kind of motivational way, and I would hope that you find some way, not as a part of where we are now, but some way to do that.

My final point is, as I said to all the panelists, I would like to know what you think is the public policy mix. And I know that 60 percent venture goes into productivity and that's important. You want to make the good, sound investment. I think my colleagues' comments here—does that come out to social responsibility? But if it did, I'll try to run and get a little of it because I think it is not social responsibility; they have an obligation to their shareholders just like you do, but I guess I'm somehow looking, once again, for that encouragement point of view and the exposure to the kind of work that you do that many people just don't know about. It is a specialized field that you don't get at grade school while you're reading, writing, and counting, and the importance of doing that.

And again, I think my final point is the public policy mix; you want to see that it makes what you do much more effective. I don't know if you want to answer that now or whether or not you want to submit that in writing, but we're concerned about a public policy mix and—are we out of time?

MR. ALEXANDER. No, we've got time.

CHAIRMAN PENDLETON. Okay. What is it that you want to see us do? I mean, we legitimately and statutorily have access to the President and to the Congress. Whether they listen or not is another matter, but I would

like to know what it is that you need in terms of tax policy, which is public policy, and what it is that we can do to make some things happen in light of what you know our mission is to try to get us included. I think we're straining here to establish the point that there is discrimination in representation or that it's the result of discrimination, but I think there are some things which we can do to encourage people to become a part of that mix so they can become much more self-sufficient.

MR. DUGGER. I think that the key word there is "encouragement" or "incentives." I think, as I think about this problem in sort of a big-picture view from time to time, one of the things that is clear to me is that, yes, there is an educational problem with regard to professional skills and so forth, but the real problem comes after you've gotten the education and then access the opportunity with regard to both employment and businesses; businesses you can regulate. You can oversee much more effectively what happens in our educational institutions than you can in the private sector. And I think that once minorities make that transition to the private sector in terms of employment and business opportunities—that's where you have the problem. But I think that one of the ways you can encourage the minorities to become entrepreneurial and develop that history or that comfort with that process is through providing incentives for them to do so.

Take, for example, the National Science Foundation. It has had a program that provides on a competitive basis grants to entrepreneurs who have R&D [research and development] projects which have merit; they provide first-stage seed financing if it goes beyond a certain point. They are entitled to reapply and get another segment. In other words, they take care of that early-stage development work and finance it to the point where it is ready for venture capitalists.

I think the Department of Defense has recently embraced that concept and is doing more in that area as well. This is not a program targeted towards minorities specifically but early-stage business ventures in general. I think an emphasis on the part of that program with regard to minorities and women could be quite productive.

I think as far as other ideas are concerned, they are worth looking at, at least what's really happening with the whole technology commercialization effort on the part of the SBA or the Department of Commerce. There are a lot of efforts and minorities participating in these efforts to create, to take their products, or whatever, and move it to the point of commercialization. I think that effort is weak now and probably needs to be organized a little better, but that's an idea that's already in place.

CHAIRMAN PENDLETON. Excuse me, just to be clear, are you saying that one of the issues we can promote, not so much from a public policy point of view but a kind of a recommendation to those who want to be involved, is that there is a chance once you put—what I hear you saying is that—

once you put your money up like Ms. Balazs and Mr. Dixon did and some others in this area, that they put their \$2,000, \$10,000 up and they struggled for the other people—people necessarily tend to get established. Now once they've gotten established, it is highly probable there would—with a good financial statement, they can come to you to expand; is that correct?

MR. DUGGER. Yes. I'm saying there are various efforts being sponsored in an embryonic stage by the Federal Government right now.

CHAIRMAN PENDLETON. To do that early development.

MR. DUGGER. To do that early development work. It is a little bit over in this agency and a little bit over there and it needs to be examined to see what merit it has for expansion, expansion particularly with regard to how it might improve the opportunities and acceptability of minorities to high tech.

CHAIRMAN PENDLETON. Could we list out in this report what those startup activities are that are a part of the Federal initiative to get people to the point whereby these guys can take over or can help if necessary?

MR. ALEXANDER. That can be submitted in the record at this point.

CHAIRMAN PENDLETON. We need to have some list. I think we leave people hanging if there is a laundry list or list of agencies and programs that provide the early development money that people are talking about. We need to make that a part of the record. Do you think so? I'm sorry. I wanted to make sure we didn't miss the point.

MR. DUGGER. I want to say tax policies are not terribly effective in this area; it is not a strong incentive for corporations or venture capitalists to invest in minority companies or effective in fostering development of minority companies except perhaps in the way the Federal tax schedule is currently set up. It should probably be more graduated than it is. I think it might be effective in terms of providing a larger tax incentive for individuals who provide some seed money to early-stage companies. I think that might be an area that could be examined so that their risk of participating at such an early stage in minority ventures can be reduced.

CHAIRMAN PENDLETON. One more question. Would you supply venture capital to a minority firm that relocated to one of the proposed enterprise zones under the current statutory setup or that legislative recommendation?

MR. DUGGER. I probably would not.

CHAIRMAN PENDLETON. Why?

MR. DUGGER. Well, an early-stage company cannot really benefit substantially from those tax incentives. They are going to be throwing off losses creating their own tax shelter and the kind of tax incentives that are provided for through the enterprise zones are really for larger companies that have profit and that are making money, and that's an incentive. If you are creating your own shelter intentionally or not, then it is not an incentive.

CHAIRMAN PENDLETON. What you're saying, though, is that the risk of a new company going to enterprise zones is not of interest to you. Would it be of interest, do you think, to other kinds of lenders like banks, or what have you, or do we have to look at what Dr. Butler sells as whether or not you put up your own capital and go do that?

Are those benefits creating enough between the State and the Federal mix to warrant your interest? If you got like a State bill in Illinois and put a Federal bill to do that, does that warrant the interest to go to Lawndale or whatever they go to? The Sears plant is in Chicago. It doesn't—I'm not trying to convince you. I'm trying to find out whether or not those kinds of things become of interest because someplace else down the line somebody says that the enterprise zone bill is out there and we can't get a piece of it because people don't like us because we're black and we can't get into the zone. I want to find out whether or not it is economically feasible to do or not do.

MR. TAYLOR. For a small early-stage company, that type of consideration is so far down in noise that, I mean, it is not one of the driving decision points.

CHAIRMAN PENDLETON. It is important that we say that up front, that in order to go into the zone you've got to have—if you don't have your own money, you're going to have some difficulty. Okay. I have lots more but I'll stop.

MR. TAYLOR. I would like to address what you ought to do to get more entrepreneurs out of the females and minorities, and I guess one is—it is a little different than Ed's but—one, keep the tax rate low—if you're going to talk to the President. So it is worth doing. And I think maybe Ed's comment—if you get an incentive for individual investors to invest in companies whereby they get more of the reward, what you want is people like Sandy and Laurie who have gone and created the businesses on their own to take the time to invest \$25,000 or \$50,000 with the next woman who comes along and wants to start a company like theirs. They are the type of people who could give them both the money and the time to really help them. They are going to make very tough decisions and they are going to take a piece of the pie, but for that early stage you've got to make it worthwhile both to them and to the person watching the money.

CHAIRMAN PENDLETON. I hear you talking about abatement at some point. Is that what you're talking about for small businesses who want to start up, like tax abatement kinds of things? There is such a law in California called the Williamson Act where people began to sit on land and don't develop it in periphery areas where, and rather than developing it makes an impact on public services, the State allows them to not pay taxes on that land until it is developed. Would that be some kind of thing you're talking about?

MR. TAYLOR. No. I think it gets more down to the individual level for the company itself, and I heard the previous speaker indicate that maybe more graduated corporate income tax or something. That might make some sense. I don't know, but you've got to get the company off the ground so the person has got to believe that, if they invest their \$25,000 in this little company and make a lot of money, they keep a fair amount of it, because it is a hell of a lot easier to invest it in bonds or in municipal securities or something like that than—just clip coupons.

So I guess I get to the point where you got people investing in the companies, and the companies will figure out amazing numbers of ways to keep going.

CHAIRMAN PENDLETON. Are you saying, though, that there are impediments in the tax policy as exists today that prohibit that kind of small business development?

MR. TAYLOR. I think things are pretty good the way they are today, but I think, if you're going to do something, probably make it for the small individual investor.

CHAIRMAN PENDLETON. Could you write us something if you think of something specifically? We would like to have it.

MR. TAYLOR. I don't know, maybe make, under subchapter S where you get to write it off against ordinary income, you know. I really haven't given that much thought, but you've got to make it worthwhile—I'm not a tax expert—for those individuals to invest.

CHAIRMAN PENDLETON. Somehow what we're groping for, and the reason I'm posing the question is, we want to be able to give people something specific. If you have something specific you said you want to put in writing, please do that.

Can we end this one now? We'll adjourn now for lunch. Thank you very much for coming.

Afternoon Session, September 20, 1982

CHAIRMAN PENDLETON. Will the next panel please come forward, Mr. Placencia, Mr. Yee, Ms. Quackenbush.

[Harold Yee, Jose Placencia, and Chris Quackenbush were sworn.]

TESTIMONY OF HAROLD YEE, PRESIDENT, ASIAN, INC.; CHRIS QUACKENBUSH, PRESIDENT, Q TECH; AND JOSE PLACENCIA, PRESIDENT, RMC GROUP, INC.

CHAIRMAN PENDLETON. Thank you. We'll start the afternoon session with our staff attorney.

MR. MCGOINGS. For the record, would each of you please state your full name, your address, and occupation for the record; please speak into the microphone, beginning with Mr. Yee.

MR. YEE. My name is Harold Yee. I'm president of ASIAN, Inc. Among our activities is to work with small businesses, principally in San Francisco.

MS. QUACKENBUSH. I'm Chris Quackenbush, president of Q Tech. What we do is provide technology and nontechnical assistance of a project nature generally to the electronics firms in the Silicon Valley.

MR. PLACENCIA. My name is Jose Placencia, president of RMC Group. We're a management consulting company specializing in small startups in high technology and also the delivery of management and technical assistance to small and minority-owned companies.

MR. MCGOINGS. Thank you. Mr. Yee, would you give us a full description, please, of your company, the Asian-American Service Institute for Assistance to Neighborhoods, Incorporated?

MR. YEE. Surely. We have four operating units: The first division deals with human services problems, principally in Asian American communities—and we have a couple Ph.D.s that do unit services support work in that area.

The second division deals with prototypes of social service programs. What we do is start them up, get them running, and then spin them off to other nonprofits, or we set them up in nonprofits so that we don't have to deal with the day-to-day operations of that particular program. And among the programs we started in the area are Head Start programs, child care programs, Center for Southeast Asian Refugee Resettlement, a creative language and training programs, and so forth.

The third division deals with substantially rehab of the low- and moderate-income housing in San Francisco.

The fourth area—that's our principal work—deals with small businesses. We began in 1971 working largely with Asian businesses. Eighty-five percent of our clients were Asian owned. Of those 85 percent, 55 percent were Chinese owned and 45 percent were other Asians; of the remaining 15 percent, they are largely Hispanics and blacks.

Since 1978 we have worked principally under contract to the city and county of San Francisco and the State of California. We no longer operate with Federal funds in that area.

MR. MCGOINGS. How is your company funded?

MR. YEE. Through State and local contracts. We do have Federal contracts in the human service area and roughly 97 percent of our funds comes from governmental sources.

MR. MCGOINGS. Who qualifies for the services of your company?

MR. YEE. In the small business area, if the business is located in San Francisco, they qualify. But from time to time we do assist other businesses outside of San Francisco on our own time, such as after hours and weekends.

MR. MCGOINGS. Thank you. Mr. Placencia, would you describe your company, please, the RMC Group, Incorporated?

MR. PLACENCIA. RMC employs seven professionals. We basically have two divisions within our company: the commercial side and the division that specializes in government contracting.

MR. MCGOINGS. What types of organizations have sought your services?

MR. PLACENCIA. Of course, on the commercial side we deal extensively with private, for-profit organizations and, like I stated earlier, primarily in the area of high technology and light manufacturing. Under our current contract with MBDA, we deal extensively with a number of minority companies. Specifically at this point our current portfolio totals 80 minority-owned companies, and these companies operate in a number of industries—high technology, service, construction, etc.

MR. MCGOINGS. Thank you. Ms. Quackenbush, would you please describe your company, Q Tech, as to the services it provides and the organizations that seek your services?

MS. QUACKENBUSH. We deal strictly in the commercial arena, and we provide them technology and nontechnical help in the form of engineers, drafters, designers, technicians, tech writers, purchasing agents, personnel people, EEO specialists, or whatever they need, actually—clericals or nuclear physicists or fork lift operators—and they primarily utilize our services on a project basis. So I am a subcontractor in that I have *X* many people working at *X* company and another number of people at a different company.

We primarily deal with the high-tech companies because that's what's here, but we are not exclusively in the high-tech arena; we deal with insurance companies and banks, and anyone who needs help. I have staff of about 18 people, three offices in the area.

MR. MCGOINGS. Did you start the company?

MS. QUACKENBUSH. Yes, I did.

MR. MCGOINGS. How old is the company?

MS. QUACKENBUSH. Three years.

MR. MCGOINGS. Mr. Yee, would you describe in more detail the consultant services that you provide to minority-owned and female-owned businesses?

MR. YEE. Surely. Most of the businesses that come to us see their problems in one of two areas: One, they need more money or, secondly, they need our assistance in getting a contract. Through those two avenues, then, begin the process of looking at the business plan. Most of the minority businesses do not deal in terms of a business plan; yet, that's probably—the most helpful thing is to get them to think ahead, to specify what are you trying to accomplish, what are your resources, what are your personnel requirements, and how do you put all of that together in a time-

phased plan, then list cost it out. From there we generally put together a proposal of various kinds, whether it's a proposal to a bank, backed by a SBA guarantee, or perhaps in these days to more commercial sources and not seek an SBA guarantee at all.

In the procurement area, many of the small minority firms require our help in terms of just understanding what the process of getting a proper review of your proposal and who do you have to call and try to lobby in terms of your proposal. Let's call that marketing, and many cases you are going to have to help them to fill out their various forms that are required.

But in addition to that, over the last few years, we have also formed the United Asian Contractors Association, the Asian American Architects and Engineers, the National Association of Asian American CPAs, and the last association, which probably is the most relevant for this area, the National Association of Asian American Manufacturers. Also in the process we have helped form several MESBICs.

MR. MCGOINGS. Thank you. Mr. Placencia, the same question, a description of the specific consultant services that you give to minority-owned and female-owned businesses.

MR. PLACENCIA. I think our services parallel Mr. Yee's in many ways. Most recently in the last year we have been involved more actively in the business planning side of minority-owned companies.

I believe, like Mr. Yee, that the foundation of any business, if it is to grow, if it is to develop, needs a sound management which emanates from a business plan. The business plan, if you will, is a steering wheel of the company, and it is something that small businesses in general and minority businesses specifically seldom have, and that is, let's look at my business; what am I all about? What's my market? What's my clientele? What's my competition? Where am I today? Where do I want to be a year from now, 5 years from now, 10 years from now? What kind of resources are we going to need to achieve those goals? How am I going to measure those goals; is it in terms of number of employees, profits, sales, etc., whatever it may be? But the point here is that business planning is so critical and yet it is not done. So in the last year we have placed tremendous amount of emphasis on getting our clients to spend their time and some resources to develop these business plans.

In addition to the business planning functions, of course, we get involved in the technical assistance side. If somebody needs a marketing study done, we will assist them. Finance sourcing, whether it be debt financing or equity, we will try to assist them in finding, packaging a loan in a number of ways.

MR. MCGOINGS. Thank you. Mr. Yee, based on your experience, why do you think that minorities who are employed as professionals in large high-technology companies leave and start their own businesses?

MR. YEE. First of all, Mr. Mr. McGoings, I think it would be best to decompose the term minority. I don't think that I can make any statements that can apply across the board as if that collective called minorities—within it everyone is homogeneous; that is just not the case. That is particularly so throughout here in California where you have Hispanics, blacks, and Asian/Pacific Americans in large numbers in all three groups, and even within the Asian/Pacific category—which is largely a convenience for the Census Bureau—there are differences.

For example, the Confucius-derived societies—the Koreans, the Chinese, the Japanese, and now the more recently arrived Vietnamese—are in many ways similar, or much more similar than some of the other populations from that Asian/Pacific basin, as an example, Guamanians, Hawaiians, Filipinos, and yet they are all thrown in the same category, and if I could not use this opportunity to single out that there are differences, then I really think I would be doing an injustice to those populations that are not as well off as the Japanese, for example, or as the Chinese. So I think it is very important to keep that in mind that even as some of the groups progress, some of the other groups do not progress, and just as some of the groups ought to be removed from affirmative action in terms of a specific category, other groups should not.

For us to categorize all Asian/Pacific Americans as a single, homogeneous entity really does no good whatsoever for the Samoans. Let me then talk about the two largest groups, the Japanese and the Chinese—and to some extent in time I would suppose that in the next 15 or 25 years these kinds of conclusions would extend to the more recent arrivals, such as the Koreans or the Vietnamese.

In California, in northern California, it is heavily dominated by the Chinese; in southern California it is heavily dominated by the Japanese. There are historical reasons why that kind of separation. Of course, the Chinese settled in San Francisco first, as far as the Asian population is concerned; therefore, subsequent migrations of Chinese gravitated towards San Francisco.

The Japanese, after the relocation experience, found that southern California was probably the most hospitable to the Japanese outside of Hawaii—and word spread very rapidly throughout the United States—and the Japanese, therefore, gravitated toward southern California.

Now, these two populations have always had a history of going into fields such as chemistry, physics, mathematics, engineering, health sciences, and so on. Fields that, although heavily concentrated—at the same time we find that we are very insignificant in fields such as the humanities, the social sciences, and the liberal arts.

Leaving that aside, even as large numbers of youngsters are graduated from our State colleges and as they entered engineering fields, the chemical fields, and so on, they are forced into technical areas, they are not

viewed by management as having the breadth to grow in those companies into managerial positions. As a consequence—and there are other reasons—many of them feel frustrated to see non-Asian youngsters that are trained by them rapidly progressing beyond them in the managerial ladder. For many of them, the only way that they can become managers is to form their own company.

Now, in one sense, from an equal employment opportunity sense, this is bad, but from the sense of developing Asian-owned firms, that is good. So one of the biggest inducements to the development of Asian-owned firms in this area results directly from the lack of opportunities to move upward in managerial and financial fields.

MR. MCGOINGS. Would that apply in the same way to the minorities, blacks and Hispanics?

MR. YEE. I don't pretend to be an expert in the Hispanic or the black areas. I would prefer to keep my remarks to fields that I feel comfortable to speak about. I do know, however, looking at the data for colleges, we do not find the same percentage participation in the science fields from the latter two ethnic groups as we find in the Chinese/Japanese participation.

MR. MCGOINGS. Mr. Placencia, have you had occasion to observe blacks and Hispanic minorities who left large high-tech companies in order to start their own businesses?

MR. PLACENCIA. We deal with not only Hispanics but blacks and Asians as well. I feel more qualified also to speak directly to Hispanics, or for the Hispanics, and that is that traditionally Hispanics, for a number of reasons—educationally, economically—a lot of the avenues open to the nonminority have been closed to the Hispanics. It is no secret that we don't find a lot of Hispanics sitting on the boards of the Fortune 500 corporations. It is no secret that progress within the corporate structure by Hispanics has been slow, and it's that kind of experience when an Hispanic works for a large corporation. The window dressing roles, if you will, that many of us have been forced to take creates a lot of disillusionments.

Subsequently, it is always easier to go out and start a small business, whether it be a janitorial service or a construction company or a management consulting company. At least the feeling is that we have some control over our destiny. In terms of the blacks, I feel that probably the experience is very similar.

MR. MCGOINGS. Thank you. Ms. Quackenbush, do you believe that there are barriers within the large, high-technology fields which prevent females from advancing professionally and which might encourage them to go out and start their own businesses?

MS. QUACKENBUSH. No more so than people who are 7-foot tall or 3-foot tall or green people or purple people or people with three knees. I don't see any difference. I think we all have our own drawbacks. It is how you view them, and I've seen women in very high places in tech firms. As a

matter of fact, I have seen more acceptance to minorities of all types, and especially women here in high-tech areas primarily because we have a higher level of business activity out here than we have elsewhere in the country.

When business thrives and the need is strong, there are greater opportunities for all. That's why I'm here; that's why I was given this opportunity out here to start my own company—and it was well received by everybody because there was a tremendous demand, and they gave orders to no matter who came to the door.

MR. MCGOINGS. Thank you. I would like to ask the next question to all the panelists: How effective, in your opinion, is the Small Business Administration in providing technical assistance to minority-owned and female-owned businesses, beginning with Ms. Quackenbush?

MS. QUACKENBUSH. I would say, on a scale of 1 to 100, there are about 2 percent for me personally. I did take advantage of SCORE when I initially decided to go into business to see if they had any information they could share with me—and they were delightful people, and they probably have very good information—but as a general organization I could count on, I would say they were totally ineffective.

MR. MCGOINGS. Mr. Placencia?

MR. PLACENCIA. I think I would echo that comment. I honestly cannot name one or two individuals that would flat out say that they are in business or they are a success because of direct contributions from the Small Business Administration and that certainly has been the case in the last 2 or 3 years.

MR. MCGOINGS. Mr. Yee?

MR. YEE. I think the SBA of about 3 years ago is different than the SBA of today. We have had a number of firms that have benefited from the SBA program, whether it is their loan program or their 502 program in which they acquire a physical plant. SBA of a number of years ago tried to push out loans at a very, very quick rate to assist the expansion of minority firms in terms of both numbers and in terms of size.

SBA now is really into protection of their portfolio and to try to keep solvent what they have, so they really are not in an expansionary mode, so I think to be fair one cannot just make conclusions about SBA without looking at the times.

Secondly, SBA is not the only organization for the Federal Government that is to assist minorities. There is one organization whose only charge is to assist minorities, and that is MBDA, or Minority Business Development Administration, formerly called OMBE [Office of Minority Business Enterprise]. Unfortunately, that particular agency is now mired in controversy and large numbers of irregularities have been alleged to have happened. So instead of getting monies out to contractors out in the field to assist minorities, many of the contracts are now tied up under

investigation or under court action and until the American public, through whatever administration is able to deal with the ethnic politics of that agency, it will not be very helpful to minorities.

Whether under the Democrats—and we have selected individuals from the black community—feel a compelling need—and there is a real need—to address the black problems in economic development and equity, or in the current administration under Republicans, in which we now feel a need to address more the Hispanic problems of economic development and parity. As deeply as all those needs are, until those programs are indeed called black economic development or Hispanic economic development, the Asian/Pacific Americans will continue to be squeezed out in this interethnic politics. And whereas we need so little resources to tie the crucial elements in our community to really make the government programs successful in advocating and helping in business development in the Asian/Pacific American community—until those interethnic politics are ironed out, MBDA will cease to be ineffective in affecting my community where we are not receiving one penny in the totality of the United States to assist Asian/Pacific-owned businesses.

MR. MCGOINGS. Ms. Quackenbush, have you had any dealings with MBDA programs at all?

MS. QUACKENBUSH. Never even heard of them, but I did want to add a comment on my earlier one. I was angry, as a matter of fact, when I went to find out about SBA loans because, like all new business people, I needed money, and when I went to find out about what they might have for me, someone suggested they have this women's program where they give women—it was a limit of \$20,000. I mean, who do they think I was that I only needed \$20,000? Why don't I have an idea as valuable as any man? Why couldn't I get the same amount of money? Why did they have a special program for a paltry sum when I have an inventive idea that is as good as any one else's? So it made me angry. It made me feel as though that I thought that I was not going to succeed.

MR. MR. MCGOINGS. Thank you. Mr. Chairman, I have no further questions.

CHAIRMAN PENDLETON. We have about 20 minutes left for this panel. I will start with you, Jill, if you have some questions of the panel.

COMMISSIONER RUCKELSHAUS. Okay. Ms. Quackenbush, how did you make it? We've been hearing about barriers and difficulties—and the figures show us clearly there is not a proportionate representation of women and minorities who have some feeling of educational problems, and I'm going to get into that. What emboldened you to make the effort? Did you ever run into what you felt was discrimination along the line anywhere in your professional career and in starting your own business? You got off to a pretty quick start.

MS. QUACKENBUSH. No. I never saw any main elements of discrimination at all, and I think that what we see is not a phenomenon based on discrimination but it, in many cases, is based on the person's willingness to give what it takes in order to be successful. I find a lot of people playing their violins about how they can't get ahead, but very few of them are willing to pay the price of the long hours, hard work, the ability to roll with the punches, and to do the normal business things to make a bottom line. Too many of them are willing to say, "Well, that's too hard for me, I'm not going to do that. I want you to give it to me anyway."

COMMISSIONER RUCKELSHAUS. How did you get capitalized to get started?

MS. QUACKENBUSH. I earned the money and I borrowed on my boat and I borrowed on my first born. I did anything I could in order to gain a small amount of money, and then I managed that money extremely wisely so that I would be able to let the snowball roll. And now I have very good bank relations and they support me in the money that I need.

COMMISSIONER RUCKELSHAUS. Okay. That's all.

CHAIRMAN PENDLETON. Commissioner Smith?

VICE CHAIRMAN SMITH. Just following up on Jill Ruckelshaus' question, then the figures that we see not only in high-technology industries but everywhere as far as women, female entrepreneurship—does it then follow that females are not willing to take risks or are not making the effort to move, or don't want to, or aren't as strongly motivated as males? I'm trying to equate the two.

MS. QUACKENBUSH. I think that we are all making a mistake in assessing value according to what you achieve in the business arena or the amount of dollars that you earn. There are other motivators: Money is very rarely the prime motivator, and I personally have a strong family. I feel very much attuned with my family and there are many days when I would just as soon chuck it all and go home and watch the boob tube, and be a wife and homemaker—which is a wonderful thing for people to be. I think we are doing people an injustice in saying that you are disadvantaged because you don't have a position on the board, because you are not the high-level executive who has to spend 70 hours at work a week, and he has to travel all over the country and leave his family and children at home. There are pluses and minuses to all people's positions and we should all choose based on our own desires, not based on what a commission or a group of aggressive people say is right and wrong or high or low.

I think there are three things that make success, and one of them is someone to love. Another one is some work to do. And something to look forward to is a third. Now that doesn't mean that you have to earn \$50,000 a year or you have to have your own business or you have to be in a position of management.

There have to be a group of ditch diggers in order to make the world go around—and there are certain people who are happy doing that—and I don't think we should upset the applecart. But if we wanted to help women or minorities, there are many ways to do this, and I see a failing in our education system and in our support systems.

I would like to see the government perhaps, if they must spend my money, they should spend it in a way that would be beneficial to us all in the future, and that's educating more young people to the different avenues for their future, so that women will be prepared to take management roles; they will be prepared to take the risks necessary to reap the high rewards of the executive branch if they wish to be there, or at least have the opportunity to say, "Yes, I know what that is. I could do it if I wanted to but I don't want to." And that's the choice we should allow people to make, but we should give them the education necessary to make those choices.

CHAIRMAN PENDLETON. Commissioner Saltzman?

COMMISSIONER SALTZMAN. Mr. Yee and Mr. Placencia, do you have an opinion as to why in the area of industry we're looking at today, in particular in upper management positions, there is a relative dearth of Hispanics and those from Asian backgrounds?

MR. PLACENCIA. There is no question that it gets back to education. Without the proper education and the motivation that comes from a good education—I don't care what the ethnic background of the person is—you will not progress.

That is not to say that you need an education to become a success, but I think that, like business planning, an education to an individual provides that foundation that you need to develop, to grow, and to succeed. And if I were to point to one major area—it would certainly be Hispanics—one of the reasons for not progressing in the corporate world, it has to do with the few number of individuals that we have with advanced degrees.

MR. YEE. That's the problem—of the number of graduates or the number with graduate degrees. That's not our problem.

COMMISSIONER SALTZMAN. That's not the Asian—Chinese/Japanese problem?

MR. YEE. Right. That's not the Japanese problem.

COMMISSIONER SALTZMAN. They have higher degrees. How come?

MR. YEE. The problem there has to do with the socialization process—and in talking to large companies in the San Francisco Bay area and in talking to the engineers in my city, and chemists, there is a general feeling on the part of those who are in current management positions that the Chinese and Japanese lack the leadership qualities associated with our interpretation of what is or is not masculine.

COMMISSIONER SALTZMAN. That is not masculine?

MR. YEE. Masculine, yes. That's the word I use. I guess we don't shout very well; we don't seem to portray qualities to exert ourselves very well, and we all seem to be so polite and quiet so we don't embody those traits that American society has come to interpret as leadership qualities.

Secondly, Mr. Saltzman, it must be remembered that even though we have large numbers of college graduates now, this is a relatively new phenomenon. Prior to the war we really didn't have very many opportunities to go into secondary education or postsecondary education. As far as Chinese who really didn't have a second generation—the Exclusion Act of 1882 foreclosed our ability to progenize here in the United States, and it is not until after the Second World War that we had larger numbers of Chinese females coming over after the repeal of all of the antiexclusion acts that in 1943 allowed us to become U.S. citizens. With that, large numbers of Chinese females did come over after the Second World War.

COMMISSIONER SALTZMAN. There was a history of discrimination that had bearings on the possibilities and opportunities available to the Oriental community?

MR. YEE. Oh, yes.

COMMISSIONER SALTZMAN. Are those disabilities now merely a veneer of cultural difference? Is that what you're saying, that the discriminatory realities are no longer present?

MR. YEE. I think the barriers—

COMMISSIONER SALTZMAN. I get a papering over of problems, of the reality of discrimination.

MR. YEE. There are visages of discrimination that will certainly disappear with a number of generations. For example, earlier this morning a venture capitalist was mentioning that he does in fact fund budding engineers at about \$100,000. Now that requires access to a certain group of people, and more than once I have heard people of Japanese and Chinese descent say, "Hey, there is no discrimination now. If I can make the product, I can sell it." But the problem here—I can't pick up that phone and call Mr. X to sell him on this idea that I need financing. I would assume that, too, will come to pass as these barriers that were developed from the previous generation will become extremely attenuated until it has disappeared.

I might also add, Mr. Saltzman, that in the high-technology field—as Ms. Quackenbush has pointed out—we have a growth industry. If you can make the product or the service that can better your competition, chances are you'll be very, very successful, but there are certain barriers to entry. And there are certain barriers to experiences that my community is witnessing, that unless we get our youngsters into managerial, financial, marketing fields, in addition to the high-engineering and technical fields, we are not going to have that team that's going to be able to move the

entire companies forward. I would suspect, however, that in time that, too, will come to pass.

MR. PLACENCIA. Well, let me apologize. First of all, there was no attempt to eliminate or hide the fact that discrimination is still very much in evidence. Your question is complex and it really deals with a number of issues.

Discrimination is one of them. Social mobility is another. All of the prerequisites to succeed in the corporate world, the cultural differences, are very much there. Hispanics and other minorities traditionally have not had access to the social and business clubs that their nonminority counterparts have had. The golf dates, the tennis dates, where a lot of the brownie points, if you will, are made; those issues, those problems are still evident, there is no question about it. But my point on education was mainly one that it's a must and it is the foundation and it does eliminate some of those barriers, or at least diminishes them.

COMMISSIONER SALTZMAN. Okay.

CHAIRMAN PENDLETON. Commissioner Berry?

COMMISSIONER BERRY. Mr. Yee and Mr. Placencia, as I listen to your responses, to my colleague's question, it occurred to me that California is really different from the rest of America and that I finally understood what people meant when they say that.

What you are describing, Mr. Yee, for example, when you said some people you talked to in San Francisco regarding Asian Americans—I guess you were talking about Chinese or Japanese, as being somehow less masculine or something, the way you were describing it. I thought about the Japanese I know, at least in Japan, who run major corporations who, if they are less masculine, it doesn't seem to have anything to do with their ability to compete. And about the Chinese I know in China of whom I would say the same thing. So maybe something happens to Chinese and Japanese when they come to America. But my point is that I would have called it institutional discrimination to regard Chinese and Japanese as not having certain qualities and, therefore, depriving them of certain opportunities.

But in any case, when you talk about education, Mr. Placencia, and its importance, I would have regarded the failure to provide an adequate education as a form of discrimination, also.

But my question, then, is not for either one of you. It is not necessary that you agree with me. I would like to ask Ms. Quackenbush a few more questions about her business. I am very interested in—did it require a great deal of capital to start up your enterprise? Was it a high capitalization sort of venture?

MS. QUACKENBUSH. No, unfortunately not. It is a service, and being a service I could limit it to the amount of capital that I had available to me. The only thing I have to pay out is the salaries of my employees, which

can be very stiff. But I expect maybe a 30- to 45-day turnaround on my accounts receivable, and by selecting very good companies that pay me quickly and regularly and by watching my cash flow and making sure that my services are up to snuff, I have had zero bad debts in 3 years—and in this day and time that's no small accomplishment. I keep very tight financial control, which is another secret of a successful small business. So with those things, and hopefully, the interest rates declining, then everything will be wonderful.

COMMISSIONER BERRY. So, in other words, your business is unlike that Ms. Balazs described to us this morning, which requires a great deal of capitalization in terms of equipment and to actually be engaged in the production of high technology as opposed to servicing it; it is a different ball game in terms of how much you need to get started, would that be fairly accurate to say, and to expand?

Ms. QUACKENBUSH. Yes. She, like my business, is a service, too, to the technology industry; however, she has to have a certain amount of laboratory equipment in order to do so. She did start in her garage.

COMMISSIONER BERRY. Right.

Ms. QUACKENBUSH. With limited capitalization, just sort of as I did, and so I would say that hers is really not that much more capital intensive than mine. I have computers; I have office equipment; and all of those things cost a great deal of money too, but Marge and I are much in the same area.

COMMISSIONER BERRY. I only ask that because the problem that was described to us this morning, both from the point of view of the entrepreneur and the people who are the banks, the venture capital companies, was in terms of a lack of availability of capital, or a lack of access to capital on the part of women, in one case, because people make certain assumptions about what they can and cannot do, and on the part of minorities because a little bit of that is operative as well as other things. So I thought maybe your business was somehow different and that was why you hadn't run into this problem of getting financing that they talked about.

Ms. QUACKENBUSH. Well, the problem is not uncommon for any business person going into the banks. If you walk into a bank and say, "Hey, Joe Banker, I want some money," and then you wonder why he's turning you down. Banking is a science and getting money from banks is also a science.

I had no difficulty because I really did a lot of homework in that area and I did the good old boy network. I am a woman, but I certainly have access to the same network as everybody else does. I found that if I use those names wisely in an investigative mode and prepared my business plan—as Dr. Placencia mentioned as a very important aspect—and asked the bankers what they wanted to find, told them what my plan was, and told them within 3 months they would hear from me again—and then I

would go specifically for a loan to help start my business. Then 3 months to the day I appeared on their door and interviewed them as far as their capacity to help me in our business relations in the future.

COMMISSIONER BERRY. How did you access the, as you put it, old boy network? I'm just trying to get some keys to access. How does one go about accessing that in order to be successful in the way you have in terms of getting loans?

MS. QUACKENBUSH. Find a friend, a mentor, a relative, or just go through talking to banks. Make a friend or make an acquaintance and there are other associations who might help you in that area. If you are a member of an engineering society or something, ask them.

There are many ways you can get a name, and from a name you can get as many other names as you need. The thing is proper preparation. Banks will give you money if you present yourself wisely to them and you show them that you are a reasonable risk. They are in the business of giving people money to make money.

COMMISSIONER BERRY. We had testimony also—if I may interrupt you, this morning, Ms. Quackenbush—from the bank and from venture capital firms that [said] they do not—from Cal Regional and from Crocker Bank—that they are not in the business of financing startup, high-technology enterprises because they are too high risk.

MS. QUACKENBUSH. You bet.

COMMISSIONER BERRY. So it wouldn't matter, I guess, how much one had planned or whatever.

MS. QUACKENBUSH. Oh, but it does. That planning shows them how much of a risk you have and the amount of documentation you prepare on. Then they have to gauge their risk—and they are not technology people.

COMMISSIONER BERRY. The other thing is, do you have any data on the sex and ethnic group breakdown of the contract workers that you have supplied to companies in the medical, technical, clerical, industrial marketing, and manufacturing fields, just generally? What is the pool of workers like and the people that you supply—women, men, Hispanics, blacks, whites? Do you have any idea? I just wondered.

MS. QUACKENBUSH. I do keep records of the applicant flow that we have, and I do not have it with me to present today. I would say that we have above average numbers of minorities and women.

COMMISSIONER BERRY. I would like to have that data if my colleagues will agree and so order. We ask the witness to provide it to us, please.

CHAIRMAN PENDLETON. So ordered.

MS. QUACKENBUSH. One of other reasons we do have above average numbers is because they find us a very good avenue to show themselves as viable candidates for jobs on the job. I select the candidate based on their qualifications, not on anything else, and many times they don't have the same barriers that they might have in going for permanent jobs.

COMMISSIONER BERRY. Right. Thank you very much. I have no further questions.

MR. YEE. I would like to add a remark to what Ms. Quackenbush has said. High technology is very, very diverse within that field. It would be very, very important to look at what we mean by high technology and the kind of firms we're talking about.

Not only that but we also have to look at the scale of those firms. There are many kinds of businesses in a high-tech area that requires relatively little capital to move into, but if you're talking about big production lines and the main frame, now you're talking about big bucks, so it really is not—I don't want to simplify it too much that we leave the impression that we are talking about a very, very homogeneous field; that we are not.

Now, as a person starts his or her development of a product, yes, it would be very, very difficult to get any kind of debt financing. The reason for that is that debt financing is tied to a fixed schedule of repayment and there is no way to forecast when your cash flow will start for you to repay your loans; therefore, the appropriate financing for that is you get the equity money, but that does not mean, however, that even a small firm relying on relatives or his wife's income or her husband's income, that at some point in time during manufacturing you are not going to go into the capital market with which to finance your company. You are going to, and it is at that point that even those who are lucky enough to be able to finance \$10,000, \$20,000, \$30,000 initially or even \$2,000 initially, but at the same time foregoing their wages, there will be a time where he or she will have to go into the capital markets if that firm is going to get big.

COMMISSIONER BERRY. What if you have no relatives, wife, or other person with income and have no mentor, access to friends who can tie you into networks? All you have is a good idea; then what do you do? You're in trouble, right?

MS. QUACKENBUSH. Sorry.

CHAIRMAN PENDLETON. Just a couple of questions: Would the three of you say that access in a sense is in the eye of the beholder, that access means "I got my loan, therefore, I had access"? But if a banker gives you good advice about your business and you do not get a loan, and you think you need an equity injection, you might need that; you might just need a better plan of how you manage your own resources. Sometimes people go back and say, "Well, they didn't give me a loan," but there's an awful lot of advice that a banker can give you so as not to put you into a debt-financing position.

I've had some experience with some businesses where a man was making sweet potato pies and his place was open from 8 a.m. to 8 p.m., and he was constantly in debt and constantly wanting to borrow money. The banker's advice: "I can lend you the money at 19 percent interest and you can do that, but if you run your ovens 24 hours a day and somehow split up your

family work force, you can finance your own operation.” So when we talk about access, will you agree that sometimes it is in the eye of the beholder and the measurement of the access is rather elusive?

MR. PLACENCIA. I think access to me means being able to get to knowledgeable people and, if we're talking about financing, then it could be a banker; it could be a venture capitalist; it could be a knowledgeable person within an SBA, but someone that can act as a sounding board—constructive criticism about my concept, my business, my plans, and realistically tell me what I can expect to do with this idea and how I can act on it.

CHAIRMAN PENDLETON. Okay. Ms. Quackenbush, do you have a response?

MS. QUACKENBUSH. I totally agree with you; it is totally in the eye of the beholder. If the banker says he's not going to make a loan, most likely you shouldn't get that loan except that bankers are persons too, and you can go to seven banks and on the eighth bank he will give you the loan. That's another point you should always worry about in a small business situation. You need not just to go to one bank and say, “Well, I didn't have access.”

You could—got to sell yourself. It is just like any other sales game. The 10th house is the one you're supposed to get the sale. So it is people that are not quite as persistent and then learning from the other nine banks on the way to improve the presentation to make the 10th bank want to finance you.

CHAIRMAN PENDLETON. Mr. Yee?

MR. YEE. Can I answer that question from my perspective?

CHAIRMAN PENDLETON. Sure.

MR. YEE. I look at access as the level of social integration of individuals involved—in this particular case in economic or business process. Yes, indeed, it requires interaction on both parts. It requires an effort to adapt on the part of the minority person and, indeed, it requires a willingness to negotiate an adaptable process on the part of the majority person.

I do want to say that at least insofar as my community is concerned that integrative process certainly has begun, but it has not reached that level yet that they have access equally to the financial or the marketing markets in the United States.

CHAIRMAN PENDLETON. If you are the person that I read about, you're being very modest with us today. Didn't you do a pretty good job with the LISC [local initiative support corporation] grant?

MR. YEE. I'm sorry.

CHAIRMAN PENDLETON. Didn't you give a LISC grant for your corporation, a local support corporation, for ASIAN INC.?

MR. YEE. Oh, I did.

CHAIRMAN PENDLETON. That's an interesting process, and I think what you've done is put together your own support service. I think that in reading some of the details of some of that—I commend you for the intricacies of handling the financial system.

MR. YEE. I was lucky enough, Mr. Pendleton, to have had an upbringing that allowed me to move smoothly in both societies.

CHAIRMAN PENDLETON. Well, now, just let me ask you one other question. Maybe I'm getting somewhere here. Is this panel really saying that going into business is primarily a do-it-yourself kit and that whether there is an SBA or not there, that it is important for you to understand that market forces will prevail which may sometimes be confused with discrimination and/or racism or exclusion? But what I hear coming through here is that all of you, some I understand, that you can encounter some of that and that may be real or imagined, but if you really want to go into business, that, first of all, you've got to fight the market forces, and then we can decide what else prevails. Is that what I hear coming through from this panel, or am I putting words into your mouths?

MS. QUACKENBUSH. 100 percent for me.

MR. PLACENCIA. I think that's true by and large. You have to understand the nature of your business and all that encompasses.

MR. YEE. Mr. Pendleton, of course, I think that anyone who was really determined to have a certain amount of luck and certain amount of support from whatever source can probably succeed, but to suggest that there are no discriminatory factors out there at all, that would not be quite true, but it doesn't mean that discrimination is the impediment to success. I don't think so.

CHAIRMAN PENDLETON. I was not trying to say that there was none out there. I'm certain there is.

MR. YEE. Surely.

CHAIRMAN PENDLETON. I'm certain we all understand there is, but I guess what I'm getting at is that equality of opportunity does not always mean equality of result, that because you start a minority bank today does not mean it is a Wells Fargo tomorrow or that you start some small firm here that it is a large firm tomorrow.

The reason for asking the question and posing the situation is that my own experience in economic development lets me know that a lot of what Ms. Quackenbush is saying is correct. We have found that, if you've got a good business plan and you can put that to the bank and you go with a reputable firm, it is highly probable that the loan can be granted even though there is some speculation as to when they can return the debt. When you schedule that out, if the business plan begins to make sense, the lending institutions will pretty much grant the loan. Just one other point I want to get to.

Ms. Quackenbush, in reading your interview, you made a statement about excess government which gets to the point with me about excess regulation that can be an impediment to the kind of things, especially, the small business persons would like to do. Could you give us some example or some scenario that you want to develop about excess regulation, and maybe that government could have much less of that?

MS. QUACKENBUSH. Oh, certainly. I'm sure you can probably quote me the percentage of time that most firms have to spend now in EEO and affirmative action plans and reporting devices, and on taxation, regulations, and export and import laws, and I can just go on for years with the amount of paperwork that is necessary for any business person to be able to interrelate, and there are mostly legislative things that I see currently.

I have here a bulletin that I just got today from the AEA, which is an organization which I belong to, talking about vacation vesting. The courts and the legislature determine these kinds of things, and I'm not certain that you people have any input then there at all. And then there is another item on State cancer policy in regard to how that's going to influence our bottom lines.

I am vitally interested in all the electronics and technical firms, anybody I deal with, in making sure they are successful. And some of the things that have been going on are simply, in my estimation, from an uninformed legislature or uninformed court system. They don't realize the impact, or at least I'm not allowed to see or to give my input until after the fact.

What I would like to see is more investigation from the government side on commissions like yours doing what you're doing today, and finding out what are the business needs, what are the problems that we see: "These are the things we are planning to do and I want to get your input on it before we do it."

It's always after the fact that we hear about these things. We need better information channels, alerting us to what's happening in Washington and in Sacramento as well in the court systems. I think we need better protection from government intervention and regulation.

I know lots of businesses have been completely run out of business by one simple rule, or excessive regulation in general. I don't think that's fair without the proper investigation on the front end. Simplifying reporting procedures, I think, would be a good area to attack within the scope of the small business or the Commission or suggestions you could be making.

CHAIRMAN PENDLETON. Let me be specific: Would you concur with the proposed, somewhat held, OFCCP [Office of Federal Contract Compliance Programs] regulation or the change in regulation that the reporting process be reduced for companies for over a million dollars—is it a million dollars—and I think it is a million dollars and 250 employees would be the only ones that have to file affirmative action plans?

I may have the numbers wrong, but there is an increase in the number of employees and the volume of business one would do about the same time. Companies smaller than that would be subjected to compliance reviews and may be audited on some other points where a Federal contract is involved. Would you support that kind of regulatory change?

MS. QUACKENBUSH. I would absolutely support that and I would go one more step. I would not say there should be a cutoff point because I don't think that's fair either. I think we should all be subject to audits. I don't think that we should let small businesses abuse the system any more than large businesses, but I don't think we should penalize larger businesses on having to do the same amount of reporting. Just because they are larger doesn't mean they have excess personnel and they can do those things at no cost. All of those costs are out in the public marketplace, and you and I are paying for it out of our pockets.

CHAIRMAN PENDLETON. I don't have any other questions. And if that is all, then, we can thank the panel.

COMMISSIONER BERRY. May I comment briefly? I just wondered if Ms. Quackenbush, in terms of the last comment, was aware that the business groups complained and did not want the Office of Federal Contract Compliance Programs to change the rules because they liked the rules the way they are now, and that is why an impasse has been reached and they haven't been changed. Because, in fact, there was a complaint that if you relieve small business, whatever you did should apply to all businesses, and businesses are accustomed to dealing with OFCCP under the current rules and that one shouldn't change the rules lightly, which would create even more snafus.

I just wondered if you knew that. Was that the context, businesses themselves have said, "Please do not change the rules."

MS. QUACKENBUSH. They were not given the option of having all the businesses relaxed.

COMMISSIONER BERRY. Yes, the option of having no rules was not given, but I just wanted to make sure that that record showed that you were not aware of that.

MS. QUACKENBUSH. I think if you would rephrase the question to the businesses in that vein, I'm sure that you would see 100 percent.

COMMISSIONER BERRY. Thank you very much.

CHAIRMAN PENDLETON. Thank you. Panel, we enjoyed having you. The next panel to assemble and that is Dr. Greene, Mr. Mott, Mr. Caldera, Ms. Stephen, Ms. de Munoz-Kozel.

[Frank Greene, Raymond Mott, Manuel Caldera, Michal E. Stephen, and Phyllis de Munoz-Kozel were sworn.]

TESTIMONY OF DR. FRANK GREENE, PRESIDENT, TECHNOLOGY DEVELOPMENT OF CALIFORNIA, INC.; RAYMOND MOTT, PRESIDENT, RAVEN SYSTEMS AND RESEARCH, INC.; MANUEL CALDERA, CHAIRMAN OF THE BOARD, AMEX SYSTEMS, INC.; MICHAL E. STEPHEN, SMALL BUSINESS ADMINISTRATOR, SUBCONTRACT ADMINISTRATION, DALMO VICTOR OPERATIONS, TEXTRON, INC.; AND PHYLLIS DE MUNOZ-KOZEL, SMALL AND DISADVANTAGED BUSINESS LIAISON, VARIAN ASSOCIATES

CHAIRMAN PENDLETON. We can begin the questioning with the staff attorney.

MS. MASSEY. Will each of the panelists speak into the mike?

MR. CALDERA. I'm a little bit hard of hearing so if you can please—

MS. MASSEY. I'll try to. Will each of the panelists state their name, address, and position or occupation for the record, please?

MR. CALDERA. Manuel Caldera, chairman of Amex Systems, Inc., located in Hawthorne, California.

DR. GREENE. I am Frank Greene, president of Technology Development of California, located in Santa Clara, California. We are an electronics, computer systems, and software company.

MR. CALDERA. I am also in the electronics equipment design manufacture.

MR. MOTT. I am Ray Mott, president of Raven Systems and Research. I'm from Washington, D.C. We are an information processing firm.

MS. KOZEL. My name is Phyllis de Munoz-Kozel. I work for Varian Associates. I am the small and disadvantaged business liaison for corporate Varian. I live in Mountain View, and Varian is in Palo Alto.

MS. MASSEY. Thank you.

MS. STEPHEN. I am Michal Stephen, small business administrator for Dalmo Victor, a government prime contractor in Belmont, California.

MS. MASSEY. Mr. Caldera, will you please briefly describe your business and the products or services it provides?

MR. CALDERA. Yes. I am in three major areas: The first is I do design, development, and manufacture of electronic equipment for the defense business primarily. I do work with prime work with the Army, the Navy, the Air Force, the Coast Guard, Marine Corps. Also I do work with Rockwell, Boeing, General Dynamics, TRW, and those kinds of companies. I also am in pneumatic test, check-out equipment; I am also in technical support.

MS. MASSEY. Dr. Greene, will you supply the same information with respect to your company?

DR. GREENE. Technology Development of California is a computer systems and software company. We operate with two operating groups: One we call the defense systems group, which specializes in providing software and ATE [automatic testing equipment] systems for testing

electronics equipment; the bulk of that business is with DOD weapons systems and a small amount of commercial business.

The other operating group that we have we call information systems group, is primarily engaged in the business of providing very large data management systems for scientific and engineering and aerodynamics, especially aerodynamics and energy applications; this includes using computers that range in size from very large machines like Cray research machines down to microcomputers. We have about 225 people. We are 11 years old.

This year we've been headquartered here in Santa Clara. We have an operating group, the defense systems group, in Arlington, Texas, which is in the Dallas-Fort Worth area.

Ms. MASSEY. Mr. Mott, will you supply the same information?

MR. MOTT. Okay. As I said before, Raven is an information processing firm. We are involved in data processing, computer operations, software development, office automation, word processing, micrographics, hydrographic surveying, aquatic sciences, facilities maintenance. We have offices in Washington, D.C.—our main headquarters, founded there—offices in Seattle, Washington; Boulder, Colorado; Pascagoula, Mississippi; and Atlanta, Georgia.

Ms. MASSEY. Ms. Kozel, will you briefly describe your position and what your duties are with Varian Associates?

Ms. KOZEL. My position with Varian is to find vendors for Varian for the 10 operating divisions in Santa Clara and to assist the other 25 purchasing offices throughout this country to do likewise.

As the small business liaison for corporate Varian, it is my responsibility to receive the reports from our other operating divisions in their purchasing departments, to assist them in finding small women-owned, minority-owned businesses, to give them some idea of how they go about vendor turnover rates, where they would find the vendors, how they would in fact use them, and on the other side to take care of the government reporting requirements in this regard, and, third, to act as a liaison between Varian Associates' corporate office, 10 purchasing divisions, DCAS [Defense Contract Administration Services], and SBA out in this region; do testimony like this, go back to Washington as a—I represent Varian on the Triad, and generally let Varian's views be known on the subject of women, minorities in high-tech industries. That just about sums it up.

Ms. MASSEY. Ms. Stephen, will you provide the same information?

Ms. STEPHEN. Okay. Dalmo Victor is a second-tier subsidiary. We are a subsidiary of Bell Aerospace headquartered out in New York and beyond that we are owned by Textron. We are a government prime contractor throughout 98 percent of our business; as a result, everything that we do

we consider to be working under the rules and guidelines of any of the defense contracts.

As a small business administrator, I have similar duties to Phyllis, except that mine are a little more immediate. I interface directly with 32 buyers and 12 subcontract administrators in literally one large room. My views are pretty easily put across immediately to buyers, and on a day-to-day basis I will encourage the use of small business, assist them with any problems with small, small disadvantaged business. We are required to assist in any problems with accounting problems, with utilization problems, coordinating with quality assurance, and basically the major portion of our job is to go out and find the businesses, make sure they know how to do business with the prime contractor, and bring them on board as good qualified vendors.

The second part is to spend half of our life filling out forms for DCAS and the SBA, tracing all of these purchases on a line-by-line, purchase-by-purchase basis so that we can at all times prove what had an ability to be competed to small business, if it was competed, why it didn't go to small business, and to maximize the use of small business in the procurement of goods and services under prime contract.

Ms. MASSEY. I'd like to address the following question to the minority businesses on the panel, starting with Mr. Caldera. Before you established your respective companies, were you employed with an established high-technology company, and the second part of that question is, what factors led to your decision to establish your own high-tech business?

MR. CALDERA. Yes. I had been in the aerospace business for several years. I had spent some 7 years in engineering; then I transferred into marketing and spent some 12 years in marketing.

What led me to go into business for myself is several things: There is no one thing, but I'd go call on companies like Jet Propulsion Laboratory is a very prime example, or McDonnell Douglas, or Rockwell, and with a name like Manuel Caldera, well, they knew that I was Hispanic. They would say to me, "My God, Manny, with your background and your experience" and all this kind of stuff, "You know, we've got this tremendous pressure on us to do business with minority companies and, God, if we know you, you know, if you just started a company of your own in high technology, we would inundate you with business because we've got this tremendous pressure from the Federal Government."

Well, I believed that. Then I started my business and sadly I found out that—and I hope my two colleagues on the panel here do not take this on a personal note—but I find that it was mostly window washing—or window dressing. There is a lot of window washing jobs, by the way. That's a slip.

I found out it was mostly window dressing that indeed, you know, there were programs and indeed if an inspector walked into them, they could see they did have a minority business program and they could go line by line

and show you how they had a program, but as far as implementing the program, it was almost zero.

And I had been in the business a while so I had developed some friends and they told me quite frankly—and I remember very much at Litton they said, “Manny, come in and bid this thing, but don’t even mention that you are a minority. It won’t help you. There is no points given because you are a minority-owned company.”

So that was the false start that I got. Recognizing this and going through a lot of money, then I started concentrating. And about this time I found out about the 8(a) program, and I got into the program and that was of considerable help to me.

MS. MASSEY. Dr. Greene, your experiences?

DR. GREENE. Well, I might preface my employment experience with the fact that before starting a professional career I have all my degrees in electrical engineering, which in some cases helped and other cases hurt in going into business and sometimes my wife thinks I was crazy because it was just after finishing my Ph.D. that I decided to, a year later, to start a business of my own.

But to get back to your question, the employment experience I had prior to starting TDC was initially with the Air Force where I worked as an electronics engineer and then later with Fairchild Semiconductor, their research and development labs out here in Palo Alto for about 5½ years.

Coming to Fairchild was a very beneficial coincidence for me. I had no idea what Silicon Valley was like until I got here. Once I got here I began to see people that I was working with on a day-to-day basis just seemingly disappear, and they would show up later in business for themselves. Quite often groups of people were leaving Fairchild, and over that period in the middle 1960s to early 1970s was a very, very active period of entrepreneurship in this valley.

And so I just thought, I guess—caught the disease and decided that, if these people that I was working with, that were not necessarily any smarter than I was, in some cases probably they knew more about management and business than I did, could leave Fairchild and make a success of a business, I felt that I should be able to do the same thing.

And so in the early 1970s when I had an opportunity to leave, partially because of cutbacks at Fairchild, and I had an opportunity to pick up some consulting work and start consulting on my own, I used that as a way to get started in business.

I might comment at that time I didn’t think of myself as a minority-owned business, and I certainly wasn’t trying to posture setting myself up in business as a minority-owned business. I was just doing what I saw happening around me in this valley, and it was about a year later that I discovered what’s called the SBA 8(a) program and was able to become

part of that. And as Manny said, that's a very beneficial help to growing TDC to the size it is today.

Ms. MASSEY. Mr. Mott?

MR. MOTT. Okay. I guess I am not used to being in all these California companies, but I guess I'll adjust to it. Let me preface my remarks by stating that if it weren't for the 8(a) program, I wouldn't be in business today. My background—I was an aircraft and engine mechanic in the Air Force for 4 years. When I came out, I couldn't get a job at two of the major airlines in D.C. because I didn't have a high school diploma. So I waited tables for several years. Five years later I got a job with a data processing firm and went to work for them, starting as a coding clerk and worked up to a general manager within a 5-year period, and stayed there for another 2 years and started Raven Systems and Research in 1971 with about five coding and editing clerks. I have been in business now for about 10, 11 years. I joined the 8(a) program in 1972.

When I did start, I was a minority-owned business and there was no question about it, with all the problems associated and relegated and perceived as far as minority business is concerned.

Let me say, perception obviously goes a long way in whatever goes on in our society and community, business community as well. Some of what I've heard—I heard a lot of what went on today, and I guess I'll get a chance to address some of the issues later on, but the biggest problem, I guess, I faced was credibility. Being a minority, the question of whether I could really do it was of serious concern.

I don't care what it was I was attempting to do. But in my end we had a little philosophy: You take that word "can't" and throw it in the trash can, and then we just decided whether or not to do something or not and try to make it happen. In any event, we're still around.

Ms. MASSEY. Mr. Caldera, I would like to know what problems did you encounter in establishing your business, such as financial and management?

MR. CALDERA. Okay. Regarding financial, it goes along with the word that Ray just used right now, and one was "credibility," having access to the banks, having access to some of the programs. And the credibility is, when I was growing up and I was a kid, I used to think—when I was in my late teens I used to think that southerners were slow-talking, lazy, shiftless people, white or black, because that's what I saw in the movies. I just didn't think that they were up to speed because that's the impression I got in movies. I'm pleased to say I learned differently later.

Well, when I started Amex Systems as a high-technology company, I never forgot a guy that was a friend, but a very candid friend, told me—he says, "You're going to have a lot of troubles, Manny, because who has ever heard of a Mexican American electronic company." He said, "Just for example, would you go stop in a restaurant if it said 'Gonzales German

Food"? Would you stop in a restaurant that said 'Rodriguez Japanese Sushi'?"

He said, "Caldera Electronics is the same kind of thing whether we like it or not," and so gaining that credibility was awfully tough. Getting bankers to believe that I really could build electronic equipment, could be a manufacturer of electronic equipment, they were very candid with me; they said the same thing. When I went to call on customers—I'll never forget—an admiral told me, "Mr. Caldera, you want this contract, but make no mistakes about it, there's a lot of people that work for me that I cannot control."

By the way, he turned out to be a good friend downstream, and he was very candid. He said, "I can't control those people and I can't control the prejudices they have toward you, bigotry, so you can't put out 100 percent; you're going to have to put out 120 percent in order to succeed with this organization and there's going to be people that are going to be just waiting for you to fail; they are hoping you are not going to make it, so you are up against that."

Also, we don't have an infrastructure among the Mexican American or Hispanic population, an infrastructure or a network, you might say, that gives us access to people. I used to work for a division of Xerox, and I will never forget the guy that I worked for was Jewish, and he had grown up in the scientific community and engineering community. And I'll never forget, I went on a trip someplace and came back and he said, "Where were you, Manny?"

I'd say I was in this agency. He'd say, "Oh my God," he says, "That's Al Shapiro who I went to school with. He's the manager there."

And I was always amazed at the tremendous infrastructure or network of contacts that they had.

The same thing happened when I was working for a company that the top management was Mormon. They had an infrastructure. Well, why don't we have an infrastructure? You can't have an infrastructure unless you have managers. We don't have managers because we didn't train managers at the time that they should have been trained.

When I was going to junior high school—by the way, Ray mentions that he is a high school dropout. I got him beat. I was a junior high school dropout. At that time if you are a Mexican American in Los Angeles and you were 13, 14 years old going into junior high school, they steered you towards vocational courses—print shop, metal shop, auto shop, wood shop—and when you are that age and someone is telling you how you can cool it in wood shop, instead of sitting there having to work hard on math and these tough subjects, you go under that. So as a result—then we had inferior teachers; we had inferior facilities. So that by the time we got to high school and you could be of college age, it was like somebody asking you to run the 100-yard dash, but you start 30 yards back and try to get to

the finish line at the same time. By the way, the same conditions exist today in L.A. schools.

We did get an inferior education. I was fortunate. A Japanese family got sent to a camp, and for 3 years I went to a school in a non-Hispanic area, so for 3 years I got an education that was equivalent to the majority community, and that was a tremendous help to me in learning how to read, write, and speak English.

So because we didn't train those managers, and we are not training them now I don't think, at least in the major population areas, it's going to be a long time before Hispanics—and I kind of feel the same thing is true of my black friends—before we have an infrastructure like the majority community has where you can call up and you've got a friend that is a vice president at General Electric or a vice president at General Motors or vice president at the bank.

I think it is going to be slow in coming. I don't have the same optimism that Mr. Yee had a while ago, that it is going to happen in this next generation.

MS. MASSEY. Dr. Greene, would you like to say something?

MR. CALDERA. Let me say just one thing. By the way, lest someone be led astray, I mentioned the 8(a) program has been a lot of help to me, and I have met a lot of fine people in the SBA that were helpful. But let me say that I couldn't be where I am without the 8(a) programs. I couldn't possibly go to where I did. But I feel many times—I feel all the time—that it's been in spite of the SBA and not because of the SBA. Too often they were adversaries rather than advocates, and when I find over the last 10 years that I've had to spend 25 percent of my time massaging, nursing, fighting the SBA, that's much too much of my time to spend when you're trying to grow a business.

MS. MASSEY. Dr. Greene?

DR. GREENE. Yes, I would like to make some comments. It's tough following Manny; I've known him for years, so he's a hard act to follow. On the question of problems, it seems to me the most fundamental that I had starting out—and I suspect in listening to Manny that he may have had also the same problems—is that just sheer lack of knowledge.

The most serious management position I had before I started business of my own was a project engineer or project manager, which is a lot different than being a general manager with all of the breadth and depth of responsibility of running a business of your own. Truly in my case it was only myself initially, and then as we built a management team, it became other people.

It sounds like Manny may have had the same kind of problem. I've often said that I have been on about a 10-year trial and error MBA program, and sometimes I wonder—I think maybe I have got another 10 years to go before I finish that MBA program.

But to me one of the most fundamental problems that we seem to have as a minority group is that we are not getting minority people, whether racial minority or female, trained with the breadth and depth of experience and training required to run a business, and that includes all of the general management kinds of functions and activities that you might typically think of to run a business.

COMMISSIONER SALTZMAN. I am sorry to interrupt, but were you here when Ms. Quackenbush testified?

DR. GREENE. Part of it.

COMMISSIONER SALTZMAN. Well, she sort of implied that all you needed was a good program and hard work and you could make it. What's the difference? You're saying you didn't?

I know she was able to raise capital because she had a boat. I assume you had a boat too?

DR. GREENE. Sure, I had a little sailboat that I could swim around in my bathroom with.

COMMISSIONER SALTZMAN. Forget about the boat.

What's the difference? She sort of said there is no real discrimination; if you have the right idea, you can make it if you worked hard.

DR. GREENE. Let me try to put a few things in perspective. This year we've had more business failures in the history of this country.

COMMISSIONER SALTZMAN. I'm sorry. I can't hear you. You're a little away from the mike.

DR. GREENE. This year we've had more business failures occur than I think in any other year in the history of this country, maybe except going back to the worst parts of the depression. If you stop and consider the implications of that, here you take companies that are well established with people who've been experienced for many years running these companies with large staffs, and they are failing. And if you say that with that background that you can take a person with no experience and they should have a very high likelihood of success, I mean, it just doesn't seem to make logical sense to me that that should be the case.

All I am trying to say is it is not enough just to have a program available to you. You have to learn how to make management decisions. You have to learn how to correct a management decision. Manny and I both have been in very rapidly growing companies over the last few years. I guarantee most of the decisions that we make are bad decisions; they look okay the day we make them, but in a day or a week or a month they turn out to be bad decisions.

You have to learn how to be able to deal with that kind of a situation. It takes training and experience to do that. It's not enough just to have money. You have to have a product. You have to be able to face competition. You have to be able to hire people that, in fact, can do what you are paying them to do.

Quite often you hire people and they can't quite do things for you, so you have to learn how to make corrections in the organization in order to put all the various things together to make a business successful. It takes more than just sheer drive and determination to do that. It usually takes a fair amount of knowledge that you have to pick up along the way, and you hope you don't make too many fatal mistakes that might turn out to be something that will drive you out of business.

And my point earlier was that with the large number of large companies going out of business, we are in a very, very fatal—we are in a very delicate situation for minority companies because you don't get the opportunity in today's market or economy to make too many mistakes, because if you do, it's much more likely to be fatal today than it might have been a couple of years ago.

CHAIRMAN PENDLETON. Let me just try something. I think that the attorney—I can understand my colleague's anxiety. The attorney, I think, has some more questions that she wants to ask, and I want to try to say that perhaps, if we could tighten up our answers, we can get more and more questions and answers because there are some questions to come from my colleagues here and I am certain that the staff attorney has other questions that she would like to ask, so I'll ask you, if you could, please conduct ourselves in that fashion and it would be helpful. Not only that but it would be helpful in getting the report out a lot faster. When it's all over, I am looking at my colleague over here who has to process the wording. Thank you. That's being a little facetious but go right ahead.

MS. MASSEY. Thank you. Mr. Mott, I would like to address this question to you: Have you perceived any problems peculiar to minority small high-tech businesses in the hiring and retaining of qualified professionals such as engineers or technicians?

MR. MOTT. Yes, I have. The first problem is—let me go back just a little bit: Starting the business was a problem because I could not get capital. I started my business with \$50. In fact, I didn't go to work for it for the first 3 weeks because I wanted to make sure there was enough capital there to pay the five employees that I'd hired, and the one thing I did know was I wanted to meet my payroll.

In terms of a lot of other pieces, so far as running a business was concerned, I didn't have a lot of that knowledge. In my community, the black community, I had not come up in an environment where there were many role models for me as far as business was concerned. I didn't grow up believing that one day I would operate a business. I didn't grow up understanding accounting systems or economics, those pieces that we're kind of more concerned in our community. Where I grew up and I grew up on welfare in the projects in New Haven, Connecticut, I was more concerned with survival and feeding us after the 25th of the month when the money ran out.

So in the business I worked at, the company I worked for, I was limited in terms of what I got access to as far as business information. So when I left there I knew how to operate, run an operation, but I knew little about actually operating the business other than what I had picked up from others outside that firm. So when I started it, one of the reasons why I left was because many employees that were minorities used to come to knock on the door, asking for a job as a keypunch operator or a coding clerk, although they'd gone to a Federal City College or one of the universities and gotten a degree in computer sciences, and they weren't able to obtain a position at another firm because they, one, didn't have the practical experience or for other reasons, and I'll leave it at that.

So, sometimes I would help that person get a job somewhere else, or else I'd give them a—where I was, as a keypunch operator if they had to put bread and butter on the table. Finally, I recognized that where I was, there was a problem as far as minorities moving up within that company, and I decided that it was time for me to try to start something.

Now I lost 3 days' and nights' sleep over the trauma of what was going to happen if I couldn't make this business work, where was I going to get a job, because I had already been taught even though you got the experience in this society, if you don't have the degrees, you are not going to get the job. The bottom line is I decided I could always go back to waiting on tables anyhow and I gave it a shot.

Today, to make a long story short, the makeup of my company is exactly the community that I thrive in and I do nothing to make that happen. I have 357 employees full time; 62 percent are minorities. Overall, 60 percent of them were female. I have Ph.D.s, and I have 15 to 20 percent of the employees that I have working for me were so-called hard-core unemployables, so one of my goals as to why I went into business was to open some doors for opportunity for others.

I have a lot of friends that were working at the post office in Washington, D.C., that had all kinds of degrees—lawyer, doctor, and a little bit of everything else—but they couldn't get started because of different reasons, most, I believe, related to race.

Problems? I can give you a host of them, but at one point in an agency where they had to deal with me on an 8(a) contract, they said, "Well, he's got a \$250,000 contract," and they said that was all that kind of firm needed: "Don't come back and see us. You got all you need to get here."

There are many things that we had to deal with: credibility, in terms of whether we were capable of delivering the kinds of services necessary in a competent fashion. Manny talks about the 120 percent. Maybe sometimes it had to be 250 percent. Many times we had to go back and put together that contract after thinking that you've won it, about to be signed, and somebody else has taken it from you. Many obstacles, but I could go on. The issues are: Minorities in general in the business community have a

problem raising capital and are not a part of the old boy network. Now, obviously, I didn't come out of a university where many of my students are placed around in companies within the country, and I cannot go back and access those people who have now moved up the ladder. I did come out of the government environment where I grew up in the high-tech areas, or whatever else, so I have that network I can tie back into to assist in putting my business together.

So it came from the muscle, all the way across the board. There are many other firms like myself that are out there that have the drive, the determination to come away with something more than a thank you 20 or 30 years from now, working somewhere else, that want to make it. I am one of those firms on the 8(a) program now that is considered other than small who are now being told that you must leave because they are making some adjustments in the 8(a) program. There are a lot of reasons why they are saying it, but let me cut my answer off because I don't want to dominate the period.

But in any event, there are a number of things as far as recommendations that can be made, I'm sure, and I'll get to those when the questions are asked.

MS. MASSEY. Dr. Greene, let me address the question to you: It has been said that it is sometimes difficult for small businesses to attract the technical expertise necessary to operate with respect to the larger businesses that generally have more to offer in terms of benefits. Have you perceived any problems peculiar to a minority small high-tech business in the hiring and retaining of qualified professionals such as engineers and technicians?

DR. GREENE. Except in a few cases where we have had problems, by and large the benefits that we can offer technical people seem to outweigh the disadvantages of being a small company, and so that by and large for the people that we have seriously tried to recruit, we have been, I think, pretty successful in getting the people that we need.

MS. MASSEY. Mr. Caldera?

MR. CALDERA. I can't go along with you on that one, Frank.

DR. GREENE. I am only speaking for myself, Manny. Speak for yourself.

MR. CALDERA. I am. I would venture to say that in Frank's company he has a very substantial part of the CPFF [cost plus fixed fee] contracts. In my business, manufacturing, most work contracts are fixed price, so we have to bid them very, very tight, and I have trouble getting people because I can't compete with the big companies on all the fringe benefits they have, but there is a more subtle thing there, too, that I have had trouble with, and that is that some of these engineers—by the way, whether they be minority or non, they get a job offer from somebody like Bendix or Martin Marietta, and they can go back and tell their families, "I work for Martin Marietta or Bendix."

Whether I like it or not, there is a stigma attached to a minority-owned business, like, you know, we're not quite there; we're not quite equal. We're a little bit inferior, and so engineers are hesitant to come to work for us because of that stigma that's attached to minority-owned companies. I've had that happen. I have seen it quite a bit.

MR. MOTT. I'd like to add the fact that most of us within the 8(a) program, I going to tell you that I know we do a hell of a job in trying to retain whatever personnel we have. And we put together excellent benefit package because I have to compete with Computer Science Corporation, PRC, and EDS, the "Beltway bandits" around the Washington area, so-called. It is a difficult battle, and you can retain some and you lose some.

One of the issues is that the money we ply into recruiting those people—it costs us more to recruit, and we retain them probably not as long as some of those major firms because it is better to work for a Bendix than it is for a Raven, and with the shuffling and the wind blowing over the 8(a) programs and minority business in general, many people that work for you—I don't care whether they tell it to me or not, and I have some hardcore loyal people that have been there for years—feel threatened by what's happening because of what's perceived as a lack of concern from this administration as far as minority business is concerned.

So we do have some problems in that area. I think we do a good job in retaining some of them, but you better believe they think three or four or five times even before they come to work for me. I hired a gentleman from Kodak 4 months ago, and I want to tell you that he had a document of 40 questions for me on the closing. That was after we had met for four times to be sure that his security would not be threatened. He came to work for me, but it was a concern.

MS. MASSEY. Ms. Kozel, Ms. Stephen, from your experiences with minority-owned businesses, would you say that the problems just mentioned by the other panelists are typical for minority-owned businesses?

MS. STEPHEN. Let me start it with this because I have one comment which may address it exactly. I think everything that the gentlemen say is totally true. If I have a buyer, and I am saying this as a buyer who is sitting with perhaps 1,200 requisitions that have to be moved immediately, and he has five very qualified firms who are able to compete, to produce, to supply that particular product, no matter how good these gentlemen are, it's going to take a lot of arm twisting for me to get them to open up to get a sixth one in there because their whole purpose in being is to move those requisitions, so, yes, they have to be twice as good to get in and really compete on a totally open basis, and this is something that many of my compatriots will string me up for, but it is true.

A minority firm, first of all, they are identified as such; they are traced as such. It's easier to see the 1 out of 10 that is a minority firm that isn't working well and make a total label across the whole group: "Well, gee,

this firm didn't supply; therefore, all firms of this category are bad." So, yes, they have to really work hard.

The second thing is, I think, there are very few avenues for minority-owned firms to get the type of business expertise that these gentlemen have. There is no old boy's network among any group of identified minorities from women on down. I think that the only thing that I have identified which gives this type of background is within the State of California there is a group called the United Indian Development Association, and this group of people comes out and helps their clients with the following things: They will give them marketing assistance by trained marketers. They will give them administration assistance in setting up the corporation, in structuring it, in setting up the accounting background that they're going to need in setting up their hiring policies, all of these things that an engineer has not been trained to do. This way the engineer can go off and engineer and make the product and do the thing that he knows best. And this is the assistance which is so greatly lacking, and I think this is why we are having problems within industry in getting good qualified firms.

The gentlemen here are obviously successful, and they have had to fight against this lack of knowledge within their industries of helping them get to the standpoint that they are at.

The other thing we had a problem is that too many minorities cannot get the backing that they need to set up a high-tech company, so instead of coming in with the ability to perform the tasks that we need, they're coming in to do board stuffing; they are coming in to assemble harnesses; they're coming in to, as I said, to do the windows. We really need more high-tech firms, and Phyllis and I are out there beating the bushes constantly, and there really aren't very many out there, and I think the lack of a unified consultancy, if you will—if they could go to the SBA and have a team come in and say, "Here is how to structure an accounting system. Here's how to market. Here's our suggestions on placement within the industry." This would be far more beneficial to companies that would then come and deal with the prime sector.

Ms. MASSEY. Thank you. Ms. Kozel, would you like to address the question?

Ms. KOZEL. It's like 10 years, 10 years I've been doing this. Eight years as the Director of Minority Small Business Programs with SBA, Assistant District Director in San Francisco; 2½ years head of the 8(a) program in San Francisco; year and a half in the Washington, D.C., office of the Small Business Administration. Six months—3 months at a time, restructuring the programs of SBA, all 52 of them with 3,500 people. It's ridiculous. Ridiculous.

Women's programs? Yes, I was there when they did the \$20,000 loan and, no, it is not true that they expected women to have just \$20,000, and

what we thought was we could get some home cottage industries going faster if we cut down on all of the paperwork and \$20,000 would mean less paperwork.

1967, I borrowed \$25,000 from SBA and went into my own business, and then went to work for them in 1973 because I thought, well, maybe I could do it a little bit better if I'd been on the other side. That's three divorces later. All right?

Now, 8 years at SBA working with OMBE arm in arm and MBDA, and I know most of the gentlemen here, and now I know Mr. Mott. All right.

I thought, quit SBA and go with a Silicon Valley firm, one who had done pretty good in terms of subcontracting to small businesses without having been hammered. What I find is that this valley is so hungry for good contractors, for people who can reduce the bottom line that, if you don't come in with it on your chest, if the first time that they know that you look different than them is when you stand at the front door and you've got a product, they will buy it.

My viewpoint here is that we need more small businesses so that we can open up the competition, and then that gets into what can SBA do and what can you do, and what I think I would rather do is to just, you know—that's my opening statement. That's what I believe, and I believe that there is something that can be done if we just stop calling each other names and get down to the bottom line, and that is how is this country going to stay on its feet because Japan is moving in fast. How are we going to do it together? And you've got minority businesses here that are darn good. I mean they are good, and you have got high-tech firms like Varian and Hewlett-Packard and Intel who are looking for businesses who can compete, so that Intel and the other high-tech firms can maintain that edge.

These foreign companies are moving up on us fast and we need you to help us keep that edge on us, and that's what I do. At my company, my job is to keep the edge, is to keep the edge so that Varian won't be looking up 9 months down the road with a takeover bid. I think, if we concentrated on that rather than the race, I think if we concentrated together rather than saying how different we are—let me stop. I know where is Clarence—okay, Clarence, you're right.

Ms. MASSEY. Okay.

CHAIRMAN PENDLETON. Okay. Thank you very much. The time has run out for this panel and we really haven't gotten into two issues I'd like to address clearly so I propose one question each on 8(a) and 95-507, which each panelist would be given an opportunity to respond to as briefly and succinctly as possible so that we can get some of this information on the record because we only have another half an hour. I will start with Mr. Caldera.

MR. CALDERA. Let me address 95-507 because I think that there is a tool that can be implemented to help minority firms. The 8(a) program—

Ms. MASSEY. I'd like to keep this in a little order. I would prefer for you to respond to the question of whether 8(a) has assisted your company or is a vehicle for minorities to become involved in the mainstream.

Mr. CALDERA. Okay. I will answer that one first. Yes, the 8(a) program has definitely assisted my program. I could not be anywhere near where I am right now without the 8(a) program. The problem is that I don't think that in years that I have been in the program that it's been properly managed or has not been managed effectively. You can ask me an embarrassing question—well, you can ask me, "How come you're doing so well?"

Well, I am doing well, but it's—I could be doing better than I am doing if I had not had to spend so much of my time working with people at the SBA who are not dedicated to the program nor do they have the experience on the program. Thank goodness for those few individuals at the SBA that I was able to find that could help me over the years.

But one of the clouds that hangs over every 8(a) contractor is this question of graduation from the program. I have spent too much of my time fighting this graduation. The first contract I ever got was for \$200,000. That was over 10 years ago, and I got a letter immediately after I got that contract telling me, "Thank you very much, Mr. Caldera, you are now successful. You are now out of the program."

This I then—by the way, this graduation thing sometimes emanates from the district office, sometimes from the region, sometimes from central. At one point I had to hire a—I'll call him a lobbyist or consultant or whatever, and I hired this guy because he had been working in a high government position. When he left, he knew people on the Hill, and when I hired him, I gave him a retainer, so much per month.

He said, "Well, Manny, do you want to call on DOD or NASA" or, "Where should I go look for contracts for you?"

I told him, "I don't want you to do any of those things. I want you to spend your time with the SBA and keep me from getting graduated." This cloud hangs over you continuously on this thing. I think the two gentlemen will agree. I think that's my problem with the SBA. It has not—I have not seen enough from the SBA where they work in an advocate role.

I find that is like many times chasing the German Army. Every time I defuse a mine, there is another mine there and you stumble along.

Ms. MASSEY. Thank you. Dr. Greene?

Dr. GREENE. In answer to the question about the 8(a) program, we've been a participant since 1972. I would say that the 8(a) program provided several things. As Manny said, we've encountered our series of problems. On the other hand, I guess my own personal philosophy—it's like looking in the mirror in the morning when I am getting up. I am not going to change color. I know I'm going to have to go 150 percent. I know there's

going to be problems, so I assume that's going to be the case, and with that assumption, when we encounter problems our attitude has been to look for ways to get around the problems.

On the other hand, the 8(a) program, however, has provided for us a very important vehicle to replace the lack of equity capital. That was a question earlier about how much money we started with. We actually started with about \$5,000 which came out of my own personal checking account.

The reason the 8(a) program provided an alternate source of capital was because we did not have to have the equity required to do the marketing that would have been required if we didn't have the 8(a) program. We were able to get sole source contracts in the early days which gave us the way to get started.

If the question is what about, if you are asking for opinions about the future of the program, I am not sure just what you are trying to get at. I would think there are several aspects to the program that need to be strengthened.

For one thing I think the 8(a) program is an important program because it is not a handout program. It's an incentive program. It provides contract opportunities to minority-owned companies. It does not provide a handout as a lot of people seem to think.

And I think that is a very important beneficial aspect of the 8(a) program. I think some of the regulations, some of the administrative procedures, should be simplified and also be implemented in a more consistent way out in the regional and district offices, and I think that's one of the problems I know that Manny and I both have had is a lack of consistent implementation of these various rules and regulations. We've had to become an expert in the SBA rules and regulations in order to know what our rights are in order to be sure we were being treated fairly.

The other part of the 8(a) program, which is connected to the 8(a) program, is that there is a lot of emphasis now, and I say this within the context that you're here in Silicon Valley to talk about high-tech growth industries which are going to be the major industrial area in this country over the next 10 years, is that companies that are 100 people, if that's going to be the size standard threshold for a small business, I think you just as well write off all the companies that are represented by people at this table and a lot of the companies that Phyllis de Munoz is asking for that are going to be able to help the larger companies and be able to take advantage of the benefits of 8(a) program and the benefits of the 95-507. So I think that there ought to be an increase in this, not a decrease, in the size standard for small business, but in fact an increase in the size standard for small business, especially when you are talking about engineering, high-technology, computer kind of related companies.

And I can only talk from that point of view because that's the kind of business that I'm in.

CHAIRMAN PENDLETON. If we could, we're going ahead, but I'm out of time for the next panel and I don't want to run too far over. We're pretty much where we are right now. I don't want to go too far off the mark.

MR. MOTT. Okay. The 8(a) program is the best thing that's happened to minority business in this country in a lot of years. If they killed the 8(a) program, you're going to kill minority business for the most part. And that doesn't mean there won't be a few scraps left around for a few of us to fight over, but you damn sure will bring to a halt the economic growth that business has enjoyed over the last several years that the 8(a) program has been in place.

You are all just about, I guess, just touching the tip of the iceberg as far as the 8(a) program and minority business or the 95-507 is concerned. I mean, I feel that way, I guess, because I have been in it for a long time. And we have a lot of frustrations. We have a lot of battles we have to fight just to survive and not just to make the business run, but just to survive, period.

When you talk about stress levels that you were speaking of earlier, I don't think you have even touched upon the kind of stress that goes through the black businessman, and I'll speak from that perspective being that I am that, in terms of all that he or she is involved in, in terms of trying to develop business, meeting the payroll, paying the taxes, doing everything right, survive, not go out of business, fight the credibility problem that we have out there.

If 1 of us makes it to the top, we bring up 20; if 1 of us fails, we take down 100—all of those kinds of things.

Reaching out into the community out there to hire people with skills, minorities, how many do you find that have good management expertise? Because they have been there, they have been working for somebody because they got the job. They have been able to move within a company up to the level where they could develop certain skills.

The 8(a) program has some problems, but they are minimal compared to the positive benefits that come out of it. We talk about minority business and we are talking about small business, but why don't we talk about minority business being big business, also, or medium size business. It's not even within our perspective here to discuss a minority-owned firm becoming a Fortune 500 firm because of the institutional situation and what's happening today. The 8(a) program—there are some significant changes that can be made to that, some adjustments that can be made that could make a difference. What gets ballyhooed is the negatives of that program. What is not getting ballyhooed is that 23 companies that are considered other than small today, who employ 7,500 people, who are

doing \$235 million in business—some profitable, some marginal—but they are employing people in this country.

Phyllis hit on the right mark. I don't understand why this country doesn't recognize the economic clout that it can have if minority business, Hispanic, Asian, black, women—all those resources are not being utilized in this country. Because of what? I hate to use the word discrimination and racism, and I never use them when I do business. I walk into an agency and somebody says, "There's a messenger here to see you" to the person I went to see, and I went in to sign a million-dollar contract. And so he goes and gets him and I said, "No, no, don't worry about it. I am going to sign the contract. I am still winning. Don't worry about it."

I'll go through many problems like that. You have a manager that says the wrong thing to one of your other managers, and you have got to deal with he's a key person on the contract, and you know you can't go out there and smack him in the head or fire him right away because the agency's probably going to pull the contract because he is tied more in to the agency or the agency is tied more into him than it is in to your company who is really doing the work for you. So 8(a) program makes a significant difference on what happens with minority business.

MS. MASSEY. Thank you, Mr. Mott.

MR. MOTT. Don't let nobody else tell you different. Sorry. I could use 3 hours.

MS. MASSEY. We are finished. Thank you.

CHAIRMAN PENDLETON. I just—

MR. MOTT. I thought you were going to ask me a question about 95-507.

CHAIRMAN PENDLETON. We are going to try, but I can understand the anxiety in this economic climate to get across the point. I think the intensity by which you answer the question lets us know where things really are. I just want to ask one or two, I guess, preliminary questions.

What are you going to do 6 months from now when I guess you, Dr. Greene, you've got a \$21 million annual sales company, certainly you're larger than what 8(a) talks about. When do people graduate? Do you have to graduate? And what I want to know—what happens to you when you graduate and from a public policy point of view, there are those who want to get in, there are those who are in, those who want to get out, and I guess what I'd want to know is what are you going to do when you get out? Do you make room for others or do we just keep it like it is? And I want to know what public policy alternatives we need to probably look at in your behalf to keep you viable as a business?

DR. GREENE. I'm hesitating because there were several questions, and I am trying to figure out how to put the answers in perspective.

CHAIRMAN PENDLETON. I'll ask one question then: What is it that you do or that we could help you do from a public policy point of view when you are graduated possibly in 6 months or less than 6 months?

DR. GREENE. Well, just to get the record straight, we have about a year to go on our current graduation plan. By the way, I would say in terms of public policy, I would like to just clarify something that you said earlier. We are not a large business within the context of the 8(a) program even though we are \$21 million in sales. We're still considered a small business for the kind of work that we do, and we are still considered a small business by SBA. As a matter of fact, we could be twice our size before we would encounter the threshold for becoming a large business, so one aspect of public policy might be to help clarify what a small business really is in this kind of a high-tech-related industry because I think there is a lot of misconceptions floating about what it takes to be a small business.

CHAIRMAN PENDLETON. I don't want to get into definitions. I want to find out at some point people have to graduate from 8(a), and what I really want to know is what are the public policy issues that we should be involved with to assist minorities to be competitive with majority firms once they're graduated from 8(a)?

DR. GREENE. I may have been giving you an indirect answer, but let me try to directly answer the question.

The reason I was saying that—this misconception is so important. A company that's 100 people is not going to be able to successfully compete against the large aerospace, the large computer systems companies that we are all competing against, so one aspect of public policy might be to recognize that a 100-person company is not going to be very likely a viable company in today's high tech. We are talking about high tech here, high-tech marketplace, and so that's why I was trying to say that that would be an aspect that would be very, very important to recognize.

Another aspect of public policy would be to get the economy turned around. I think we all know that with a down economy a lot of businesses suffer; minority businesses suffer more, but in fact a lot of businesses suffer, so if the economy was turned around, there would be a lot of new opportunities there for companies to go after growth and expanded business.

You asked me the question, what are we going to do in 6 months or a year when we graduate? We are going to continue to expand our marketing and selling. We're looking for a unique kind of capability in products to take to the marketplace, and we are looking for those aspects of the marketplace where there is growth. There is a lot of money going into DOD. We have about half of our business in the DOD market now.

We expect to expand that significantly. There's a lot of growth going on in the so-called computer information industry. That's an industry that we're in. We are looking to expand and grow into that and take advantage of the kind of unique capability that we have in certain areas. So all I can say is that we are trying to take advantage of the fact that we are an established company, that we have become established through the 8(a)

programs, but recognizing that we have got to market and sell and develop a company just like any other company—like the company that Phyllis works for or any other company. And so that's our approach and so I would appeal to you to get the economy turned around; that's probably the most basic fundamental thing that you could do.

CHAIRMAN PENDLETON. I am going to defer my questions and I guess I want to know again what is it that we do about 97-507?

MR. MOTT. I'd like to address that, but I have something something in writing that I could pass on to you for the record.

CHAIRMAN PENDLETON. If you can pass that on just for the record, then we will take some kind of summary of that about 95-507.

MR. MOTT. 95-507 does not have any teeth in it. There are very few companies or majority firms that are implementing procedures to assist minority business, small and disadvantaged and women-owned businesses that are following through with what they tell procurement when they set up a plan. There are very few that are doing that. I have here some suggestions that could help tighten up the situation to deal with 95-507.

CHAIRMAN PENDLETON. Thank you. We'll enter those into the record. Ms. Stephen, I just want to say to you that the company you mentioned is not the only company in California that does what you are talking about.

MS. STEPHEN. Which?

CHAIRMAN PENDLETON. The company you mentioned about the technical assistance for minority businesses.

MS. STEPHEN. Oh, no. I am aware that that is not the only one. That's just one I have had very good working relationships with.

CHAIRMAN PENDLETON. You have a point you want to make?

MS. STEPHEN. Yes. On 95-507, obviously Phyllis and I come from companies which are giving maximum support to the law and to the aims of the law—which are to further the aims of small and small disadvantaged business—and even though my management is extremely supportive, the first thing they asked me a couple of days ago coming up to the end of the fiscal year is, "Why are we getting no more money when we are doing so much more work? Where is the payoff, bottom line, when we lose nothing if we don't do the work? Do we not gain anything if we do?" There is a provision within 95-507 which provides for incentives, and I can tell you right now that the number of incentive clauses granted nationwide to prime contractors is truly minimal.

The amount of dollars which is allowed to stay into—there is a weighted guideline factor within contract negotiations. We have had prime negotiators just laugh when we try to put it in.

If you indeed want us to continue with the program as an enormous community of people, we all want to further the aims of it, but we all work for companies which are motivated by the highest levels, for one thing. Where is the bottom line?

Phyllis and I can go to our buyers and say, "It's really good. You are going to get lower prices," which is true, but management can't see that. They can only see that there is no benefit to a corporation overall. We have gone from having a satisfactory rating to having a double outstanding rating, and our negotiators have not been allowed to get one more penny of profit incentive in there. We are truly committed to the program and certainly we're not going to drop it, nor am I going to allow it to go down in anyway. But one of the things which Triad has brought up, if you're going to promulgate a law, allow funding, allow a way that we as prime contractors can get \$10.

I mean, my management says if you could pay for your own salary in increased revenues, that's fantastic. But instead we've added a diversion, we've added my travel, my time, my education, my appearances—whatever it has taken. And this is a truly new position that we have created. And yet we see not dollar one for this increased ability. We're asked for additional funds to qualify new and additional firms to compete for items in manufacturing. We have to have them blessed by our contracting officer. But there is no money in any contract. This is what is so badly needed. It's not a horrendous amount of money, but anything that can show our corporations that there is a real good valuable reason, bottom line, that they can see. If it is \$5 on the bottom of the contract, something to show our corporations that there really is a truly monetary advantage, because that's what big business is motivated on.

CHAIRMAN PENDLETON. Thank you. Just one question on that. Would you do it without 95-507?

Ms. STEPHEN. We always have done it. Our program has been—

CHAIRMAN PENDLETON. So if 95-507 went out, you'd still do it?

Ms. STEPHEN. Yes, we would. I would say that we would continue to work to the benefit of small business, but I doubt seriously that they'd pay my salary if there weren't a law that said to do it.

CHAIRMAN PENDLETON. Do any of you believe in the creative destruction theory about small businesses that tends to run the gamut for a while and then go out? There is a kind of a theory about small business, I guess, now in this country with the economy the way it is, about big business: the theory of creative destruction that other things tend to be created to take its place. Do you happen to believe that's a possibility or that's a real theory and that it could happen, or that it does happen and can happen to where you are?

MR. MOTT. That there is something to take the place of small business?

CHAIRMAN PENDLETON. There is a creative destruction theory about small business that at some point other businesses take over because of improvements in technology, improvements in the market, and then you have that displacement theory that goes on one for the other and perhaps people trained in that industry, no matter how long it might be, wind up

without work. I'm not so sure that's race but so much creative destruction—could that possibly be where you are at some point if you don't diversify?

DR. GREENE. I think there's a lot of evidence to support what you say, but there's also different ways to, in fact, implement that kind of a theory. One is the small businesses are bought up by larger companies. Or the small businesses are—

CHAIRMAN PENDLETON. We have about 15 minutes or so left and I am going to turn the questioning over to Commissioner Berry.

MR. CALDERA. I'd like to comment on 95-507, if I may?

COMMISSIONER BERRY. I would like to ask some questions if I may. First of all, Mr. Caldera, could you please, when I ask these questions, just keep the answers short and to the point because I have a lot of them and I would like to hear from you all fast. What would you do to improve 95-507 if you could do something?

MR. CALDERA. What I would do?

COMMISSIONER BERRY. Yes.

MR. CALDERA. If I could improve it, I would make sure I get either the SBA or some agency that's responsible for 95-507—and, by the way, the new SBA Administrator has formed a team or is forming a team to get the various agencies to comply with the law to write in the contracts that they will be given *X* amount of points for implementing 95-507 and remind them they do have a way of getting an extra point or point and a half of fee if they implement it. But someone has to get after those companies to implement it because they are not implementing it.

COMMISSIONER BERRY. Okay. The other thing, Ms. Stephen, you said that the prime contractor doesn't get anything and you talked about the bottom line and so on. Don't they get the prime contract? I mean, isn't that something? What do you mean they don't get anything?

MS. STEPHEN. Well, you only don't get the prime contract if you have been labeled as totally noncompliant with the law—

COMMISSIONER BERRY. If they are in compliance, that means that the one thing they got up front was the contract, right, and they continue to get contracts?

MS. STEPHEN. You are not going to find that many prime contractors that are totally stonewalling the law. What I'm speaking to is those who just do the minimum that is needed; yes, we have a program; yes, we trace it, but what I'm talking about is those who really work to the aims of the law, which is coming out and finding these sources. I mean, we can sit back down and trace them and that pretty well will get a satisfactory rating, and we'll get the contract, and we'll just keep on going. What I am saying is that you have to be really bad not to get the contract.

COMMISSIONER BERRY. In other words, we should stop giving contracts to people who don't have really good records as opposed to giving some people some money?

MS. STEPHEN. Sometimes you can't do that. Sometimes you have a firm who isn't very good, who is the only source of that particular widget.

COMMISSIONER BERRY. So we have to give them contracts anyway sometimes?

MS. STEPHEN. Sometimes you do. Maybe you have to take off of their bottom line and put it on mine.

COMMISSIONER BERRY. I wanted to know, Mr. Mott, do you assume that your firm will in fact graduate from 8(a)? And I'm not asking whether you think you should, shouldn't, whatever. I mean do you think it will, your firm, given its size?

MR. MOTT. My goals are to come out of the 8(a) program, always have been. That's not the end of the world for me, and it was a beginning, but where I want to go is the Fortune 1,000, and I can do that. I can't do that on the 8(a) program. That's not what I'm talking about.

What I'm talking about is when firms do come off the 8(a) program, they should be measured properly for viability; that means financial viability. Okay, that means there should be substance there when they measure a company, not the politics that force it because the majority community is saying "get some of those guys out." When they need to say they get 23 of us out and 600 in, it is a crock, pardon my French. They turned back \$650 million 1 year.

CHAIRMAN PENDLETON. Who is they?

MR. MOTT. The SBA turned back over \$650 million in contracts to the Army in 1 year because they said they couldn't find firms to do it. All right, the problem is not having the business there and getting us out so they can get other businesses in. They need to use us to help the ones they are going to bring in because we can bring them along much faster than they can. What we have in expertise in 10 years can be passed on to that guy in 1 year. We thereby impact in a positive manner on what happens with the rest of the 8(a) program. It should be a tiered approach to this situation.

Number two, SBA—and I didn't recognize you'd put all that time in at SBA, but they do not have the resources—I have gotten two things out of the SBA within the 11 years, a vehicle by which—

COMMISSIONER BERRY. Mr. Mott, in the interest of time let me rephrase part of my question here and get you to focus on it. Are you suggesting—so I can make sure I understand—that the concept of graduation is not bothersome conceptually, but that you think that there should be some standards that measure the viability and continued viability of an enterprise when it in fact graduates as opposed to its size, what dollar volume, and

how many employees it has, or that one would like to get some more firms in?

So you're saying it is the standards and the viability notion that bothers you as opposed to just the concept of graduates.

MR. MOTT. Yes, they are. Those standards.

COMMISSIONER BERRY. Okay.

MR. MOTT. And the chasm that they graduate you to; you just drop off the edge and that's the end of you, because they are not letting you grow to the size that is necessary to compete out here in the main environment, which is really what you want to do.

COMMISSIONER BERRY. Would you agree with that, Mr. Greene, that, conceptually, graduation is not bothersome, but it is the standards and the viability of the business at the time when it graduates, just generally?

DR. GREENE. Well, I would generally agree with that, with the big caveat that if you don't do something well, you can—I mean the concept doesn't mean anything. The actual implementation and the successful implementation is the key in my book, and part of the problem is that the implementation of so many of these things has just gotten screwed up, and so we fall back to the concept, and you think we are arguing the concept. And we are not arguing the concept; we are arguing the nitty-gritty, successful implementation of things because that's what counts for us when we are trying to operate businesses.

COMMISSIONER BERRY. I might point out—and then I'm finished, Mr. Chairman—that in our hearings in Baltimore, I think it was Mr. Carlucci, who I guess is the Deputy Secretary for Defense, testified on the 8(a) program. And, in fact, he stated that graduating firms in some cases didn't make any sense because the Defense Department needed the expertise that the firms had that are already there, and that that was pennywise and pound-foolish to start talking about graduating people instead of building up more expertise in the way you talked about, Mr. Mott. Thank you, Mr. Chairman.

CHAIRMAN PENDLETON. I might [add] that it was a big push by the Defense Department to keep this 6 month program going—in case some of you don't know.

MR. MOTT. Is that a fact?

CHAIRMAN PENDLETON. My next question comes from Mr. Saltzman.

COMMISSIONER SALTZMAN. I have no questions.

CHAIRMAN PENDLETON. Commissioner Smith?

VICE CHAIRMAN SMITH. No questions.

CHAIRMAN PENDLETON. I'm sorry I let the cat out of the bag.

MR. MOTT. I thought we did it all.

COMMISSIONER PENDLETON. I will have you to know this agency did an awful lot in the same respect.

MR. MOTT. I appreciate that.

CHAIRMAN PENDLETON. I'm not so sure.

MR. MOTT. It's nice to know somebody else is fighting with you instead of against you.

CHAIRMAN PENDLETON. I would just back up off of those comments.

VICE CHAIRMAN SMITH. I have one question generally and I think almost anyone of you could address yourselves to it because it is generally believed and conceded, I believe, that these high-growth and high-tech industries are the wave of the future. That was one of the things that brought us here was to look at employment opportunities for minorities and for women in this area.

Now, my question is directed to—in order to avoid what's happened in our history, coming out of the Industrial Revolution where blacks were bypassed and you saw the locking in of women to low-status, low-pay jobs and the stereotyping that's going on and so forth. With that background, are we looking at a situation that's any better, any worse in this area, in this industry, than it is across the board generally? If it is, can you be a leader in changing it? Are we too early? Too late?

I think our desire is that we don't allow patterns to develop if there is any way to prevent them that are going to go on into that wave of the future, and I'd like to have you just generally comment on that. Are you faced with a particular situation or are you victims of patterns that were started years ago, whether you called it, Mr. Mott, discrimination or however you refer to it.

MR. MOTT. The problem is, as it has been for a number of years, there is still a problem that is fairly significant. One of the frustrations is that we are at a point where, as a business myself, Manny, Mr. Greene, are finally touching upon an industry that is still beginning, still growing; the first time you can get in the door where you are not there after they are ready to close down the factory, that industry has died.

You are in the beginning. We are in the beginning, and it is a chance for minorities to have a significant impact. The frustration is there's all this opportunity. We have some expertise in those areas. A lot of us are going to die when they come off the 8(a) program; there's no question about it. There is 57 percent unemployment in the minority areas and we can take those workers, train them, and give them skills and put them to work, yes. We are fairly frustrated and, yes, it has been a problem for a period of time.

It has not gone away. 95-507 is not working specifically because there are no teeth in 95-507. There are those companies that will work with it because they want to do their part, but they are—most of those who aren't going to work with it unless you put some teeth in it.

VICE CHAIRMAN SMITH. Mr. Caldera?

MR. CALDERA. Yes, I will see if I can answer your question. I think that we are way, way far behind, and I don't think we are going to

participate—that Hispanics or blacks are going really to participate in the pie of high technology in our generation. I don't think we will.

I think we will participate more than we have in the past, you know, in other new things that have come out, and there will be gains made, and the gains you will see, numbers like 200 percent more, 300 percent more. But if you start out where we started out, you know, if you start out from zero, you know, it's not much. So what you have to look at is the context of how much are we really going to participate, how many dollars will go to minority contractors in high technology? I'm afraid not very much. There's nothing you can do here in Silicon Valley, I don't think, with the nondefense contractors—and they are the largest ones, except for possibly people like Lockheed. Do I say—what do we do?—just fold up our arms and quit? No, I think we encourage—and I don't like government intervention—but I think we encourage more programs like 8(a), we encourage 95-507 because it's those programs that our children and grandchildren will see.

CHAIRMAN PENDLETON. I hope not.

MR. CALDERA. What I'm saying is this. I'm sure that their children won't have to start out—people say that you start out in left field because you're a minority. I wasn't even in the ball park. What I'm saying is our children and our children's friends and our employees and our employees' children hopefully have some role models and hopefully will see some light that if they work hard in school that they will increase. I think we will become a part of the mainstream, but I don't see it in my generation and only see it partially in my children's generation.

CHAIRMAN PENDLETON. I guess my only comment was that I hope that we don't have to have 8(a) in year 2080.

MR. CALDERA. I know that I'm going to be fine and I know that I will spin off like IBM did in this valley. IBM spun off in the first 5 years about 80 percent of the business that started here. I hope that my participation and Frank's participation and Ray's in the 8(a) that we will be successful enough that we will spin off, and I already have, by the way, minorities that have seen me do it and have started their own companies and they're doing pretty good. I also hope that I am spinning off managers that will be a part of the infrastructure.

VICE CHAIRMAN SMITH. Ms. Kozel, would you comment on that question, about whether the problems, if they be problems, are unique to this industry. Can you comment on that in regard to women?

MS. KOZEL. I believe that you're at the beginning. This is a very young industry. I'm here and 4½ years ago I wouldn't have been. If there is no 95-507, will I lose my job? No. Because being at Varian, I have learned to do other things, very interesting things. Would I ask my sister Mimi who works for the National Science Foundation out in D.C.—would I ask her to come here. Yes. There are some opportunities here. You are at the

beginning so whatever you can do now you are at some virgin territory. I'd say go for it.

CHAIRMAN PENDLETON. Thank you, Commissioner Smith. Commissioner Ruckelshaus?

COMMISSIONER RUCKELSHAUS. I just wonder if you can help me a little bit. What percentage of your business contracts are through 8(a), all of you?

MR. CALDERA. Seventy percent.

DR. GREENE. About 85 percent.

MR. MOTT. The same.

COMMISSIONER RUCKELSHAUS. In the event that you graduate—and I am sure that you will—what will keep you from being competitive in the marketplace? I am sure that there are majority-owned companies in this industry of your size that are making it. And you've been in this field over 5 years—all of you—so you have a lot of experience and you have management talents, obviously, to make it. What will keep you from making it?

MR. CALDERA. There was a study by the government of which—Mr. William Casey was the chairman of it. That study showed that for a business to become viable, that it takes some 18–20 years before that business is really and truly viable. I am not going to contest that; I don't know if it takes that, but it does take a good while. I know that I will be viable when I graduate from the program if the SBA will indeed do it in a business-like and orderly manner and not drop you off the cliff like they almost did the two of us recently. If they will do a transition period for us and come up with a plan, where we can have a plan on graduation—we don't fear graduation; what we fear is being dropped off of a cliff. Transition and we'll be successful. We'll compete in the marketplace.

DR. GREENE. Yes, I would say the same thing, that the critical—by the way this graduation is really a number of phases. There is a date which says that you cannot get any additional 8(a) contracts, and there is a continuation of existing 8(a) contracts. That second phase—that continuation is administered consistently with what we think is the policy in the plan; we will have time to replace that 8(a) business with non-8(a) business. And that's why we're optimistic they will be able to do it. In our case, we're looking at, quite often, multiyear contracts. We've established a track record with a number of DOD agencies that have gone to bat. I am aware that DOD has gone to bat saying we need to have certain 8(a) companies because of their performance just like they have become dependent on non-8(a) companies. So, our emphasis is to continue to provide a high level of service and products, to develop some kind of unique capabilities in certain areas, to be able to market, and to get business, in some cases on a sole source basis or certainly, at least, as a better than just average competitor.

COMMISSIONER RUCKELSHAUS. But you're not worried about your ability to compete?

DR. GREENE. Let me just say this: There is no point in worrying about it. It doesn't matter. That's the way it's going to happen. We're realistic. We've learned how to deal with situations. Every day is a new day, and we go out and do the best we can. It certainly doesn't do any good to worry about.

COMMISSIONER RUCKELSHAUS. I bet you haven't thought about that, Ray. Mr. Mott, will you reply to that?

MR. MOTT. One of the things that will stop us from being able to compete is not having the resources to effectively go up against the companies that we will have to compete against. To get to a point of competing where I'm at at this point, it took awhile to get there before I could hire a certain level of person; it took awhile before I could install a government to develop an infrastructure. I had to become a certain size to effectively compete in the high-tech area where I have been trying to sell my services for a while to Boeing, Lockheed, Northwood, and many others and haven't been successful yet. Although they say I put on an excellent presentation, it takes awhile to get into the network. And I'm going to have to get into that old boy network if I am really and seriously going to survive in this country in my industry. Or I'll diversify to cover my case.

MR. CALDERA. What you do is hire some of the boys from the old boy network.

COMMISSIONER RUCKELSHAUS. I think you probably have already done that, haven't you?

CHAIRMAN PENDLETON. OK. We want to thank you very much for being with us. And we will take a brief recess so that we can reconvene.

[Recess was taken.]

CHAIRMAN PENDLETON. Will the panel on Federal business development activities come forward, please? Thank you very much. We apologize for the lateness of the hour and the little delay, but I know you all understand how that goes.

Will you stand to be sworn, please?

[Alfred J. Silver, Jerome Hutton, Lester Quitney, and Mikel Cook were sworn.]

TESTIMONY OF LESTER QUITNEY, SUBCONTRACTING SPECIALIST, SMALL BUSINESS ADMINISTRATION; ALFRED J. SILVER, ASSISTANT REGIONAL ADMINISTRATOR FOR PROCUREMENT AND TECHNICAL ASSISTANCE, SMALL BUSINESS ADMINISTRATION; JEROME HUTTON, REGIONAL MARKETING SPECIALIST, MINORITY BUSINESS DEVELOPMENT AGENCY, U.S. DEPARTMENT OF COMMERCE; AND MIKEL COOK, CHIEF, ENTERPRISE DEVELOPMENT, MINORITY BUSINESS DEVELOPMENT AGENCY, U.S. DEPARTMENT OF COMMERCE

VICE CHAIRMAN SMITH. Because of Dr. Cook's need to go to teach a class, I believe—is that correct?

DR. COOK. This time I'm attending.

VICE CHAIRMAN SMITH. —Attending a class, going to a class. We are going to have Michael, the Assistant General Counsel, direct his questions to you and then change our format a little bit so that the Commissioners then can question Dr. Cook so that he may be excused, and then we'll come back into the regular format for the additional questioning. So I will turn it over to the Assistant General Counsel.

MR. MCGOINGS. Thank you. Before beginning I would like each of you to place a microphone in front of you and speak clearly into the microphone. Beginning with Mr. Cook, would each of you please state your full name, your address, and occupation for the record?

MR. COOK. My name is Mikel Cook. I am Chief, Enterprise Development, for the San Francisco Regional Office of the Minority Business Development Agency, United States Department of Commerce.

MR. SILVER. My name is Alfred Silver. I'm Assistant Regional Administrator for Procurement and Technical Assistance for the Small Business Administration, Region IX.

MR. HUTTON. My name is Jerome Hutton. I'm regional marketing specialist for the Minority Business Development Agency located at 450 Golden Gate, San Francisco.

MR. QUITNEY. My name is Lester Quitney. I am a subcontracting specialist, and I work for the SBA, San Francisco Regional Office.

MR. MCGOINGS. Thank you. Beginning with Mr. Cook, would you please describe your duties as Chief of Enterprise Development with the Minority Business Development Administration?

MR. COOK. My job primarily deals with the administration and monitoring of projects funded by the Minority Business Development Agency. In San Francisco we cover eight western States from Alaska down to Arizona.

We have approximately 33 projects to administer this fiscal year. I supervise a staff of 13 business development specialists—their titles just changed so that's what they will be as of October 1—and primarily we do

onsite monitoring with the projects and work with them to assure that they meet the goals for which the grants are made.

MR. MCGOINGS. Mr. Cook, would you please outline for us the purpose and goals of the Minority Business Development Administration business development center program?

MR. COOK. The overall mission of the agency is to promote the formation and expansion of minority businesses. The business development center program is the major program within the agency's array of projects that are designed to achieve those ends. There are 95 metropolitan areas that were selected based on minority population, and in this region 20 of them were designated as areas to receive a business development center. Funds appropriated for that purpose are divided up in proportion roughly to the minority population available, and the centers then are staffed by general management consulting personnel.

We make an award to a firm, that is, a management consulting firm, whether it is a community-based nonprofit firm or for-profit minority business, or in some cases a nonminority for-profit, that secures the grants; they are awarded on a competitive basis; they provide a broad array of services.

Some of them were itemized by Michal Stephen on the last panel, and they focus in three main areas: One is internal operations—assist the firm in identifying areas where they can be strengthened; another area is identifying market opportunities by identifying those opportunities at agencies and corporations and advising minority firms that can meet procurement needs of those opportunities, matching them according to their capabilities; and then another area is the financial area. They assist in setting up recordkeeping systems and also to develop proposals to lenders and other sources of finances and strengthen the firms in that way.

MR. MCGOINGS. Could you specify the assistance that the BDC program provides the high-tech entrepreneurs?

MR. COOK. High-tech firms are provided essentially the same range of services that all minority businesses that become clients of the BDCs are offered. To back up the generalist nature of each firm, we also provide funds to subcontract to highly specialized consultants that provide expertise that a general management consulting firm may not have. For example, a semiconductor manufacturer in Santa Clara County who was assisted in the layout of his plant and an industrial engineer was brought in and used to recommend the work flow and also to write the specifications for a clean room. Those kinds of tasks are not run-of-the-mill tasks, so they were farmed out to subcontractors; so there is an additional service available on a specialized basis.

MR. MCGOINGS. Mr. Cook, what role do you feel MBDA contractors can play in increasing minority contracting and subcontracting in both the public and the private sectors?

MR. COOK. MBDA has, through its contractors, worked to expand opportunities partly by promoting minority business development programs. We've approached public sector agencies, such as the city of Oakland, and in that particular case we have a grant with them, also the city of Los Angeles, to expand opportunities within the procurement arena represented by those entities.

In addition, we have funded an organization called the National Minorities Supplier Development Council which is made up of major corporations, several of whom are represented in the bay area and Santa Clara County, and one of their purposes is to expand opportunities within the total marketplace represented by those corporations.

I think our programs depend in large part on our ability to persuade buyers and policymakers in corporations and public agencies that it's a good idea to open up additional opportunities. Since my agency has no founding legislation or regulations to back it up, we don't enforce any law or regulation. Therefore, our approach has been primarily simply to make corporations and agencies aware that there are capable minority firms.

MR. MCGOINGS. Mr. Cook, what do you believe to be the most common problems of minority-owned businesses?

MR. COOK. Well, I think that there are some objective conditions that could be identified that limit the success of minority business, such as have been identified, as I understand, earlier in the day concerning the lack of exposure to business and that sort of thing where minority entrepreneurs are less likely to have a strong business background, particularly with the office end of the business.

Most minority entrepreneurs are very well versed in the technical side; they have a product that they know very well; they know very well how to promote a given track, but keeping track of the books and that sort of thing isn't always a strength.

But I want to leave that area for a moment and simply look at another side. There is a subtle sort of area within the atmosphere that minority business have to operate that not all businesses face. I think the way I phrase is the lack of being given the benefit of the doubt, in the sense that you are a new company, you approach a buyer for the first time. If you are obviously a minority or labeled a minority firm, then oftentimes the benefit of the doubt is missing when the guy listens to the pitch. It's a very difficult thing to address. It's something you can't easily address directly. So it's an area that makes business much more difficult for minority business, I believe, than nonminority businesses, even though they may be comparable in size and track record and that sort of thing.

MR. MCGOINGS. It has been alleged that Public Law 95-507 is ineffective because it lacks enforcement teeth. In your opinion, is the enforcement mechanism provided by that law adequate to carry out its purpose?

MR. COOK. No. I think there are a couple of problems with 95-507. It was an all right first step, but the enforcement mechanism is not strong simply because the weight of administering that law falls primarily on a case-by-case basis with each contracting officer, and it is an administrative burden. That it is impossible for the SBA or any other single agency to overcome. We can't monitor minority participation on a contract-by-contract basis efficiently, given the limitation of manpower and funding available to any government agency.

I think another major flaw with the law is that there is not enough stress on the incentive provisions. I believe that, if it were able, we were able to set sort of minimum goals or standards that said, if you exceeded that incentive provision, you can; if you don't meet it, then penalty provisions are provided; then you would find that corporations are able to find ways to generate minority participation that are beyond our regulator's ability to write into law or regulation. It would release a lot of creativity that just is not brought to bear on the situation at this point. Those two aspects, I think, are important.

MR. MCGOINGS. Mr. Cook, what specific steps can the Federal Government and the private sector either independently or in cooperation with each other take to assist these efforts?

MR. COOK. Well, there is a couple of areas within the Federal Government where steps could be taken in my opinion. One is at the legislative level. The law needs to be strengthened and reviewed. I think there is provisions in the law itself for periodic review based on reports from the Small Business Administration. I think that the government needs to come to an agreement on what a minimum fair share of the total procurement action is appropriate, even within the aerospace industry; working with industry that can set reachable objectives phased in over years rather than coming up with a magic number that is good for all times. I think those steps could be taken. There is an organization called Triad that addresses itself to concerns around 95-507, and they have made recommendations. And I think that continues to be a reasonably viable forum for discussion of the issues.

MR. MCGOINGS. Thank you. Commissioner Smith, I have no further questions for Mr. Cook.

VICE CHAIRMAN SMITH. There will be questions, then, from the Commissioners, and we will start with Jill. Do you have questions of Mr. Cook?

COMMISSIONER RUCKELSHAUS. Do you think the failure rate among minority businesses is any different than it is in business in general?

MR. COOK. My agency has done some research on failure rate of minority business trying to match businesses by type and location and size, and we've found that at least in the past, according to reports from Dun & Bradstreet, which received the contract from the agency, that the failure

rate wouldn't indeed be higher, but it was in the range of less than 2 percent.

The common perception is that it is up around 30 percent or something like, so we were pleased at the low number, but we were displeased at the general business failure rate for the same sample of nonminority firms was less than 1 percent.

VICE CHAIRMAN SMITH. Is that all?

COMMISSIONER RUCKELSHAUS. Yes.

VICE CHAIRMAN SMITH. Mary?

COMMISSIONER BERRY. Mr. Cook, your comment about 95-507 and incentives, and we heard some testimony about that from the last panel, the need for incentives. I wondered, do you think it would be cheaper to provide financial incentives to corporations for subcontracting than to hire more staff so that the agency could more appropriately monitor the performance of the—has anyone done a cost-benefit analysis of that? Would these incentives cost less that you're talking about than hiring more people?

MR. COOK. I am not aware of any cost-benefit analysis, but my best guess is there would be greater benefit in going the incentive route than to hire additional staff.

COMMISSIONER BERRY. So you think it would cost the government less than paying incentives. You don't know that—you just think that might be the case.

MR. COOK. Right.

COMMISSIONER BERRY. The other thing is I wonder why we ought to pay incentives—this is the same question I asked the other panelist—to get contractors to do something, one, they ought to do and, two, they do have the contracts which is a benefit. It reminds me you know, we used to have in the education budget some of the universities and colleges used to try to get the appropriations committee to give them \$50, I think it was, or some amount per head for every student that they had that was on a student aid program funded by the Federal Government, who was a needy student.

In terms of the paperwork required and all the problems and the appropriations committee always answered, "No, because, in fact, you have the students on your campus and you have the budget generated by them being there and you wouldn't have the enrollment." So when I hear people talking about incentives, instead of enforcement in this area, isn't it incentive enough to get the prime contractor in the first place and to do what they ought to do?

MR. COOK. Well, I think that it's not enough, and I'll give you an example of an area where incentives have been used, I believe, successfully. The Community Redevelopment Agency of Los Angeles structured an arrangement wherein—of course, in that case we are talking about construction of major projects for housing and retail space—and they set a

goal, I think, on the order of 15 percent participation in design and construction phase of the projects, and they had a fractional percent incentive thing. If you exceeded the 15 percent, the more you exceeded, the more incentive; they also had a tendency phase where a similar provision was used—if you did less, then you got less profit, essentially.

In my mind it is similar to the incentives used on delivery clauses, where if you come in early, you get more money and, if you come in late, you get less. And I think it is an area where again tap the capabilities of the firm since, for example, we are talking about technical assistance. That's my agency's stock in trade, management and technical assistance. Yet I think even the same advice coming from, say, Jose Placencia, who is a management consultant hired by our firm, or the same advice coming from Ms. Stephen, who happens to be housed in the corporation the man wants to do business with, would have much more impact and possibly get the firm moving a lot quicker than if the firm was providing it.

And, in fact, prime contractors are encouraged to provide technical assistance to subcontractors and do in fact assist subcontractors on an as-requested basis. I think that they are compatible and have even more credibility even than people we hire in that area. So I think that we are talking about liberating some manhours of technical assistance that we just don't have access to as an agency for example.

COMMISSIONER BERRY. Thank you. I have no further questions.

CHAIRMAN PENDLETON. Can I just ask one question? Since it's MBDA, will the minority business community be better served if the MBDA and the SBA merged those functions as has been proposed by the administration? Will that save us a little bit more money and would that be a one-stop place to go in regions and localities at the Federal level?

MR. COOK. Well, this is a perennial topic of discussion Congress raises and OMB [Office of Management and Budget] typically raises, and it always turns out—the conclusion is, “No, we'll keep them separate.”

I think on the face of it, it sounds logical, and, yet, you look at the structure of MBDA, we are talking about a very small agency staff-wise. Counting all the clerks and what not, I think we have 250 people. When you have 8(a) programs, it is a very large organization relatively speaking, and it requires congressional action to make any changes there.

I think our agency plays a different role and has a different capability than the SBA has, so at least at this point it has been a standoff, and it is one I support.

CHAIRMAN PENDLETON. Well, I'll ask another question later. I have a couple more, but I'll save them for later. Since you have to leave, is that correct? You're going to question the other witnesses?

MR. MCGOINGS. I have questions for the other panel members.

CHAIRMAN PENDLETON. I'm sorry. Murray, you have another question?

COMMISSIONER SALTZMAN. Mr. Cook, does your agency undertake any outreach to the minority community to indicate what the resources of your agency are; two, to secure any advice about how your agency might function better to serve them, those kinds of things?

MR. COOK. The agency seeks the advice of minority business people through trade associations and other associations of minority business people. Primarily, the flow of information goes directly to our headquarters. Again, we're talking about a very small agency. Therefore, the Director's office undertakes that function. The regional office has held meetings at the bidding of headquarters on occasion but not on a regular basis.

COMMISSIONER SALTZMAN. Do you think it will be helpful?

MR. COOK. I think it has been and continues to be helpful. The Director is the main policy setter, and we at the regional office primarily implement the policies set forth by headquarters. Therefore, it's going where it should go.

VICE CHAIRMAN SMITH. Mr. Cook, you have been with MBDA for 5 years?

MR. COOK. Yes.

VICE CHAIRMAN SMITH. And I note that you are on record as having said the time is right for growth in minority businesses except possibly for the credibility problem that we've heard of all afternoon. Can you tell me, have you seen progress in the last 5 years and how much?

MR. COOK. Yes, I have seen progress, mostly on a case-by-case basis that I am aware of. I have seen firms—one firm that I am aware of in the bay area has grown from \$150,000 to over a million, and this is an electrical subcontractor that I happen to know and work with. We've seen other cases where profitability has increased remarkably but not—

VICE CHAIRMAN SMITH. I think, excuse me, more of acceptance of them than the growth.

MR. COOK. Again, you have to look at it case by case. I think there are some firms that won acceptance; people say "All right." It goes back to earlier testimony, I think, where they say, "If you are twice as good, you get to be accepted as okay," but there is a two-tiered system where the people aren't yet accepted, are regarded as implicitly less likely to be acceptable than another firm of the same type, so I haven't seen a whole lot of progress on that front.

VICE CHAIRMAN SMITH. Is there something we can do to enhance that or that you could do, or that we could do, or that the society generally can do?

MR. COOK. Well, I think that one area that the agency has been interested in promoting that we've not been able to do much about is simply to make more people aware of the degree of success found by capable minority firms.

I don't think that very many people are aware, for example, that there are capable minority high-tech firms. It is just not a stereotype that people accept right away, but it is true, there are. It is not something that very many people know about. There are some firm areas that are conventionally accepted as where there are competent minority firms. I think in the high-tech area, particularly, to promote minority involvement there I think you need to start very young as well.

I think this is brought out earlier to some extent, I mean, a lot of minority kids just don't see themselves as engineers. There is no way around it. You have to be a competent engineer in a lot of cases to do well in a high-tech business. It is not always the case you must be taught at the university, but it is true, you must do competent performance. That's the basis for respect, minority or not.

VICE CHAIRMAN SMITH. Thank you. Do you have other questions?

CHAIRMAN PENDLETON. No, I have no other questions. Thank you, Mr. Cook. Back to counsel.

MR. MCGOINGS. Thank you, Mr. Cook, you are excused. Mr. Silver, will you briefly describe your duties as Assistant Regional Administrator for Procurement and Technical Assistance in the programs you administer.

MR. SILVER. Yes, as Assistant Regional Director for Procurement and Technical Assistance, I'm in charge of the States of California, Arizona, Nevada, Hawaii, and the Trust Territory. Basically, the procurement programs of SBA, they consist first of prime contractors. Prime contracting is an area where small businesses have the responsibility for working with government agencies that have procuring facilities in that four-State area that I just mentioned. The way we follow these procuring activities to ensure that small businesses get a fair share of the government procurement dollar is basically through the instrumentality of having fine professional procurement specialists called procurement center representatives who are stationed throughout California, and, basically, it is California because that is the largest procuring State of the four States in major procuring activities.

In McClellan Air Force Base we have a procurement specialist center representative who is a SBA staff person, but who is there permanently overseeing procurement. At the General Services Administration, Market Street, in San Francisco, their region office, we have another specialist. At NASA Space Center in Moffet Field we have a procurement center representative and in southern California at the Navy Long Beach Purchasing Office and at SAMCO, Strategic Air and Missiles Command, at the Air Force—these five people examine on a daily basis the major procurement activities at these installations. Their purpose is to augment what these particular agencies are doing in their procurements to ensure the basic methodology by which small businesses get a fair share, and that is by set-asides.

These are contracts for which only small businesses can bid. These same procurement center representatives will handle other satellite purchasing activities in addition to the one where they are stationed. The agencies themselves have a requirement under law—under their own purchasing law to set aside requirements for small business; however, it is our people's responsibility to oversee this activity and recommend in any instance where they feel that they are not setting it aside properly, they will initiate a set-aside, and they have appeal rights up to the head of the individual procuring agency or military establishment to appeal to have a set-aside put into effect.

In the field of subcontracting, that is, with prime contractors, we have subcontracting specialists, and one of them is with us today, Mr. Quitney, whose job is to go out into the field and monitor prime contractors' subcontracting responsibilities under Public Law 95-507.

Our subcontracting specialists, wherever possible, go out with people from Defense contract, ARTIS [phonetic] and DCAS, and conduct joint reviews of prime contractors on two bases: one, a review of the general small business program at that prime contractor, how they go about welcoming small business, how they go about providing small business a reasonable chance to get a piece of the action in their prime contracting establishment. In addition, we monitor individual contracts to see if it is in conformity with the percentages that they said that they would do on both small business and minority small business in their individual subcontracting plans.

Our subcontracting specialists report on both the plans, and that is to say the entire program of a prime contractor and their performance under individual contracts. They will issue a report indicating that either the program is in compliance or the individual contract is in compliance with the percentages that they stated in the subcontracting plan.

If it is not in compliance, they will indicate why, and they will contact the contracting officer of the issuing agency for that contract, stipulating why the firm was not in compliance, what plans the firm might have had or stated that they would have for placing it in compliance. If it is a contract that has been fully performed and it was found that they were not in compliance, then we indicate to that firm with a copy to the contracting officer stipulating just what I said, that they were not in compliance with the subcontracting plan that they had agreed to. We also send a copy of this to our central office in Washington. Our central office in Washington reports to Congress on an annual basis as to the program reviews that were found to be either in compliance or noncompliance and individual contracts. So it's a two-tier type of report.

We also have a program called the certificate of competency. This is where a small businessman has been a low bidder on a government contract, either civilian or military, and was found in the preaward survey

to either be failing in the capacity to perform or failing in the financial resources to perform or possibly integrity or not being a dealer. "Integrity" sounds really high flown, but it means there is something about the firm's past record that would show they can't perform. There is an appeal procedure. The firm that was found to be the low bidder but was found not to be capable of performing the contract can appeal to our agency. We will send out two people from our agency, one a subcontracting specialist who has some engineering background generally who will go to the plant and check the plant out, and a financing man, who will go over the financing records of the firm to see if in fact they do have the financial capability to perform the contract.

If we find that the firm does seem to be capable of performing the contract, and that in spite of what the preawards survey may say, we will issue a certificate of competency that is binding on that agency. That agency either has to issue the contract or they may withdraw the requirement, so there's an either/or; they either have to issue the contract to the firm that we certify or withdraw the requirement.

MR. MCGOINGS. How many small businesses have been certified under the certificate of competency program?

MR. SILVER. We have had an average nationally of approximately 1,500 to 1,800 a year. That would be 1,500 to 1,800 individual contracts with individual agencies, and this year, in our own region, we have had up to date approximately 94 or 95 certificates of competency issued for something in excess of \$24 million.

MR. MCGOINGS. Do you know how many of those firms have been minority-owned or female-owned businesses?

MR. SILVER. Yes, approximately 25 percent.

MR. MCGOINGS. What particular problems do minority-owned and female-owned businesses have in obtaining the certificate of competency?

MR. SILVER. It can be either capacity or financing. We find in the past year, particularly, because of business circumstances a lot of—I failed to mention this, but a firm can be found to be lacking either in capacity or financing or both. If it is just financing—as I say, in the past year because of financial conditions—an awful lot of the referrals are solely for financial—a lot of minority firms basically for the same reasons that affect majority firms, but they don't have the capacity for getting short-term financing in this particular case.

That is to say, they get a letter of credit from a bank to finance a contract. Now the average contract that we issue—a certificate of competency for usually the performance of the contract is within anywhere between the average of 6 to 15 months, so it's not long-term money they need; it is short-term money, and the minority-owned firm specifically has a problem in getting short-term money.

MR. MCGOINGS. Thank you. Mr. Hutton, from the last business census data available, could you tell us the number of minority-owned businesses and the number of them involved in high technology?

MR. HUTTON. There are approximately 560,000 minority firms across the country with total business receipts of about \$26 billion. A very small percentage, I would say less than 1 percent of those firms, are involved in high-technology industries. The firms in the retail category and the service industry really form the base; that's the basic structure of minority business enterprise.

MR. MCGOINGS. Mr. Hutton, how does the failure rate for minority-owned businesses compare with the general rate of business failures in the United States?

MR. HUTTON. I think if you ask 10 different people, you probably would get 10 different answers. We would like to think that the clients that we are dealing with have a smaller business failure rate than the rest of the business community. I would also like to say this: Ten years ago before we started the MBE programs, we had a fairly stable category of minority firms out there, and the business failure rate there was fairly small. With our new starts, it wouldn't surprise me, though, that our business failure rates are equal to those of the larger communities.

MR. MCGOINGS. Mr. Quitney, will you please describe your duties as a SBA subcontracting specialist?

MR. QUITNEY. As Mr. Silver said, primary duty was to review contract compliance of major prime contracts here at Silicon Valley. In addition, I will counsel, assist small businesses in how to meet these firms, who the contacts are; also procurement, who to contact at procurement agencies, and if they also are dealing with national rather than locally, I would get them contacts with different regions of different firms.

In addition, I have for the San Francisco Regional Office—I operate the PASS system, which is procurement automated source system.

MR. MCGOINGS. To what extent do you work with representatives of the contracting agency?

MR. QUITNEY. Would you repeat that, sir?

MR. MCGOINGS. To what extent do you work with the representatives of the contracting agency?

MR. QUITNEY. The firms I survey primarily are [inaudible] Defense Contract Administration Services. In northern California there are two of us, two subcontract specialists, and I deal with most of those firms, and then with time permitting I will get firms that have contracts with GSA, but 99 percent of my time they are coordinated. They will go on reviews together.

MR. MCGOINGS. Thank you. Mr. Hutton, how would you assess the effectiveness of Public Law 95-507?

MR. HUTTON. Public Law 95-507 is a very valuable tool for our program. There are a lot of problems with it. Enforcement is one of them, but despite that problem area, I still think it's an important tool, and we can get a lot more mileage out of it.

I think there is a lot to be said for just more effective management of that tool and all the implications that would come from such a statement. I think that there is a reservoir of good will among the corporate community and the major buying agencies that is untapped, or maybe I'll put it this way, that is still there to be tapped, and I am optimistic that we can do that.

MR. MCGOINGS. Thank you. Mr. Silver, the same question, in your opinion has 95-507 been an effective tool for increasing participation of minority-owned businesses?

MR. SILVER. It has not been an effective tool, I would say. I would say that because the law itself as written stipulates that every firm that has a contract over \$500,000 and in construction over a million submits a subcontracting plan. In the very beginning, when the public law went into effect, we had subcontracting plans that had percentages, particularly percentages for minority firms that were based on nothing but guesses because the greater percentage of the firms—and I can only talk for Region IX—the greatest percentage of the firms, the prime contractors, had little, if any, experience on how much work they could do with minority firms and did basically very little work with minority firms.

At the present time, some 3 years after the law specifically came into effect, we find that there is, as Mr. Hutton mentioned, a reservoir of good will, but good will basically is not going to do the job.

Ms. Berry mentioned previously in talking to Mr. Cook about the matter that was brought up in regard to contractual incentives, money incentives. The money incentive clause is in the basic contract—is stipulated in 95-507. To my knowledge I only know of one instance, maybe two instances, in the entire United States in this entire over 3-year period where that money clause has been placed.

The prime contractor is, after all, the low bidder on a government contract. As the low bidder, they have to be cost effective. When they say they are going to do 25 percent of their subcontracting in a subcontracting plan with small businesses and specifically they are going to do 1 percent with minority small businesses, and in the final analysis, someone like Mr. Quitney comes in and finds that they have done 1/10 of 1 percent with minority businesses, but they can show that they did the best they could which isn't close but they tried to get firms—there were no firms—there has never been any action taken to my knowledge. As I say, there may be one or two cases of incentives, but no cases of contracts terminated.

So there doesn't seem to be any carrot or any stick. The carrot would be fine because the incentive clause—because the firm, the prime contractor, was low bidder, the incentive would be a dollar incentive to reach out. It

would be an incentive to develop minority firms, not just to go after minority firms because, after all, a minority business who wants to do business with a prime contractor has to be cost effective. It has to be the low bidder. Because in spite of the best effort and resource of good will—and there is a reservoir of good will—the good will does not flow unless there is a low bidder behind it. So the stick is not there in the sense that there is no apparent—and this is readily perceived by the prime contracting community—there is no stick insofar as termination of the contract, and there is no carrot in the incentive.

MR. MCGOINGS. Would you have any specific recommendations to make it a stronger law?

MR. SILVER. I would think that basically—and we don't operate any different than any other region—we notify contracting officers in those cases where those firms fail to live up to their specific subcontracting plan. Every major procurement contract, every requirement usually calls for modifications of additional amounts, additional contracts. If no modifications or additional contracts were considered for a firm that did not live up to its subcontracting plan, it would act as a money incentive to raise the subcontracting plan.

I'm just talking about firms who might be the exception but firms who have done nothing 1 year. If a firm does not meet its subcontracting plan, there might have been reasons beyond its control. The second year, they might not have been developing minority firms, but they could probably show the subcontracting specialist or someone from DCAS that they were developing firms. But if you get into a third year and they have issued a subcontracting plan and still haven't lived up to their goals on either small or small [disadvantaged] business, then that consideration of invoking the stick or invoking the termination of the contract should be considered. I'm not saying it should be put into effect unless it is warranted, but if it is warranted, it should be applied.

MR. MCGOINGS. Thank you. Mr. Quitney, do you have an opinion on the effectiveness of 95-507?

MR. QUITNEY. I agree with Mr. Silver; right now there is no stick to it. We haven't heard of any progress payment or contracts being terminated because of noncompliance. Basically, noncompliance, the way we look at it is, are they making the effort to find the firms? There could be specific reasons why they missed it, but there right now we have never heard of one being terminated or the contract being withheld.

MR. MCGOINGS. Thank you. My last question is for Mr. Hutton. What strategies would you propose to increase the access of minority entrepreneurs to Federal markets?

MR. HUTTON. Okay. Let me approach this from a couple of different directions. First of all, I would like to say I think we've got fairly good policy at the national level, but I think there is a significant gap between

what is policy at the national level and what's at the local level. And so anything that would—any steps that would be taken to reduce this operational gap between policy and what happens would be significant, and I think that this is the significant course of action that we can take with existing resources.

We've got good policy to begin with. As I said already, I think we've got organization at the field level that can carry out that policy, and any tightening up that we can do at that level, I think, would bring about a significant increase in the implementation of the program.

I've got one other area that I would like to comment on, subject area that Commissioner Louise Smith brought up a little while ago about where there's been progress.

I got into this program some 10, 11 years ago, and I think there has been some significant progress. And we need to find a way to capitalize on that progress. Let me give you an example or two of the kind of progress I am talking about.

When I came into the program some 10 or 11 years ago, business loan for minorities was practically unheard of in the business community, the banking community, and almost unheard in the SBA program. That was before you came to it, now.

Well, I am almost convinced that when we put together a loan package and take it around to SBA or to the bank, it almost gets considered on its business merit, and that is a profound change in circumstances over 10 years ago, and that's progress, and I think that's significant progress.

Another thing that I think we can do, again talking about at the local level, the regional level, is do a better job of making existing processes and existing mechanisms work better. The door is not completely open, but there's a crack in that door, and I think more aggressive pursuit of what has opened up will pay rich dividends.

I would like to say a word or two about the 8(a) program. The 8(a) program is still important to us and it is important to a number of our clients that we worked with over the last 10 or 12 years. It would be a shame to lose a lot of these significant minority firms at this point, so what do we do from the public policy standpoint that might be helpful? I suggest two things:

Number one, the focus should not be graduating firms but getting additional work so that all firms can be accommodated, and I think we can do that.

Another thing that goes along with this is, we've got to increase the capacity to process 8(a) contracts. SBA has limited resources, but we've got to find a way for the mechanics of that to accommodate more firms. The 8(a) program is a part of the free market system. True, it is a negotiated contract, but 60 or 70 percent of all DOD contracts are negotiated, so that's not a strange process.

The 8(a) program is important, and I think by considering those two factors it can still serve as an important tool for us without pulling the rug from under a number of significant minority firms.

MR. MCGOINGS. Thank you very much. Mr. Chairman, I have no further questions.

CHAIRMAN PENDLETON. Do my colleagues have questions?

COMMISSIONER RUCKELSHAUS. No questions.

VICE CHAIRMAN SMITH. No questions.

COMMISSIONER BERRY. I have no questions.

CHAIRMAN PENDLETON. Mary has a comment. Then Mary Berry. Then I have a couple little questions.

VICE CHAIRMAN SMITH. Mr. Silver, in addition to the services that SBA offers, programs, would you discuss your philosophy vis-a-vis being an advocate for small business?

MR. SILVER. Yes. In the past couple of years, the Small Business Administration has had a separate Office of Advocacy. The small business community, both majority and minority, needs an advocate. It needs an advocate because, as has been mentioned by previous panelists here today, small businesses are besieged by an astounding amount of paperwork, and it needs an advocate inside the government to express small business concerns to other agencies within the government.

Sometimes Internal Revenue and lots of other agencies both collecting and dispersing and gathering information put an intolerable burden upon small business people. SBA can act as an advocate because SBA has a series throughout the country of advisory councils. Each district office and each regional office has an advisory council of small businessmen and women who serve as advisors to the Regional Administrators, the District Directors, and the staffs, hopefully to keep us in touch with the real world.

These people have a finger on the pulse of the small business communities, and as I should mention, there are on these committees, on these advisory councils—there are a lot of minority business people that serve on the council. They can bring up a lot of things from the field that small business people feel very strongly about that don't get voiced in any other form.

VICE CHAIRMAN SMITH. Do you think they are fulfilling this role to the maximum?

MR. SILVER. No, I wouldn't say to the maximum. I would say that we have only started actually having a distinct separate office in SBA in the past couple of years; so, it has just started.

I remember one of the first things that was done when it was started through our Washington, D.C., office was the fact that in the Elipse in Washington there are a group of people selling ice cream. This was a rather specific case, and they couldn't get licensing to be small business people in competition to recognize franchises in the Elipse. And one of the

first things they did in the Washington office was fight for the right of these people. That's been a distinct thing, but it did help about 55 or 60 small business people retain their right to be there because it was a Federal matter.

VICE CHAIRMAN SMITH. Thank you.

CHAIRMAN PENDLETON. Commissioner Berry?

COMMISSIONER BERRY. Yes, Mr. Silver, first I want to thank you for explaining the incentive structure, the carrot business in 95-507 and some questions I had asked earlier. I was a little bit confused about how it worked. I thought people were proposing something new and really what they were saying is that it hadn't been implemented.

You mentioned the stick in 95-507 and the fact it hadn't been used, both you and Mr. Quitney—fund termination, contract termination. Usually under other civil rights statutes there is the provision for fund termination for violating the law, or not doing what people are not supposed to do, and we find infrequently, if ever, our funds ever cut off—and the argument usually is that it would hurt the beneficiaries of certain programs to cut off the funds.

One of the witnesses earlier from one of the firms had said that some of these contractors are the only people who have the capacity to perform in a certain area so that you would be cutting off your hand by cutting them off just because they didn't meet your subcontracting goals. Do you think that's probably why there has been no contract termination, and does that sound like a good reason to you?

MR. SILVER. No, I don't think that is why. A number of firms who are sole sources usually are defined as firms who make a system. They are the ones who got a government contract to design a particular tank or design a specific missile, but the majority of opportunities for small and small disadvantaged firms don't lie in that area at all.

The majority of contracts that should have the stick or the carrot applied to them are not in that category; they are not sole source. If that firm does \$100 million with the government and it is centered in two or three different contracts, and that firm does not live up to what it said it was going to, but it says in the subcontracting they will make a serious effort to live up to that percentage, if over a few years' time and the performance of that contract—and most contracts are multiyear contracts; they are not just one contract—if they don't and they lose that one contract, it would be serious. It would not necessarily be of a detriment to the government; it would not necessarily be a detriment to government procurement, but it would certainly serve two purposes: It would emphasize the fact that the government is serious about seeing that the Public Law 95-507 is implemented, and the second thing it would serve is to serve as a notice to all other firms that the government is serious about 95-507.

COMMISSIONER BERRY. Thank you, Mr. Chairman.

CHAIRMAN PENDLETON. I've got a couple of points. I guess I am going to ask the home run question of this panel. Wouldn't minority business be served by the Feds if SBA and MBDA were abolished and all the help came from the Department of Commerce, or there were some tax incentive program by which larger firms would receive some kind of incentive or reward or credit having involved themselves with minority firms?

MR. SILVER. Where do you want to start?

MR. HUTTON. I would just make this observation, I think, there.

CHAIRMAN PENDLETON. You can say yes or no. You don't have to expound.

MR. HUTTON. I don't think this is the right time to do that. I think it will come about in time. Right now I think minority business enterprise is so young that it needs a special focus that is being given at the Department of Commerce.

CHAIRMAN PENDLETON. Okay.

MR. SILVER. I think when it comes to small business, just plain small business or majority small business people—and all the years that we have been in business—and I have been with the agency almost all of those years except for the first two—the number of loans we have made in comparison with the amount of small business financing has been a drop in the bucket. The amount of minority contracts that we have been responsible for on the 8(a) program has been a drop in the bucket.

We have led the way in showing what can be done, but I agree fully with what Jerry Hutton in the field of minority financing and in the field of minority activities through the SBA and Jerry's agency, I think it is needed, I think it is needed more than ever.

CHAIRMAN PENDLETON. I guess my followup point would be, it would be good to abolish it for everybody, for all small businesses—abolish the SBA and MBDA, abolish all of the small business assistance and substitute that with some kind of tax program. Would that make sense?

MR. HUTTON. Small business is an endangered species, and I just don't think that abolishing their support organizations or support agencies at this time is appropriate. Everybody here has a constituency. The farmers have a constituency, and I don't think it will be appropriate to abolish the Department of Agriculture. The airlines had a constituency. We need the FAA [Federal Aviation Administration].

CHAIRMAN PENDLETON. We're getting rid of the FAA slowly and doing some other things. Competition is coming back, and the market forces are prevailing. I guess the other point would be, would it be well to form some other semipublic corporation to which the private sector could contribute some of its tax resources, some of the resources to make small business

much more effective and not have as much a drain as we have upon the current tax system? I guess I am raising—I better back up.

Let me just ask that. Does it make sense to have something like a foundation that would be a small business foundation to which you could contribute on a private sector basis to give small business technical assistance and to provide some base for helping small business to qualify for private sector loans? Would that be a much better approach?

MR. HUTTON. It's an option we ought to look at if for no other reason than that the gap between minority business and majority business is growing rather than closing. And it is growing because larger business, majority business, is growing faster than minority business; so it is a viable option we ought to look at.

Another question that I would like to raise on that is, we need to take a harder look at what we are doing now and ask ourselves, is it being done efficiently, effectively? And I would suggest that there is room for improvement there.

CHAIRMAN PENDLETON. Let's go one more point and I turn to my colleague over here. I somehow think 95-507 is impossible to monitor, and we set up situations where people believe they can get a piece of the action, and the amount they get is so small and awards in there are so small that I am not so certain that we couldn't do better than by just eliminating 95-507 altogether. Maybe.

Another thing is that I am reading a report, a part here in the President's report again about government competition, and it shows here clearly where government employees perform 11,000 commercial or industrial activities, many of which could be performed by small businesses, and the cost of these activities was approximated to be \$19 billion in 1979. And what happens in this case is that it even says that it would be important to consider the fact that in terms of procurement only about 1 percent of Federal procurement goes to small business, and in 1981 that figure was going downward.

So I would only hope that we could at some point—the government itself is in competition with small business and perhaps there needs to be some way to look as much at a recommendation as to what could be eliminated from government, given to the small business sector.

My final point is that the matter of slow payment to small contractors—and the cost of slow payment in 1981 was estimated by GAO to be between \$150 and \$375 million of government money to be paid to small contractors in the private sector. I would suggest we need to probably make some statement about that figure because a turnaround on the receivables certainly would help small business considerably.

MR. SILVER. Excuse me, Mr. Pendleton, there has been in the past couple of months a bill that has passed both Houses and has been actually placed into effect. I think it has been signed by the President.

MR. QUITNEY. Because DCAS down in LA was one of the—stumbling blocks.

MR. SILVER. That has been signed. They have to pay within 30 days.

CHAIRMAN PENDLETON. Thank you.

MR. SILVER. Or they have to pay a percentage.

MR. QUITNEY. I think it is after 45 days or something. I would check with DCAS to make sure.

CHAIRMAN PENDLETON. Thank you.

MR. SILVER. I'd like to mention just one thing, Mr. Pendleton, that is, in 1980 approximately \$21.5 billion or 23.6 percent of all government awards were made to small business.

CHAIRMAN PENDLETON. I was only referring to procurement.

MR. SILVER. This is of procurement in all items, everything purchased.

CHAIRMAN PENDLETON. Of what percent of total worth procurement?

MR. SILVER. \$21.5 billion. The total contracting in goods and services was \$91.1 billion, of which \$21.5 billion—now, the sad statistic is that minority small business got approximately one-point-something percent of that. That's where your 1 percent figure comes in.

CHAIRMAN PENDLETON. Thank you. There are no more questions. Thank you for coming and this session is adjourned until tomorrow morning at 8:30.

Morning Session, September 21, 1982

CHAIRMAN PENDLETON. Counsel will call the first witnesses.

[Frank A. Quinn, Joanne A. Lewis, and Gerardo Orellana were sworn.]

CHAIRMAN PENDLETON. Thank you and be seated. Mr. McGoings?

TESTIMONY OF FRANK A. QUINN, DISTRICT DIRECTOR, U.S. EQUAL EMPLOYMENT OPPORTUNITY COMMISSION, SAN FRANCISCO; JOANNE A. LEWIS, DIRECTOR, CALIFORNIA DEPARTMENT OF FAIR EMPLOYMENT AND HOUSING; AND GERARDO ORELLANA, DIRECTOR, AFFIRMATIVE ACTION PROGRAMS, VARIAN ASSOCIATES, AND CHAIR, EQUAL EMPLOYMENT OPPORTUNITY COMMITTEE, AMERICAN ELECTRONICS ASSOCIATION

MR. MCGOINGS. Beginning with Mr. Quinn, I would like for each of you to please state your full name, your address, and your occupation for the record, speaking directly into the microphone, please.

MR. QUINN. I am Frank A. Quinn, District Director of the United States Equal Employment Opportunity Commission located at 10 United Nations Plaza, San Francisco, California 94102.

MS. LEWIS. I'm Joanne A. Lewis, director, California Department of Fair Employment and Housing, 1201 I Street, Suite 211, Sacramento 95814.

MR. ORELLANA. I'm Gerardo Orellana. I'm the chair of the AEA's equal employment opportunity committee. I'm also the director of the affirmative action programs for Varian Associates located at 611 Hanson Way, Palo Alto, California.

MR. MCGOINGS. Thank you. Beginning with Mr. Quinn, does industry-wide EEO-1 data for Silicon Valley indicate a pattern to the jobs held by specific minority groups and women?

MR. QUINN. It does, Mr. McGoings, yes. It indicates that minority groups, primarily persons of Asian and Hispanic ancestry, and then to a lesser degree persons, Asian first and then Hispanic and people who are black, and women, are found in the operative and craft jobs, the lower level jobs; in the higher level manager jobs primarily persons who are white and male.

MR. MCGOINGS. Is there any indication that companies have not accurately reported to EEOC the data on the EEO-1 forms?

MR. QUINN. Well, we don't have and never have had—I've been with the Commission now for 15 years. We have never had a systematic way of checking to see if data is accurately reported. From time to time, based on the face of the EEO-1 reports, we can see that something is inaccurate: a taxicab company that says that it has all managers, for instance.

From time to time during investigations when we're in on a large investigation, we will find inaccurate data. In this industry we have not found—we have not gone in systematically and we have not found on the face of the EEO-1s anything to indicate that the data was not being produced accurately, so I cannot give you a yes or no answer that the data is accurate.

MR. MCGOINGS. Thank you. Mr. Quinn, has the San Francisco office of EEOC reviewed data from high-technology companies for systemic discrimination?

MR. QUINN. Yes, it has. I have with me J.A. Friedman, who is our supervisor for the systemic units, if you want to go into detail on that, Mr. McGoings.

MR. MCGOINGS. Yes. Could you provide us with that? What data sources do you use at your review for systemic reviewing for the systemic discrimination?

MR. FRIEDMAN. Mainly we use two data sources: The EEO-1 is the primary data source and to what extent it's available, OFCCP compliance reviews. We also review those if they are available from the various OFCCP offices. There is a variety of other kinds of data to a much lesser extent, magazine articles, any kind of library materials, individual charges that can be reviewed that have substantive material that we can look at.

MR. MCGOINGS. Have you found that this data is sufficiently adequate to determine whether or not discrimination is in the work force or the work force is free of discrimination?

MR. FRIEDMAN. Not to determine discrimination, no. Actually, to begin a charge, Commissioner's charge, is what I'm mainly involved with. We only need a reasonable basis to believe that there might be allegations that we can substantiate, and then we go in and investigate those allegations, and to that extent I think that there are deficiencies in the data for that, but certainly not to show discrimination. The data is nowhere near adequate enough to do that.

MR. MCGOINGS. One of the things that the Commission staff has learned is that the EEO-1 job categories are not adequate for reviewing high-technology jobs. Has the EEOC, to your knowledge, or to Mr. Quinn's knowledge, considered revising those forms?

MR. FRIEDMAN. I agree with you, not only in this industry but in most industries. The categories are so general. And they really don't tell you a lot. For instance, in the retail industry, a manager and supervisor, you find a lot of women, but in fact, they are not really manager and supervisor. You have this problem. In the past there have been studies in Washington about refining and developing further some of the categories. I don't know if that's occurring now. We have a new chairman, Clarence Thomas, and I have not seen coming out of Washington any expression as to whether this will occur. We are establishing, however, a new office of research. And I suspect that this will be one of the concerns it will have. But that's a guess.

MR. MCGOINGS. Mr. Quinn, do you have any suggestion for additional steps that the EEOC could take to better determine whether discrimination is being practiced in the high-tech industry?

MR. QUINN. Yes, I do. In the past 3 or 4 years our investigations have been limited pretty much to individual charges, the circumstances that affect the individual charging party. So that we have had in the last fiscal year, for instance, 104 complaints from individuals in this particular industry. Of that 104, we settled some 47, and the rest are open and being investigated.

Now, those complaints and those settlements go only to the circumstance of that particular individual. This is the so-called rapid charge processing procedure that was put into place a number of years ago, and the reason for that was we were taking so long to handle charges, 2 or 3 years, that we had gotten terrible backlogs. We have another approach, the systemic approach, which was set up to get at the larger class action charges.

In my personal opinion—and I've expressed this to the new administration—the systemic approach has been very cumbersome, and we have been able to develop very few Commissioner charges or, in fact, go into a particular industry to find out what is in fact going on, because we have to develop almost a cause case before we can go for a Commissioner's charge.

My recommendation is a simple one, and that is now that we have reduced the backlog and now that we do have this good rapid charge

process to deal with individual situations, I do think we should take some broader charges and do more intensive onsite investigations. We do relatively few onsite investigations.

I do know that Chairman Thomas has appointed a committee which is reorganizing the work of the field and how we approach investigations. And it is my hope that some of my suggestions and others will be taken into account, but, really, the only way to determine large-scale discrimination and what is actually going on is—or if there is not discrimination—is to do an onsite intensive investigation where you have a chance to talk to respondent company witnesses and worker witnesses and so forth.

MR. MCGOINGS. Thank you. To the extent that you have current fiscal year data available on charges of discrimination against high-tech companies, would you make that information available to the Commission?

MR. QUINN. I would be pleased to. I do have one caveat and that is that we have some very stringent confidentiality provisions so that I will be pleased to turn over to the Commission information about particular companies and so forth as another governmental agency, particularly with your mandate, with the request that these not be made public.

MR. MCGOINGS. Thank you. Prior to the hearing and during the field study, Commission staff obtained from the EEOC statistics on past charges filed with EEOC in the Silicon Valley, and we were given the number of 506 cases of discrimination. At that time you were unable to provide us with the disposition of those cases. Would that be forthcoming or could it be forthcoming from the EEOC?

MR. QUINN. It could be. I can't give it to you immediately. Unfortunately, we don't have that material on computers. It means we will have to do a hand count. I'd be pleased to give you the disposition for cases this year, which we did by hand. Paul Mathews, who is the area director from San Jose, did it.

As I said, he's had a total of 314 charges in his area office; 104 of those were from the high-tech industries, which is one-third and is not unusual since his area office goes up to Santa Clara County and down to Monterey, and this is the major industry. Of the 104, 47 have been closed to date; of those, 19 were settled with benefits for the individuals. Twelve cases were cases where we determined that there was no cause to believe a violation.

"No cause to believe a violation" is really a term of art. We made the investigation and the facts do not turn up a violation under the standards of Title VII, which are, of course, laid down by both the EEO Commission and by the courts. We then had some 18 which were closed for various reasons, such as transferred to other offices where maybe the headquarters were elsewhere, withdrawn without benefits, or where we could not locate the charging party, that sort of thing. So we have generally about a 40 percent settlement rate for that industry, which is a little bit lower than

the area office has normally for overall. We have about a 45 settlement rate in that area office.

MR. MCGOINGS. Mr. Quinn, if a complaint indicates a possible pattern of discrimination and the complaint is settled, would it still be referred to the systemic unit?

MR. QUINN. No. No. The systemic unit would—it might be referred to the systemic unit and we do that with individual charges, not to be investigated by the systemic unit but to give the systemic unit some intelligence as to what's going on in a particular industry.

From that the systemic unit would have to develop a presentation to our Commission, but, once again, Counsel, because these charges are investigated in such a narrow way it does not really give the systemic unit much information to go on. Let me give you some other information about these 104 charges that you might be interested in.

Fifty of them were filed by women and 54 by men. Of the charges 13 were based on age, which I suspect explains why there were more men than women in these totals; 35 were based upon race, black; of that 35, 10 were female, 25 were male; 4 were from Hispanics; 5 were from persons of other national origins and races; 44 were complaints that had to do with discharge; 11 had to do with promotion, and 4 had to do with layoffs. Now, those are not complete statistics because the others tended to vary, but we will be pleased to give you more complete statistics when we have a chance to work them up.

MR. MCGOINGS. Thank you. Mr. Quinn, has the EEOC reviewed the question of whether the extent of the use of people with technical backgrounds in professional areas in the high-tech industry where a technical degree would not be required, for example, a person with an engineering background being used as a personnel manager? Have you ever looked at the question of whether or not that has a discriminatory impact on minorities moving up into professional positions or whether that would be a BFOQ?

MR. QUINN. BFOQ meaning bona fide occupation qualification—we have not discussed it in the context of a case. I have discussed it with members of your staff. BFOQ, in our definition, is a very narrow concept. The concept is that you really cannot do the job without having these certain qualifications.

Certainly, if a company has a policy where highly skilled engineers play other roles, such as personnel or so forth, you had to have that kind of background. This would have an impact upon women and minorities inasmuch as there are not as many women and minorities in the engineering field.

And in the example I mentioned, personnel, there are far more women and minorities so that would have an impact. We would want to know why, if there was, in fact, a reason that the respondent could indicate

which was nondiscriminatory in the sense it was a reason that the respondent said it's necessary to the doing of our business to do things this way, and you would have to develop an individual case and see where facts went and, of course, eventually these are presented to a court if the EEOC cannot reach an agreement or a settlement, if we believe there is discrimination. So it is a rather complicated process. I would suspect that one of the reasons that would be given by a respondent, and we would have to look at rather than flatly accepting it, is that they want to develop managers to take over the company. And these managers would have to have an engineering background and they want to give them the broadest possible experience so that when they take over the company they'll know something about personnel and so forth, and etc. And that probably would be the case they would make. But once again we would have to keep in mind that the real impact, as far as Title VII goes, is that it militates against the hiring of minorities and women.

MR. MCGOINGS. Thank you.

MR. QUINN. How a court would answer that kind of argument is another question.

MR. MCGOINGS. Thank you. Ms. Lewis, would you describe, please, the coordination that exists between your agency, the department of fair housing and employment, and the EEOC with respect to data sharing and processing of discrimination complaints?

MS. LEWIS. Yes. The department of fair employment and housing has with the EEOC a formal work sharing agreement that has been in place since 1978. This agreement provides for a complete data sharing between the two agencies up to and including total case files.

And it also provides an arrangement for how cases will be investigated by the two agencies. We have a very simple arrangement: Those individuals going to the EEOC office first—their complaints will be processed by EEOC; those coming to the department's offices first will be processed by our offices.

We do have some provisions that recognize jurisdictional problems and few other minor concerns such as the systemic charges that EEOC has had ongoing so that we can defer cases or refer cases to EEOC for their processing, but by and large it works rather well, and when we first began the arrangement there was roughly 50 percent of all the discrimination complaints in California that were handled by the two agencies equally.

That ratio has shifted now. California is now handling about two-thirds of all of the discrimination complaints in California, and EEOC is handling about one-third.

MR. MCGOINGS. Does your agency have authority to process systemic complaints?

MS. LEWIS. Yes, we do.

MR. MCGOINGS. Does the information that you get from the EEOC form an adequate basis to look at systemic discrimination?

MS. LEWIS. We don't use information from EEOC to make a basis for our systemic complaints. We have a different process. One is to identify the growth industries within the State where a systemic action would have the most benefit to the protected classes in our law. So we have a management policy that identifies those industries in California that we are interested in reviewing. The aerospace or high-tech industry is one of those. We usually do not depend on an individual complaint to make a basis for a systemic action. We initiate a systemic action via a director's complaint. I become a complainant on behalf of the class and we go in and do a very thorough investigation. We have a 2-year statute for conducting systemic investigations.

MR. MCGOINGS. Can you tell me how many complaints have been filed against the high-tech industries with your agency?

MS. LEWIS. Yes. We went back and prepared for the Commission an itemized listing of all the complaints that have been filed with our department for the fiscal years 1980-81 and 1981-82. We used the SIC [standard industrial classification] codes that were provided by Mr. Schwartz and did a comparison of our own code since we don't have SIC codes in our system.

In the 80-81 fiscal year there were 1,747 complaints. In the 81-82 year there were 1,765 complaints. You have to understand that these are statewide figures. This is not limited to what is called Silicon Valley.

MR. MCGOINGS. I understand. Thank you. Would you be willing to submit that information for the record?

MS. LEWIS. Yes, I'm prepared to do that. I brought along—

CHAIRMAN PENDLETON. Excuse me. I know at this point we do accept that for the record and ask you to submit to us the chart that Mr. McGoings was referring to.

MS. LEWIS. Yes, I will submit the chart as requested.

CHAIRMAN PENDLETON. So ordered. Thank you. Excuse me for breaking in.

MS. LEWIS. Yes. I wanted to indicate that the computerized listing, as all computerized listings, has some deficiencies. It does include the basis for the filing of the individual complaint and it does include the action taken by the department in closing that complaint. I brought the explanations for the closing categories. I did not bring the explanations for the basis for the charge. I didn't look at this carefully.

I will, however, provide that for you this morning. I will call my district office and have them bring that over. So, we cannot summarize for each company the number of complaints filed against that company statewide because we don't have the unique employer number, so we can't tell whether it is absolutely Hughes Aircraft or Lockheed or whatever. Our

investigation would determine that, but you can't tell that from looking at the computer listing; but there is a significant volume of complaints from individuals employed in the industry.

MR. MCGOINGS. Thank you. Mr. Orellana, would you describe your work experience for us in the area of affirmative action?

MR. ORELLANA. My work experience?

MR. MCGOINGS. Yes.

MR. ORELLANA. I've been an affirmative action officer in a major corporation for about 10 years, and that entails the preparation of affirmative action plans for small to large divisions, and the issue is to put together a plan that is technically in compliance or responsive to the Executive order and 41 C.F.R. 60.

MR. MCGOINGS. Has there been an increase in the numbers of minorities and women in the work forces of the companies where you have worked during your years in affirmative action?

MR. ORELLANA. Yes.

MR. MCGOINGS. Do you think that Federal and State laws have had an effect on the composition of these work forces?

MR. ORELLANA. I think they have had an effect. The issue is whether or not the laws are directed at, or the regulations are directed at, solving a problem. My sense, anyway. The effect is that, from my point of view—and clearly the American Electronics Association's point of view—we've said that we need these regulations; and so in saying that, what I believe we're saying is we need that kind of tension on the table to continue the effort to solve a problem.

MR. MCGOINGS. The American Electronics Association has stated its views with respect to OFCCP and EEOC enforcement of equal employment opportunity laws. Would you state that policy for us, please?

MR. ORELLANA. Well, our policy within AEA is to cooperate with the agencies and to establish, or attempt to establish, a more collaborative management of the affirmative action program.

We have testified to that effect before the Congress, or at least Senator Hatch's committee. We have also taken a leadership role in attempting to say to the agencies that what we need within industry is more collaboration, more understanding, more data sharing, more positive types of programs as opposed to more negative types of programs, and by negative I mean more the implementation or the management by exception of a compliance review. That is, if a company is performing in a variety of areas and falls short in a variety of some areas, the fault is found, and where the company had fallen short as opposed to where the company has succeeded.

MR. MCGOINGS. As I understand the policy statement, it contains four major areas measuring only actual hiring, restricting OFCCP jurisdiction

to do compliance reviews, recognizing good faith efforts, and providing training and technical assistance.

MR. ORELLANA. Those are specific suggestions made in response to a variety of regulations that have come down for comment over the last couple of years.

The question that we're raising here is one of collaboration. In other words, we are a growth industry—and not to divert, go too far afield, 25 years ago this valley raised apricots; today, it makes electronic chips. What has happened here is a very, very prime example of technological breakthroughs and advancement. What we need is the cooperation, or at least the collaboration, of government in this whole area of employment, so what we're saying is that, indeed, we are falling short of the hiring of minorities and women; let's investigate the reasons for that, not condemn or bring other penalties against a company.

Let me say something else. The AEA is comprised of about 2,000 companies. Ten percent of our business is with the Federal Government, roughly, and probably 75 percent of those companies hire fewer or employ fewer than 250 people; so the position that we've taken, at least on the record—and I will, not to reiterate it—is that, indeed, we need to work in a more collaborative way in looking at data, or at least getting data that is validatable, which is one of the aspects of what the government causes us to do, and that is to validate our circumstances.

We are asking the government to validate it. We are willing to help. As a matter of fact, one of our member companies has actually offered to do some computer programming for the government.

MR. MCGOINGS. Thank you. Mr. Chairman, I have no further questions.

CHAIRMAN PENDLETON. Thank you. Are there questions from my fellow Commissioners? If so, we'll start on the right with Commissioner Ruckelshaus.

COMMISSIONER RUCKELSHAUS. All right. I would like to begin with Mr. Quinn. We heard yesterday testimony from a witness that there were 4 female officers in a group of about 20 corporations in the high-tech industry that she had researched. Does that sort of a statistic indicate to you something that might trigger a systemic evaluation of what's going on in the industry? At what point do you make a decision that there are data that would indicate that maybe an industry, such as the high-tech industry, needed to be investigated for discrimination?

MR. QUINN. Four female officers out of a group of 20 companies; then I assume that they have all had a large number of officers, so the females probably come to 1 percent or something like that.

You say, "Well, how can that be with females a large part of the work force?" Then you look at the particular part of the work force. So you're talking about officials and managers. Now we are dealing with pretty crude figures, and you'll find that women are far higher than 1 percent. So

then you go farther and you begin to pin down in this process where women are found, what kind of jobs, where are they in that work force.

You have to always compare this against the available work force, and I would say offhand, yes, those are awful statistics. Very frankly, it is a pinning of it down that's been our problem. We have been under a process in the systemic program where we have to have bases before we can present a memorandum—bases meaning sex or race or national origin on a certain number of issues—so the kind of freedom of movement that I would like to have as a field manager has not been existent.

COMMISSIONER RUCKELSHAUS. Is it true that you cannot, by yourself, even as the district manager, make a decision to have that kind of investigation? You need to go to Washington for this?

MR. QUINN. Yes, to do an investigation of the company, we have to get a Commissioner charge under Title VII. Now, under our age law and under our equal pay law we may do a directed investigation and we do. We have many, many, more directed investigations to so-called Commissioner charges. We are only investigating five Commissioner charges now.

Commissioner charges have to be large cases. The company has to be a certain size. There has to be a constellation of things we have to put together. As I say, the new administration has this process, this whole procedure, under some study, and I hope they will give us more flexibility.

COMMISSIONER RUCKELSHAUS. Is it a recent change that you can't make the decision yourself on your own?

MR. QUINN. No. Under Title VII that's built into the law. There are only two kinds of—well, we can only investigate on the basis of a charge, and there are only two kinds of charges: One that comes in from individuals on behalf of themselves or possibly other individuals—and they might allege class discrimination, but we have had a process of not investigating class discrimination on the individual charges for a number of years now with rare, rare exceptions—and then the other type of charge is a Commissioner charge.

COMMISSIONER RUCKELSHAUS. This a question for Ms. Lewis. What happens to individuals who bring charges? Have there ever been examples of reprisal? Is that a real fear?

MS. LEWIS. Yes.

COMMISSIONER RUCKELSHAUS. Does it prevent, keep, people from coming forward?

MS. LEWIS. Yes, that's a very serious problem in an industry with the kind of informal communication network that exists in aerospace or in a university setting, or in some other kinds of employment situations where filing a complaint may brand you a troublemaker and prevent you from promotion or advantageous positions within the company. We have the ability to protect against retaliation, but that's a very minimum protection.

COMMISSIONER RUCKELSHAUS. Do you have any way of following up what happens to individuals?

Ms. LEWIS. Only if the individual returns and tells us what has happened. We do monitor our settlements and our commission orders for 1 year following the settlement of the order, and we can extend that, but in terms of providing individual protection or assistance to the complainant, that's very minimal and very limited.

MR. QUINN. The same is true for the Federal Government, Commissioner.

COMMISSIONER RUCKELSHAUS. Mr. Orellana, do you believe that discrimination exists in high-tech industries, based on your experience?

MR. ORELLANA. The employment process is one of discrimination.

COMMISSIONER RUCKELSHAUS. Well, I assume we were talking about within the charge of this Commission. Do you believe we are?

MR. ORELLANA. I said the employment process is one of discrimination.

COMMISSIONER RUCKELSHAUS. I'm not talking about discrimination.

MR. ORELLANA. You're talking about racial and sexual and the other types of discrimination as defined in the law. I believe of all the industries that I have been associated with, it is probably at a minimum. In other words, the process or the pressure that high-technology companies feel today is one of finding those people that have the requisite skills to meet the objectives of our organizations—and again the example I used earlier where this area was apricot orchards and today it is high-technology; it has caused an awful lot of relocation of people into this area, and usually those people bring to the table some specific skill or qualification, and we spend an awful lot of money doing and searching for and finding those types of people.

COMMISSIONER RUCKELSHAUS. In your experience, would you say that affirmative action mandates from the Federal Government have been useful in promoting greater participation from apricots to semiconductors?

MR. ORELLANA. Where the technology stems from is probably based in an awful lot of government R&D as well as industry R&D, university R&D, and those kinds of programs. Now the question of affirmative action promoting the hiring of minorities and women, I have to say yes. It's a pressure that is put on the table. It's a thing that causes us to look at what we are doing. It has spun off an entirely different area of personnel called human response planning. And a lot of that has come from the fact, particularly in some major companies, that having caused management to look at the resources that they have employed. Where are the resources that they will get in the future? And then what do they need to do to bring those two kinds of needs and supply together? Affirmative action has had that effect. It has also had the effect of identifying, in some way, the availability, if you will, of the skills that we are looking for in the near future and in the immediate area. That's an important aspect of affirmative

action. That has also spun off a group of AAP-EEO professionals like myself.

COMMISSIONER RUCKELSHAUS. Right. Can you imagine that without that kind of pressure, that sort of device to bring to the table, that the participation of women and minorities in high-tech development might be less than it is now?

MR. ORELLANA. My imagination says that, as part of the influence factor in that, in commenting to government through AEA has been, "No, don't take it away. We need that pressure." And it is clear that the meaning of that—you can take it anywhere you want—but we want, I think almost insist, that the pressure continue. It's the question of what form does that pressure take. In other words, we respond to pressure in a lot of ways, all right, and so that pressure is essential to continue some momentum.

COMMISSIONER RUCKELSHAUS. Thank you.

MR. QUINN. Commissioner, could I comment on your question about the value of affirmative action?

COMMISSIONER RUCKELSHAUS. Please do.

MR. QUINN. Thank you. There's another aspect to affirmative action, and it was clued in this question from the General Counsel about the fact that the company wants somebody with an engineering background to be a personnel director, for instance.

I hope—and I don't think it has happened enough frankly—that companies look at their qualifications. I think that, in many cases, we find that the qualifications that are put as a basic entrance for a job are not realistic. And we've had a number of court decisions, as you know, that have spoken to that, beginning with the famous *Griggs* decision that Chief Justice Burger wrote—the one that dealt with written tests—but at the time, he made an aside, and he said that, "You can't just say to do this job that you have a high school education"—that happened to be the example—"And I hope you have to prove," he said, "that it is necessary to the doing of the job." And I hope that affirmative action programs and the work of these agencies has made companies look at that. Is this really a qualification necessary to the doing of the job or is this a traditional qualification that has the impact of keeping out certain people, namely, the people who are the members of racial and ethnic minorities and people who are women?

COMMISSIONER RUCKELSHAUS. Thank you.

CHAIRMAN PENDLETON. Commissioner Smith?

VICE CHAIRMAN SMITH. Mr. Orellana, from your long experience in this field in your work with affirmative action and with professional organizations, would you believe that your attitudes towards this are reflective of the professionals in this area?

MR. ORELLANA. I believe so, yes.

VICE CHAIRMAN SMITH. I asked this same question yesterday because of the reason for us coming here was to review employment opportunities for minorities and for women in high-tech and growth industries because it's generally believed, as I said, that this is the wave of the future.

Are you victims, in a sense, of circumstances that is simply an extension of a pattern that has developed over the years of women in lower pay, more status positions, or is it a situation that is, for some reason, worsened in this particular field? In other words, are there things that are unique to the high-technology field, or are we seeing, to the degree that there is less opportunity for women and minorities, that it simply is an extension of the pattern that has been there for a long time?

MR. ORELLANA. That's a heck of a question, Commissioner. Let me answer it this way: The employment office accepts applications and people apply for jobs. Now, the question of what you bring to that application or to that job is some choice that the individual has made. The issue of "Give me a job" is really pretty open ended, so the question is that over time, for some reason or for whatever reason, certain groups of people migrate toward certain kinds of jobs, and when those jobs become open in a company and they are advertised in the media, that class or group of people will come and apply for those jobs. That establishes some configuration. All right, if we look at the data the way I look at the data, we're saying, "Where are the people with the requisite skills?"

And so if you bring people into the work force that you want to hit running, if you will, then you look for people who have certain amounts of experience in doing whatever it is that they are being hired to do. If you need people, for example, in entry level jobs—and by entry level I don't mean coming in as an assembler—but I mean entry level job anywhere in the vertical structure of a company, there is going to have to be a certain amount of training that the company does to bring those people up to speed for your own systems, etc.

So the question of systemic discrimination, that there are more women at the bottom of the ladder, that there are more minorities, that they are being held in those positions, I don't think, at least in this industry, the electronic industry, that the scorecard is in. I think the question comes down is how much self-determination and how much volition people bring to the job. And I know that in many, many of the electronic companies there is education assistance, there is counseling; there is inhouse training; there is actually going out into the school districts and establishing training programs for technicians and for computer operators and for programmers, etc. And those are all things that we recognize is a need. A major computer company is working with the Urban League to establish training centers in inner cities, and that's not altruistic by any sense. It means 10 years down the road we're going to need more of these people, and let's get them trained now.

The question is somebody better raise their hand and come in and be trained or decide to go to school and take digital electronics, get those degrees, get that experience. There is an awful lot of people out there that are willing to sell their time very, very cheaply so that you have to augment that by selling some skill with it; in other words, our competition—and I know I'm lecturing at this point, which is nonsense, but the competition out there is very severe. The competition out there is going to increase.

If we measure our own—and somewhere yesterday or somewhere, I overheard someone saying black teenagers have a 59 percent unemployment rate, and that's an interesting statistic. I believe in Japan, Japanese teenagers have about a 90 percent unemployment rate because they are in school. That's our competition. If we measure ourselves against the world education, America is an underachiever. We need to do more in bringing to development of our young people the understanding of what is needed to succeed in a career if that's what they are after. If you just want a job, there are plenty of them out there. If we look in the *San Jose Mercury* or one of our local newspapers week in and week out, there has been as high as 20,000 jobs listed and as low as about 8,000.

VICE CHAIRMAN SMITH. Do you believe that this kind of attitude would continue to prevail because it benefited the industry? If the attention were lessened or if the degree or requirement were reduced, would that level of awareness remain as high?

MR. ORELLANA. In a growth industry, the awareness and need for people—a grotesque example, in 1957 there were roughly 180 million Americans and we had a work force of somewhere around 80 million. In 1982 there were roughly 228 million Americans and a work force of about 111 million people. That will continue, at least in this industry. It is going to grow.

I mean, we've really scratched the surface in digitizing everything that you can imagine, including this pitclier; there is probably going to be a circuit built for it, so it's very wide open. The growth and potential is probably still to be realized or even imagined. So the question of how many women are in the board room or in the executive suite—let me give you a scenario. It takes 15 years for an engineer to make it as an engineer before you are recognized as an engineer. You have paid your dues; you have gone and worked as an engineer for 15 or so years; then you begin to show up as a manager of projects. You then begin to show up as a manager of a laboratory or a research lab or something, and eventually after you've been in the business 20 or 25 years, you show up as possibly a senior manager. There are a lot of engineers who decide, "I'm going to stay over there and do my research and not even worry about becoming a manager."

MBA's for example, enter the workplace with the intent of becoming a manager, and they can do it in many cases—particularly those out of Harvard—in a very short period of time.

CHAIRMAN PENDLETON. If we could, I don't want to cut this off, but we're running out of time. We've got a couple more sets of questions if you have some more.

VICE CHAIRMAN SMITH. Yes.

CHAIRMAN PENDLETON. That was a good exchange.

MR. ORELLANA. It was a very complicated question, Commissioner.

VICE CHAIRMAN SMITH. Thank you, very much.

MR. ORELLANA. You're welcome.

CHAIRMAN PENDLETON. Thank you. Murray?

COMMISSIONER SALTZMAN. Just one question. Ms. Lewis, in your opinion, in terms of your review, your experience in this area with high-tech industry, what would you tell us about this and the general problem of discrimination against minorities and women?

Is it your opinion, your perception that the industry tends to reflect generally the patterns that are true of other industries? Is there, as there are in other industries, a pattern of discrimination which we must be alert to that takes place as a result of the past, historic, other factors that bear on that same issue in other industries, or is this unique, the pressure for people and their creativity is such that employment really is open and dynamic?

MS. LEWIS. Let me preface this by saying that these are perceptions from a very limited experience that our department has had in the investigating companies within the high-technology area.

The secret of success to any affirmative action program or nondiscrimination program is an outstanding personnel system. We find that many companies begin with good intentions in terms of their equal opportunity stance and their nondiscrimination stance, and based on the competition, or the pressure for success, that standards change, requirements are altered, the need for more experienced individuals is demonstrated in the requirements for positions. And this has a tendency to eliminate many newcomers to the field, and most minorities and women are in that category. They are newcomers to this field. There are a few outstanding individuals, of course.

It is our perception that there are many excellent opportunities for minorities and women in this industry, and for whatever the reasons, we do not see a successful employment pattern throughout. There are some companies who are doing quite well, and those are not necessarily the companies that the complaints are being filed against.

We have discovered in our investigations that those companies who have extensive complaints are not necessarily the bad guys. In fact, they may even be the more progressive employers. The companies who have no complaints most often are the companies that we need to look at because that is an atmosphere in that environment that prohibits employees from

complaining or grieving when they believe they are being discriminated against.

So that's a rather rambling answer, and I'm not sure that responds completely to your question. We believe that there are many companies who practice discrimination either intentionally or unintentionally, but the effect is the same.

CHAIRMAN PENDLETON. Well, we're almost out of time, but I just have a few brief questions. Mr. Quinn, this Commission put out a report about civil rights enforcement and the budget reductions, as some call it. Do you have enough money to do your job in this area?

MR. QUINN. Mr. Chairman—

CHAIRMAN PENDLETON. Am I being presumptuous and putting you on the spot? You don't have to answer it.

MR. QUINN. I'll answer it from my perspective. We have not had a budget reduction; we've had level funding. However, with inflation, that has meant we have not had any new hiring. I have had a loss of staff without being able to replace them, and I think you can guess who the most important people in an office are. When you begin to have a loss of staff, it is the clerical worker. This is becoming a real problem. This is one reason we were not able to give you a more full picture here. That worries me.

Also, however, we've had somewhat of a reduction in the number of charges that we've gotten in the last year so that we have enough professional staff to handle the incoming charges. So as of now, my major problem is in clerical support workers. Hopefully, in the beginning of the fiscal year, that will be resolved.

CHAIRMAN PENDLETON. There is a proposal—and I guess this is open to you and Ms. Lewis more so than to Mr. Orellana—there is a proposal for new federalism, and we believe that a lot of the civil rights laws, especially, have to accompany whatever those dollars are that go to the State level. Is it going to be difficult for you to work with people at the State level in this respect, or do you think that—how do you foresee civil rights statutes being carried out with new federalism?

MR. QUINN. Well, over the last 5 years we've had a developing contractual relationship with the [California] Department of Fair Employment and Housing. In fact, the California DFEH has the largest Federal contract in the country to resolve some 5,200 charges, which amount to about \$375 per charge; it's a big sum.

I think our working relationship has been excellent, and I think it is one that we work very hard at and that has developed, and in the future I can see this continuing. The Congress has specifically put aside EEOC budget money for working with State and local agencies that have enforcement powers similar to ours.

CHAIRMAN PENDLETON. Ms. Lewis?

Ms. LEWIS. Yes, I would like to comment because our relationship with the EEOC has been wonderful. We certainly have had no problems in enforcing the law. I should clarify that we enforce the State law, not the Federal law, but they are similar. In fact, ours is a little stronger than the Federal law. As long as you're talking about the new federalism, I'd like to put in the same pitch I give each time I have an opportunity to sit before this Commission, and that is that this concept be expanded to other Federal agencies who have similar jurisdictions.

The California law is stronger than the housing and urban development law, the Title VIII law. We have a contract compliance law that is very similar to the Federal law. In fact, it has an enforcement provision that the Federal law does not have.

We also have coverage for Title VI—and I don't recall now who in the Federal Government is enforcing that, if anyone is. But it is important for the benefit of the employer community and the respondent community that we eliminate as much duplication by enforcement agencies as possible. It just is a horrendous waste of resources, public monies, to have a Federal and State agency doing the same thing.

CHAIRMAN PENDLETON. Are you saying that perhaps where there are laws in place at the State level that do what the Federal law does, there needs to be some negotiation about how we handle that at the State level?

Ms. LEWIS. Absolutely, because I think the Federal Government has an obligation to work in those States where there are no comparable State laws. If we are really about the elimination of the discrimination, we have to put resources where they are needed.

In California we have a terrific law. It's one of the best in the country; therefore, it's less critical that the Federal Government put its resources here than it is for them to put it in Mississippi or Texas where there are no State laws.

CHAIRMAN PENDLETON. Mr. Orellana, in reading the background interviews, you indicated that there are a large number of small black businesses in East Palo Alto. Isn't that correct? I understand we have not been able to corroborate that. But tell me, what is the opportunity for those small black businesses to expand or grow in terms of where your company is? I mentioned it earlier—there appears to be an intent on the part of blacks in East Palo Alto to move into the mainstream of the high-tech business, not so much in the technical aspects of things, but to take advantage of the resources and capabilities and skills that are there. And I would be interested to know with the outreach that you mentioned earlier, in response to one of my colleagues' questions, your company is providing people and resources to get the people that it needs. You project or predict that there will be some 200,000 jobs available soon in the valley. New jobs?

MR. ORELLANA. I didn't predict that. That was something that came out of a study done at Stanford that said for the next 20 years there will be about 200,000 jobs.

CHAIRMAN PENDLETON. Whatever the prediction is, how do those black firms that obviously want to do something, how do they get cranked into the process?

MR. ORELLANA. Well, I'm kind of out of my field. The comment I made to Marv Schwartz in discussion was that, if you start looking for—and I forget the context of the question—you began to look for a minority community in this area and you begin to wonder, okay, where are they. Clearly, driving up and down El Camino on one of the freeways you don't notice them. East San Jose and a large part of San Jose is Hispanic which is a question that is going in my mind about the issue. And in East Palo Alto and East Menlo Park, those areas have a predominantly black community. There was—recently in a discussion I was told—there was about in excess of 250 minority-owned businesses in that area.

The opportunity was yesterday, since I don't deal with that particular area, looking at minority-owned businesses, and in subcontracting with them from a company or company basis, so I really had difficulty answering that question. I know that there is a lot of outreach that is going on in trying to identify companies. There's outreach going on to see whether or not they can provide the services and supplies contractors are needing. I really can't answer the question in specific terms.

CHAIRMAN PENDLETON. I do not want to leave the impression I was only speaking about blacks, but it seems to me that people are asking for entrance, and if they are asking for entrance, there is a lot of outreach it seems to me at some point that the twain should be able to meet, and I guess in my Commissioner staff point of view, I would like to know where we are in that process. I would like very much to track it, especially some numbers I read about, about women in some of the subsystem areas and so forth.

I have one other question and maybe all of you can answer this in some brief way. There is a lot of information that we have that indicates a lot of the jobs, because of economic pressures, are going abroad. What advice do you have to American companies to keep as many of those jobs as they can here to increase our work force? And the other issue is the fact of the undocumented worker and the use of the undocumented worker—not one that we would necessarily investigate—but it does seem to me that there needs to be some discussion, if not here, at some place, about public policy that permits us to lose jobs because it's more economically feasible for companies to do that and it gets closer to the bottom line. Do you have any response to the scenario that I've developed, any of you?

Ms. LEWIS. I don't think I'm going to tackle that. I just would state, however, that our law covers all residents of California whether they be documented or undocumented and let it go at that.

CHAIRMAN PENDLETON. With that silence, I will excuse the panel. Thank you very much for coming. As the next panel assembles, I would like to read into the record a telegram that the Commissioners sent to Secretary Donovan this morning about the absence of an OFCCP representative, Mr. Robert Cordova.

I will not read it, but I will enter it into the record at this point. We expect an OFCCP representative some time today. We intend that the subpoena process, as part of the Commission's hearing process, be maintained and upheld and certainly Federal agencies are not above the law.

Let's swear the witnesses in. If you can stand and get started with this, we're not too far behind.

[Susan G. Tanenbaum, Judith A. Williams, Carol Lincoln, and David Bacon were sworn.]

TESTIMONY OF SUSAN G. TANENBAUM, DIRECTOR OF EMPLOYEE RELATIONS AND COUNSEL, ADVANCED MICRO DEVICES, INC.; JUDITH A. WILLIAMS, CORPORATE MANAGER OF EMPLOYEE RELATIONS, SIGNETICS CORPORATION; CAROL LINCOLN, PROJECT DIRECTOR, MDC, INC.; AND DAVID BACON, CHAIRPERSON, UNITED ELECTRICAL WORKERS ELECTRONICS ORGANIZING COMMITTEE

MR. MCGOINGS. Let me first ask each one of you to please state your full name and address and occupation for the record, beginning with Ms. Tanenbaum.

Ms. TANENBAUM. My name is Susan G. Tanenbaum. I am director of employee relations and counsel at Advanced Micro Devices, Inc. in Sunnyvale, California. My business address is 901 Thompson Place, Sunnyvale.

Ms. WILLIAMS. I am Judith A. Williams. I am the corporate manager of employee relations for Signetics Corporation, 811 East Arques, Sunnyvale, California.

MR. BACON. My name is David Bacon. I am chairperson at the United Electrical Workers Electronics Organizing Committee. Our business address is Post Office Box 2256, San Jose, 95109.

Ms. LINCOLN. My name is Carol Lincoln. I work for MDC, Inc., which is located in Chapel Hill, North Carolina.

MR. MCGOINGS. Thank you. Beginning with Ms. Tanenbaum, would you please describe briefly your duties as director of employee relations at Advanced Micro Devices?

Ms. TANENBAUM. Right. As director of employee relations, I am directly involved with and supervise all aspects of employee relations, including equal employment opportunity and affirmative action. In addi-

tion to that, I have the health, safety, and security functions reporting to me in my capacity as labor counsel for the company. I also handle all labor-related legal matters.

MR. MCGOINGS. What role do you play in the hiring process?

MS. TANENBAUM. Excuse me, I can't hear your questions. I am sorry.

MR. MCGOINGS. What role do you play in the hiring process?

MS. TANENBAUM. I play no role in the hiring process other than a general role in my affirmative action and EEOC capacity.

MR. MCGOINGS. Could you tell us how the hiring process works at your company?

MS. TANENBAUM. Could you be more specific in your question?

MR. MCGOINGS. Which jobs do you recruit? Which jobs do you accept applications for, the various job categories, and how they are filled?

MS. TANENBAUM. Well, I'll try. We recruit, obviously, for a broad spectrum of jobs. We recruit in different ways for different types of jobs. For example, if we are looking at operators and technicians in the semiconductor industry, we recruit through newspaper advertising, through employee referrals, through walk-in candidates; we post our jobs with the State EDD [employment development department]. We go through the trade schools in the valley, including Hill and Bay Valley Tech and the California Academy of Drafting. That's those types of jobs. We do extensive college recruiting for employees who are going to join us in technical capacities who have either B.S.-E.E., M.S.-E.E. or sometimes doctorates in the fields of science and engineering.

MR. MCGOINGS. Does your office monitor the hiring of employees?

MS. TANENBAUM. Generally speaking, yes.

MR. MCGOINGS. Ms. Williams, would you please describe your duties as manager of corporate employee relations for Signetics Corporation?

MS. WILLIAMS. As manager of corporate employee relations, I am responsible for all the policy and procedure writing and interpretations of EEO; unemployment, food service, and recreation also report in through my organization.

MR. MCGOINGS. Are you involved in the hiring process at all?

MS. WILLIAMS. Not directly, no.

MR. MCGOINGS. Does your office monitor hiring?

MS. WILLIAMS. Yes.

MR. MCGOINGS. Thank you. Ms. Tanenbaum, could you describe the composition of the work force in terms of—you mentioned the various categories that you hire into and what changes have occurred over the years in that work force with respect to minorities and women?

MS. TANENBAUM. I have prepared for submission to the Commissioner a written statement which includes some statistical data which I would like—would it be appropriate to present it at this time?

CHAIRMAN PENDLETON. We'll include Ms. Tanenbaum's information into the record. Thank you.

MS. TANENBAUM. As I note in my written presentation, women make up approximately 75 percent of our operative category which is basically an entry-level position. Minorities make up approximately 69 percent of that category. We have seen increases over the years in both the number of minorities and the number of women. We do extensive inhouse training. We hire both experienced and nonexperienced people into this category. But we do extensive inhouse training, and it is an opportunity for someone who has no skills to develop skills in the semiconductor industry.

One of the things I've done in my statement—I have other copies for the other Commissioners if you like—is to describe the semiconductor process because it has occurred to us that with our understanding of the process you might have some difficulty understanding the employment trends of the job opportunities that are available in the industry and I do have—

CHAIRMAN PENDLETON. We'd love to have them.

MS. TANENBAUM. Basically, in the semiconductor industry, the process involves, in a very simple form, the taking of a silicon wafer and going through repeated processes of both what is called "diffusion" and "masking" to come out with a chip, and actually there are hundreds of chips on a wafer which have certain properties which allow it to conduct electricity. There is a more thorough explanation on your slip and I won't read it to you.

In this process we hire employees to do various [portions] of those processes, either in diffusion or in masking, or in assembly, or in mark and pack. These are all entry-level positions. And as I pointed out, we do do extensive training in all of these areas and have seen a tremendous increase over the years in the numbers of women and minorities entering these jobs.

MR. MCGOINGS. Now, is the training to improve the performance within the operative category, or is the training designed for upward mobility?

MS. TANENBAUM. Well, the initial training is to take someone who frequently has no skills at all and to give them skills, so I would consider that to be training for upward mobility. Now, it is training into an operative class. We do classes inhouse which train people into various specializations which allow them to go into higher grades within that class, and sometimes into different positions, such as the technician position. But the initial training, in my view, when you take someone who has no skills—or, as Mr. Orellana says, bring very little to the marketplace and you give them a skill—that I consider to be upgrading.

MR. MCGOINGS. Now, you have described the operatives and the technician categories; are those the only two categories that are in the work force at your company?

Ms. TANENBAUM. No, clearly they are not. And as I think I mentioned, we do college recruiting for technical positions. This is a technology-driven industry, and one of the things that I think is extremely important for all of you to understand is that the success of this industry is driven by the innovations in technology.

And most of the innovations in technology are performed by people who have degrees. They either have their bachelor's degrees in electrical engineering or in some form of solid state physics, or they have their master's or doctorate degrees in these fields. So, when you look at the work force in the semiconductor industry, I think it is extremely important that you understand that this is not the kind of work force where one necessarily can enter at the bottom and become the president and CEO of a company 25 years later.

The work force is not a vertical line and there are jobs—and I would like to point out to you nobody in our personnel industry has an EE, and we don't consider that a requirement—apropos to an earlier question—but in our technology areas, having that degree and that training, you know, the understanding of the process and of the technology that goes with it is essential. It's critical. It is what drives our industry and funds the entire process. So that I think it is important that one understands when you look at statistics in this industry, one has got to understand that one cannot necessarily go from being an operator—no matter how much one wants to—unless one is willing to go through the schooling and develop and get the skills and the capabilities that would allow them to be a processor or a product engineer. They are not findable kinds of jobs.

MR. MCGOINGS. Would you tell us something about the composition of your professional areas in terms of minorities and women?

Ms. TANENBAUM. Certainly. If you look on page 2 of our statement, we provided some data in that regard, and in 1982 approximately 23 percent of our officials and managers were women and 18 percent of our professionals were women, and 40 percent of our technicians are women. In the minority category, 28 percent of our officials and managers are minority, 18 percent are professional, and 40 percent fall into the technician category.

MR. MCGOINGS. Do you know of that 28 percent minorities figure what minorities are represented there?

Ms. TANENBAUM. Excuse me. I have not brought those figures, no.

MR. MCGOINGS. Ms. Williams, could you describe the composition of the work force at your company and how it has changed over the years?

Ms. WILLIAMS. Yes. Essentially, right now at Signetics, our population is about 47.8 percent male and 52.2 percent female with 29.3 percent of those being minorities. We have seen a constant progression—as Susan explained to you—of women and minorities coming into our work force.

We utilize all the EEO-1 categories, with the exception of laborers, and so we have the full spectrum of the EEO-1 type of jobs.

Looking at the operators, that is a major category where we see a lot of females; however, the trends that we've been looking towards in the last little while indicates that the women are now beginning to migrate into the technicians and more technical aspects of the jobs where there is more upward mobility, and there's also higher salary potential.

MR. MCGOINGS. Thank you. Could you describe the professional levels with respect to minorities and women?

MS. WILLIAMS. I didn't bring the professional levels. The only other area that was asked of me to provide was about our supervisors, our first-line supervisory positions. And that statistic I brought with me.

CHAIRMAN PENDLETON. Ms. Williams, while you're looking for those statistics could you show my colleagues and staff, who are interested in receiving from you at some later date, the number of minorities and women at the professional level? Is that what you want?

MR. MCGOINGS. Yes.

CHAIRMAN PENDLETON. We would like to have that information and make it a complete picture.

MS. WILLIAMS. Fine. Supervisors, essentially, compose 7.4 percent of our total population: 44 percent of which are women, 36 percent of which are male, 21 percent of which are minorities.

MR. MCGOINGS. Do you have a breakdown of what minorities are in that figure?

MS. WILLIAMS. It includes all the minorities—the blacks, the Hispanics, all the spectrums of Asians, and a few Native Americans.

MR. MCGOINGS. I see. Thank you. Mr. Bacon, how many years were you employed as a high-technology production worker?

MR. BACON. I was employed for a little over 4 years in electronics semiconductor industry until I was fired.

MR. MCGOINGS. From your experience and your observations would you say that the work force described by Ms. Williams and Ms. Tanenbaum are reflective of the industry?

MR. BACON. Well, yes. But there is a lot of holes in what they are saying. First of all, the U.S. Department of Commerce, I believe, issued a report a few years ago which gave a general statistical breakdown for general job categories in the semiconductor industry, and in that breakdown they estimated that approximately 45 percent of the work force in electronics, in semiconductor industries specifically, consisted of operatives; about 12 or 13 percent consisted of technicians and maintenance workers, and about another 12 or 13 percent consisted of clerical workers; about 20 percent consisted of engineers and the rest consisted of management personnel.

Now, our experience at—and I'm speaking for myself as a worker in the industry and also generalizing from the experience of our other union

members who work in a large number of plants in the valley here—our experience is that Ms. Tanenbaum's estimation of the composition of the work force among operators we believe is pretty accurate. In other words, about 75 to 80 percent of production workers in electronics are women and an absolute majority of those workers are minority workers, and it varies to a certain extent from plant to plant.

However, what Ms. Tanenbaum is not saying is this—and that is as you move up into the higher skilled positions within an electronics plant, the composition of the work force becomes more and more white and becomes more and more male.

For instance, she estimated, I believe, that 40 percent of the technicians in her plant were minorities and 40 percent were women. There are many different grades and varieties of technicians in an electronics plant, in a semiconductor plant. Some technicians, for instance, production technicians, are just barely one step above the production line, and the function of these technicians consists of things like loading chemicals into machines, taking products from one department to another; in other words, basically, work that is not much more skilled than the work of a production operator themselves.

However, there are other technicians which go all the way up, for instance, to computer-maintenance technicians—which are much more highly skilled than an average production [technician] in a semiconductor field—which are much more highly paid. The average wage for a production worker for an operator we estimate to be about \$5.50 an hour. It's possible, as a computer-maintenance technician in a semiconductor plant, to earn a wage that's well over \$10 an hour.

Now, it is our experience that those minorities and those women who have technician positions in the semiconductor industry and in the electronics industry occupy positions that are at the bottom skill grades and that the bottom pay grades. And, for instance, if you analyze the composition of computer-maintenance technicians or line-maintenance technicians, that those positions would be overwhelmingly occupied by white men, and that, in fact, it is difficult, if not impossible, for women and minorities to move from the production line into those highly skilled positions. In fact, it is something that almost, you might say, doesn't occur at all. So, generally speaking, that's our feeling about the figures that were presented. For instance, among maintenance workers, skilled trades in electronics plants—plumbers, carpenters—all electronics plants being large factories employing people like this—these are almost overwhelmingly white men. And the composition of the engineering staff in the electronics plants is overwhelmingly men. And I think the representation of minorities is derived primarily from foreign students who come to study in the United States and get hired by the industry as a result of that and not primarily

through the hiring of minority people in engineering programs from colleges.

But, once again, the chances of going from being a production worker in a production line to occupying an engineering position in an electronics plant is zip; doesn't exist.

MR. MCGOINGS. Thank you. Ms. Williams, do you have a response to Mr. Bacon's statement?

MS. WILLIAMS. A couple of things. Some of the things that Mr. Bacon is saying is true. It's things that we have seen, probably systematically, throughout the society. Engineers now being produced in the colleges, the majority of them, are white males. When we go out on our recruiting trips, the people that we look for specifically and schools we target specifically are the minority schools so that we can start bringing up the composition of our work force in those areas, especially in the women and minorities.

The technicians that he speaks about—like we were telling you before, it's a rapid growing industry and at the beginning of the industry you needed the people who knew the skills. There's always been, and there always continues to be, a training gap in terms of getting the people prepared for the jobs that are going to be for tomorrow, not for today. We were recruiting most of our technicians out of the Armed Forces where one of the few places who gave the concentrated training of the types of individuals that we needed.

Once the mandatory draft went away, we found that fewer and fewer of these technicians started to become available and the quality of some of them that were there was not the same as it used to be, in which case we started to do our own training. Training sometimes takes a long time.

As Susan also informed you, yes, you can't get from an operator to the process engineering unless you are willing to go to school. But it is rare, the integrated-circuit company that will not support and fund schooling for all of their individuals. Signetics Corporation pays 100 percent of all your education needs in job-related activities, including your fees, your books, and your tuition. Additionally, we have internal courses that you can take that we set up in our learning center that you can do on an individual basis, or you can go into classroom instruction.

In the State of California we've got one of the best community college systems around where education is absolutely free to our people and, if they wish to go into that, so be it. That is the way that you go about doing the upward mobility.

I guess there's not a lot to refute about some of the problems. Yes, it is a high-growth area, but it is also an area where you can take a lot of raw talent and, through a little bit of help and perseverance, you can see the people being able to make a marketable wage.

MS. TANENBAUM. May I just add something. I agree with what Judith said. In addition to that, I think that the emphasis is very much on

education. And I agree with Mr. Bacon, a fab [fabrication] operator is not going to become an engineer unless that fab operator has the initiative and the drive to go and do something about it. We provide the tuition; we provide the assistance. In addition to that, we hold Foothill College, which is one of our community colleges, onsite; we have a Stanford classroom through closed-circuit TV onsite; we hold Berkeley extension courses onsite; we give employees time off to go to these classes.

You know, you can provide, but you can't mandate; and what we have done—and I think it is true, at least to the larger companies in the industry—there is a real effort to provide, to try to give people the tools for upward mobility, and they are there. We do have one of the best education systems in the community college, junior college level, probably anywhere in the country, and the classes are there; the tuition assistance is there. It is open to all, everybody in the company. Anybody can avail themselves of it.

We offer English as a second language for employees who have difficulty communicating, and that's very well attended. I think the companies are making—at least it has been my experience since my time, and I've only been in the industry for 18 months—it has been my experience that the companies that are represented here today—not just on this panel but other panels—have made a sincere and a real commitment to try and produce the kind of training which is going to give us upward mobility. It doesn't happen overnight.

MR. BACON. Could I respond on this question of training?

MR. MCGOINGS. Yes. Go ahead.

MR. BACON. This whole question of training is a little complicated because there are, as was pointed out, a number of types of training that do exist in relation to electronics. So, in order to determine whether or not this is really training that is available to production workers and allows them to advance, we sort of have to break it down and take a look at it, what kind of training it is, where it comes from.

First of all, Ms. Tanenbaum mentioned, for instance, that there is extensive inhouse training for operators, and this is true in every electronics company; however, I point out this is true in every factory of any kind. When you go and get a job in any factory in the United States, the company has to train you to do the job the way the company wants you to do it.

The fact that a electronics company sets up inhouse training for operators to train them to be operators is something that's strictly in the self-interest of the company. In other words, they need their operators to be as well trained as possible. This is not training that allows somebody to advance from a production to any other kind of position within the plant; it is simply teaching people how to do the job they are hired to do.

Secondly, there are training programs that train, for instance, technicians to repair machines whether they are productive machines or computers or what have you. However, this training is available only to those people, by and large, who already have the jobs which they have the responsibility for work on those particular machines. In other words, the training that offered for repairing production equipment and computers is offered to computer-maintenance technicians and to line-maintenance technicians.

I'll tell you from my experience, the experienced workers at Signetics and AMD—and that is those classes are almost impossible for a production worker to attend, which is set up by the company in terms of inhouse training for technicians to work on production equipment or computers.

MR. MCGOINGS. Mr. Bacon, we're going to have to move on.

MR. BACON. I'm trying to make the point that the inhouse training for higher job categories, other than production workers, is not available to production workers, and when you talk about going outside of the company to, for instance, Foothill Junior College—

CHAIRMAN PENDLETON. Mr. Bacon, if you would—

MR. BACON. That's not a realistic answer to production workers, either.

MR. MCGOINGS. Thank you. Mr. Bacon.

CHAIRMAN PENDLETON. Let the record also show that there is some consternation. There could be some debate back and forth on this issue, but we need to move on. I see the look on some people's faces.

MR. MCGOINGS. Ms. Lincoln, would you please describe the MDC and its work in North Carolina?

MS. LINCOLN. Yes. MDC is a private, nonprofit, research and demonstration corporation that was established about 15 years ago. We were charged initially with trying to design and test employment and training programs that would help bring economically disadvantaged workers into the primary labor force and to also explore ways of increasing productivity in both the public and the private sectors. Since the early days of the corporation's operation, we have expanded from working not only in North Carolina but, first, we went towards the Southeast and now in the last 5 to 7 years we've been working throughout the country in various capacities.

Primarily what MDC tries to do is to think up new ideas, new ways of training people for jobs or of improving their productivity on the job. If we get a good idea, we test it out and see how it can be made better and spin it off to somebody else who can, in fact, continue to operate the program. We are not in the business of constantly training people for the same kind of thing. In other words, we are more research and demonstration.

We have always involved the private sector in our work, and it's been one of our primary purposes to involve the private sector in order to find the solutions to labor market problems.

We have a board of 13 members chaired by Juanita Kreps who is the former Secretary of the Department of Commerce.

MR. MCGOINGS. Thank you. From your observations of the high-technology industry in North Carolina, is the composition of the work force similar to what has been described here this morning?

MS. LINCOLN. The composition of the work force in the microelectronics industry did you say?

MR. MCGOINGS. In the high-technology industry?

MS. LINCOLN. High tech? I don't have a lot of good statistics on that. What I have been able to find out, for example, is that we have something like 49 percent of the workers in North Carolina in this area are women. I have not been able to find a breakout that would show me how many minorities are in those jobs or would show me whether they are in the levels of technician or engineer levels.

What I have been able to find, however, is what North Carolina's work force, in general, looks like. You can probably draw some conclusions from that. Fifty-five percent of our adult females are in the work force; 80 percent of them are in low-paying jobs—and in North Carolina that's a particular problem because North Carolina has the lowest average manufacturing wage of any State in the country. We know that 3 percent of the female workers in the State are in managerial positions; roughly 13 percent are in professional and technical, and something like 2 percent are in skilled craft.

Generally speaking, women and minorities in North Carolina do not tend to have the high-paying jobs. They tend to be in the lower levels of the economy.

MR. MCGOINGS. Thank you. Mr. Chairman, I have no further questions.

CHAIRMAN PENDLETON. Thank you. We'll start the questions from the Commissioners with Commissioner Saltzman.

COMMISSIONER SALTZMAN. Ms. Tanenbaum, do you track the inhouse training?

MS. TANENBAUM. I don't personally do it; the training group does.

COMMISSIONER SALTZMAN. It is tracked?

MS. TANENBAUM. Yes, it is.

COMMISSIONER SALTZMAN. Do you have any statistics on promotion that results—

MS. TANENBAUM. I don't have any available with me today, Commissioner.

COMMISSIONER SALTZMAN. Can they be made available?

MS. TANENBAUM. It is going to be very difficult to do so. As I explained to Mr. Schwartz when he came into see me and spend some time with me,

we are in the process, and part of it is an effort to do a better tracking, of changing over our personnel system on a computerized basis. I appreciated Mr. Quinn's comments; it is hard to go through 2,400 or so personnel files. We are not in a position at the moment to do it. We hope that after the first of the year to be able to do it once our HRIS system gets up to speed; but we are in a transition period now and, no, it is not available at this moment.

COMMISSIONER SALTZMAN. Do you have any idea of how much the company expends for inhouse training?

MS. TANENBAUM. I could probably get that figure. I do not have it available. I was not asked to bring that data and since training does not report to me, I don't have that information on the tip of my tongue.

COMMISSIONER SALTZMAN. Could you possibly get that figure for us and submit it in the record at this point?

MS. TANENBAUM. I would be happy to, you know, to go back and get the aggregate figure. We do various types of training. We not only do the fabrication operator training, but we do other forms of developmental training. We have a corporate training department as well as a fab training group, and I will attempt to get from both groups a figure for you.

COMMISSIONER SALTZMAN. I think if you and Ms. Williams could provide that kind of information, we could get a feel for the inhouse training.

CHAIRMAN PENDLETON. Before I pass it to Commissioner Ruckelshaus, on that same point, it would be important, I think, to some of us if we knew the cost, if you could break it down to know the cost of training per trainee. It depends upon what the job classification is; and the reason why I'm asking that is because I'd like to know some similarity between the cost of training for that and the cost of training for taxpayer-supported training, either in the CETA [Comprehensive Employment and Training Act] program or in the public institutions.

MS. TANENBAUM. I cannot promise that we can do that, but we will certainly try.

CHAIRMAN PENDLETON. I would like to know some kind of comparative figure there because I see we're going to have some people from CWETA [California Worksite, Education, and Training Act], and I think the cost for placement is \$2,500 per person. And maybe it isn't the same kind of training or that, but it's got to be some kind of average cost for a trainee for the kinds of things you do. We would like to be able to compare that with what is being paid for on the other side of the ledger. If you cannot, okay, we're just raising the question.

MS. TANENBAUM. I will try to get that information for you.

COMMISSIONER SALTZMAN. May I ask just one more question. I'd like to ask Mr. Bacon a question. Mr. Bacon, do you think that the unionization process—which I believe is rather limited in this field, if I'm right, is that so?

MR. BACON. There are no recognized unions in the semiconductor industry at all.

COMMISSIONER SALTZMAN. Well, is the unionization part of the obstacles to minority employment? Is there any relationship, do you think, between the effort at unionization and hiring of minorities in advanced positions and, if you do think so, can you expand on it?

MR. BACON. I think that the lack of opportunity for production workers to advance themselves in electronics is one of the major motivating factors which gets people to think about the need for organization and unionization within the plants because of the fact that there is no training that's available for people in any real way right now. The fact is that the promotions from the production line into higher skilled positions is done on a totally arbitrary basis by management. There is no seniority provisions, no provisions that allow for objective and fair determination of somebody's skill levels or that allow people to be promoted on the basis of their time spent at the plant. All those things are motivating factors that drive workers to think about unionization.

I think also it is interesting what the response of the companies within the industry is when workers began talking about the question of discrimination in the work force and the lack of advancement opportunities and the existence of discrimination within the plants. And the attitude taken by the companies within the industry is to refuse to admit that discrimination exists. They refuse to recognize it. They refused to talk to workers about it. And where workers have been insistent on this and tried to, for instance, file suits with the DFEH, where workers have attended complaints hearings like the recent human relations hearing, and where workers have tried to organize unions in order to break open the doors into higher skilled categories to minorities and women workers on the bottom, what's happened is that the companies' actions have been retaliatory against workers.

Electronic companies in our valley have a long, 15-year history of firing people for union activity, firing people for speaking out against discrimination in the plants, firing people for filing complaints with DFEH, EEO, as well as other Federal agencies responsible for monitoring workplace conditions, and this is—I remember the remarks of the woman who was on the previous panel about the need to look at companies where there are no complaints. And I think what she's speaking to is something that's also very important to look at, too, and that is the level of fear that exists within electronics plants towards changing the kinds of conditions that exist there; that it is the general feeling among workers, for instance, that to speak out is a very risky business. I would just ask you how many workers do you see in the audience here? How many workers?

CHAIRMAN PENDLETON. Mr. Bacon, I think you're answering well, but this is not going to be a platform of why we should or shouldn't organize. I

think the question that he's asking you could be narrowed a little bit up in the answer and what I would do—I think if there are some things that other panelists want to write to us in response to that part, that's fine. But I will ask you not to continue in the vein that you're continuing in, but to try to be more narrowly responsive to Commissioner Saltzman's questions.

MR. BACON. You know—please excuse me if I wasn't being as directed in my answers as I should be.

CHAIRMAN PENDLETON. The problem is, yours gets on the record and that becomes a part of the record, and we don't have time for that kind of rebuttal here. I would like to hear something from the other people, and I'm asking them to write. But I don't want to leave the record cluttered. But if you have something specific to put in writing, you can send that to us. The time for that is not here.

MR. BACON. I also would like to point out one further thing in relation to this. That is that it is very difficult for workers to obtain specific information which speaks to the patterns of employment within the industry. In other words, for instance, workers have no access to the EEO-1 reports by any company. When we have requested them—our union committee has requested these reports—we have been denied both by the companies and by the Office of Federal Contract Compliance on the basis that the composition of the work force in the electronics industry constitutes a trade secret and that companies would be giving other companies a competitive advantage by publicly releasing the statistics on the composition of the workers in their plants.

Workers know from their own personal experience that discrimination exists in the plants. All you have to do is go to work there and see the women and minorities on the bottom and the men on the top, and you know what's going on.

CHAIRMAN PENDLETON. I want to ask you just one more time if you could confine your response more narrowly to Commissioner Saltzman's questions, we'd appreciate it. I think we're getting into territory here that is not within our purview, and we would appreciate if you got that information to send us, that part is fine, but we have no room for the other side, and this is not going to be a union-nonunion debate.

MR. BACON. My understanding of Commissioner Saltzman's questions was what relationship the composition of the work force and the plants and workers' perceptions of discrimination had to do with the effort to unionize in the plants, and I'm trying to describe some of the obstacles that face workers in trying to correct the discrimination that they perceive exists.

One of those obstacles is simply the lack of information. The fact that there is no—that the workers are denied by the companies and by those Federal offices that are responsible for compiling and collecting that

information are denied access to it, so all we can tell you is what our general perception is.

In other words, it is very possible for Ms. Tanenbaum to give you a long, beautiful report with all kinds of statistics in it. We haven't seen it. We haven't any statistics from AMD [Advanced Micro Devices], and I'll bet if we went to Ms. Tanenbaum, if we asked her for the EEO-1 reports, we wouldn't get it.

CHAIRMAN PENDLETON. Thank you for your answer. Can we move on? Commissioner Ruckelshaus.

COMMISSIONER RUCKELSHAUS. Yes. I have some questions. What are the qualifications—I'm unclear about what the qualifications are—to become a member of that category known as the technician??

MS. TANENBAUM. You are addressing your question to me?

COMMISSIONER RUCKELSHAUS. Yes, ma'am.

MS. TANENBAUM. I'm sorry. There are a variety of technicians. Mr. Bacon is absolutely correct about that; we have technicians who deal with particular machinery; we have technicians that deal with computers; we have technicians that deal with chemicals. It depends on the type of technician. The requirements vary. For someone to be available to work on a highly sophisticated computer, one has to have quite a lot of expertise.

COMMISSIONER RUCKELSHAUS. If a person were coming to your company and they wanted to enter at the level of a technician, they would have to prove prior experience, or could they possibly be hired with no experience?

MS. TANENBAUM. They could not enter with no experience. They would have to prove prior experience or come out of the technical-training schools or out of the CWETA program or some job training program.

COMMISSIONER RUCKELSHAUS. So you don't provide that training?

MS. TANENBAUM. We do some of that inhouse. And indeed, we are in the process of drafting a contract with San Jose Community College and CWETA to do upgrading of our operators to technician positions.

COMMISSIONER RUCKELSHAUS. You are currently?

MS. TANENBAUM. We are entering into a contract. It has been decided, but we have not done that in the past. We have looked to the outside and other training institutions to provide and other companies to provide skilled technicians.

COMMISSIONER RUCKELSHAUS. So you believe it would be possible for an operator to be trained to become a technician?

MS. TANENBAUM. Absolutely.

MS. WILLIAMS. We've done it in our company. As a matter of fact, we had one of the more successful training programs that we did in conjunction with the CETA. We brought people from the outside with the CETA training program, and as a result we trained the people to be technicians. You can get technician training either from the Armed

Forces—which is one of the best technician trainings there are; you can get it from some of the local community colleges, some often specialized college houses. And you can also come into some of the areas as a low-level technician and, through on-the-job training, be able to get yourselves qualified to some of the upper level technician positions. Some of them are just like the skilled crafts in that you need to be like an apprentice.

COMMISSIONER RUCKELSHAUS. I can understand that when we are talking about something quite specialized, there seems to be a problem with vertical movement between those two categories, and since the proportion of one sex and other are so disparate, I wondered why it wasn't possible to have inhouse training. If you're about to do that, then it is possible to do it?

MS. WILLIAMS. Yes. And it is done. And like I said, the women are now beginning to migrate into the technician classifications.

COMMISSIONER RUCKELSHAUS. Do you have any statistics on that? How many women have you trained who have moved from your operator categories into technician?

MS. WILLIAMS. The number? I think that in both the classes that we ran, over 50 percent of the class was female by design, so they're starting to move into that. We're seeing the women—because all of our jobs are posted prior to the time they are filled—we are finding the women are bidding on the jobs and going into the jobs on their volition, wanting to get into the area.

A lot of the things that have to be broken down, and if you speak to some of the employees, in their own mind, sometimes they see the technicians as men jobs and the operator jobs as female. We're seeing that beginning to break down in the minds of the employees, and more of them are starting to try to participate in the technician classes.

COMMISSIONER RUCKELSHAUS. You just said something very interesting. You said the composition was 50-50 by design, which indicates to me self-consciousness on the part of management to try to address this disparity between—

MS. WILLIAMS. Oh, indeed.

COMMISSIONER RUCKELSHAUS. —persons in those two categories, so that's working.

MS. LINCOLN. May I respond to that?

COMMISSIONER RUCKELSHAUS. Yes.

MS. LINCOLN. Perhaps I misunderstood one of the earlier questions and didn't give you a full description of some of the things I'm involved in that I think would be useful for the Commission to hear about, especially since I don't think the Commission brought me all the way from North Carolina just to give you a plug about what my company does.

One of the projects I'm working on now is designed to help low-income women become trained for jobs in the electronics industry, and after being

trained, being placed into jobs to help them get promoted; in other words, looking to find ways of getting low-income women into jobs that have a career potential that will get them beyond an assembly line job or beyond a low-skilled operator job.

Some of the things that we are hoping to do are working with the department of community colleges as well as local employers to design a program that would do just that. We are trying to work with established systems, established mechanisms. We are not trying to separate and free—trying to create a free and independent and costly training program but, rather, work with the department of community colleges that currently does most of the training for the electronics industry in North Carolina.

What we are attempting to do is to overcome some of the problems of access that low-income women have, access both to education and training to begin with, access to getting the jobs after they've been trained, and then access to promotion after they've been on the job.

What we are finding is that it is necessary to work with employers as well as schools, as well as the clients themselves. The reason I spoke up was that someone was making a comment about women have to understand that they can be managers, that they can be technicians, and they have to see themselves in that position. This is something that's especially true for low-income women in North Carolina.

Low-income women tend to have worked in farm-related operations, clerical operations, domestics; they may have been sewing machine operators in our textile and apparel industries. They are not well versed in the kinds of jobs that even exist in high tech although we, as a State, are actively recruiting a lot of high-tech industries.

They don't know what's expected of them in those kind of work situations. They've never had the opportunity to think of themselves as being supervisors. They've never thought of themselves as being able to handle electronic equipment.

On the other hand, there are other situations, too, which limit the access low-income women have to training and to jobs. Training, for example—everybody here says that education and training is the answer. If you're educated, if you've got experience, if you know how to do it, you can get a job. How does a low-income woman get educated, get trained?

In our State we have 58 community colleges and technical institutes spread across the State in such a way that 95 percent of our population lives within 30 miles of a technical college or institute. But if you don't have a car, 30 miles can be a long distance. We have a situation in my county where our technical school is located in the southeast portion of the county, and yet the majority of our low-income people live on the other side of the county.

There is a problem of transportation. There is a problem of day care. There is a problem of recognizing, indeed, yes, you can make it in this job,

and, yes, indeed, there is a good salary attached with this job. And I would submit that those are the kinds of things that we all ought to think about in terms of how we can get increased numbers of low-income women and minorities into any business, be it high-tech or any new and expanding business.

One final comment and I'll get off my soapbox. Our project is working with high-tech industry because we see that as the opportunity. It is the one area in our State where we know there are going to be new and expanding jobs. There is a real opportunity to work with employers who want to try and up the numbers of females and minorities that are in their industry work force.

If we were running the same project in Texas, we'd probably be talking about putting women into jobs in the petroleum and gas-producing industries, but the concept is you have an opportunity when you have a new and expanding industry to find jobs for women and for minorities, and high tech is our opportunity in North Carolina.

COMMISSIONER RUCKELSHAUS. Thank you very, very much for that response because it really broadens the discussion from, "You ought to be hiring more," to "We're hiring everybody who is ready to help us." It is really a support system, and there has to be an awful lot of extension on both sides to make this kind of manageable. It was very helpful for you to put that on the record.

Ms. LINCOLN. Thank you.

COMMISSIONER RUCKELSHAUS. Mr. Bacon?

MR. BACON. First of all, I think there is one point that hasn't been brought out, and that is that the composition of the production work force in electronics, the fact that 75 to 80 percent of the production operators in electronics are women and that the majority of those workers are minority workers. First of all, this is being characteristic of electronics from the start, from the beginning of the industry, and I think by looking at the reasons why the composition of this work force is the way it is in electronics gives you some hints as to why vertical movement is so difficult.

Basically, to maintain a production work force with this kind of composition is very profitable. When we say that women in the United States earn 59 cents for every dollar that a man earns, what we're saying is that if, for instance, the production work force in an electronics plant consists of 80 percent women, what we're talking about is a work force that the companies can pay substandard wages to.

It is no accident that the production wage in electronics plants is \$5.50 an hour, more or less. If you move over to an electrical plant, steel mill, a mine, another assembly plant, another plant of this kind, the wage for production workers is far higher than this. Consequently, it is in the interest of the companies to maintain the composition of the work force in

production the way it is because they are making money by doing that. Now, this means that the companies do not necessarily have an automatic vested interest in promoting people from the production line. That economic interest does not exist.

Now, in order for workers to—the companies say, “Well, it is possible for people to take advantage of outside education and better themselves.” But when you begin taking a look at who is working on the production line, it is very difficult for most women who work in a production job to take advantage of education outside of their normal work hours.

Most women, as we know, work two jobs; they have a job they work at in the factory, and they also have the job they work at at home. Most women in electronics are women with families. They are either the single supporter of their families or they are working as part of a family in which a husband also works, and what this means is that when women get off work, they have to go home and take care of the business of maintaining their households.

To simply say, “Well, why don’t you go to school? Why don’t you better yourself? Why don’t you go to college and get yourself some training and education?” is not really very realistic. It is sort of the company trying to shift the burden of training that’s necessary to get off the production line onto the backs of people who have the most difficult time getting access to that training.

For the company to say, “We’ll pay the cost of the tuition. We’ll pay the cost of the books,” okay, that’s nice, but that’s not the major obstacle. The major obstacle isn’t the cost of tuition and books. It is time; it is money; it is who is going to take care of the family. It is not true that the companies let people off the production line during production hours to get inhouse training. This is not something that happens in an electronics plant.

When you go to work on the production line, you stay on your production line all day. You don’t have access to go and take classes. The only classes that we know of at Signetics—from the experience of our union members—for instance, that did take people from nontechnician jobs and train them to be electronics technicians have one woman in them, not 50 percent. Now I don’t want to say that we know all that there is. This an indication of another problem and that is, workers in electronics plants are not told what training is available. Training is handed out on the basis—

CHAIRMAN PENDLETON. Mr. Bacon, you are taking us way far afield and let me make an observation—

MR. BACON. You invited me here in order to give you the benefit of some expertise on the experience of workers on the production lines. As far as I know, I am the only production worker who testified at your hearing today, and you’ve had company and industry representatives up here for a day and a half.

CHAIRMAN PENDLETON. I can only say to you that, Mr. Bacon, if you do not want to abide by the rules that we are going under, we can handle that. I can say to you that if the complaints that you are talking about—this is not a hearing to defend anyone. We selected our witness; we subpoenaed people here; that's within our control. The number that you're talking about, that's another issue.

The record will be open for 60 days, and I would suggest to you, if there are comments, that you write them to us, as will other panelists on this panel or other panels, and that will be a part of the hearing record. But in no way here do we want to get into the issue or the kind of defense you set forth. That's just not why this hearing is set up, and I would ask that we move on to the next question, if we have one, from Commissioner Smith.

COMMISSIONER RUCKELSHAUS. I just would like to thank you for your contribution, Mr. Bacon. Okay.

VICE CHAIRMAN SMITH. Ms. Lincoln, thank you, because that was going to be one of my questions that you expand a little bit on the project that you are involved in. And I think the directness that addressed the problem in coming to grips with it—because that's the opportunity in North Carolina—and also in some of your testimony about providing role models for women who maybe have never thought they could be involved in high-tech industry at all.

Coming then off of that, I see a need to provide role models—also, for women that are not operatives—giving them a view of what, of the opportunities that do lie to move into the higher areas of this industry. And I would like to have some discussion, either from Ms. Tanenbaum or Ms. Williams—or the other two, if you feel that you have something to contribute here—about any efforts that are being made either in your area or that you know of to persuade women that it is necessary for them to indulge in more training in math and science. And do you participate yourselves, or do you know of people that do in, say, career days or in communications or in public relations, that are saying to women and to minorities, “You can make it in this area, but there are certain things that you must do.”

I understand that I cannot be a technologist or that I can't be a scientist, because I haven't had that training; but if somebody had told me soon enough I might have been able to accomplish that. What's being done in this whole area to open up this industry—which we all agree is the wave of the future—so that 10 years from now you won't be discussing the same problems we are discussing today?

MS. TANENBAUM. Well, I am personally involved with several women's networking groups both outside of the Advanced Micro Devices and, for that matter, inside of Advanced Micro Devices. We as a group—and I personally do a lot of speaking to high school, young women, primarily, because I've had concerns in the same area. I have a daughter who is a

freshman at San Jose State. She's, albeit not withstanding my wonderful counseling along the way, eschewed math and science and stopped taking these courses when she fulfilled her minimal requirements. I have been very upset personally about that and upset because I think what women frequently do in their high school years is to cut themselves off from the potential to go on into these fields. Not that they necessarily have to, but that they, by stopping taking the math and science very early on before they really know whether or not they are interested in those careers, later on make it very difficult for themselves to get back in track and to go on to it. So I personally—and through various networking groups that I belong to and through women engineering groups, of which there are some very strong chapters in the valley—there are a lot of groups speaking within the high school systems here in an attempt to address that problem.

It doesn't get to everyone, unfortunately, but it does begin to. Before I give the mike over to Judy, I would like to make one very brief statement for the record. It is one sentence.

CHAIRMAN PENDLETON. I wish you could because we're a half-hour late so far.

MS. TANENBAUM. Can I say it—because Mr. Bacon was given a lot of time and made several pointed comments to me that on behalf of Advanced Micro Devices—and for the record, I think Mr. Bacon's statement were polemics and we do not agree with them. That's all I wanted to say.

MS. WILLIAMS. I'll be quick, too, because, in addition to the things that were just said by Ms. Tanenbaum, I get the advantage of working one-on-one with a lot of women. We'd be foolish to assume that, in and of itself, a whole lot of things were going to change. One of the greatest things in working with the integrated-circuit companies, for the first time we could accept a lot of entry-level people.

With a little bit of training, with a little bit of perseverance, we can give people a marketable wage. Bear in mind, a job sometimes isn't all the answers. There is problems at home. There is transportation. There is child care. There is abandonment by their husbands. It's trying to work with them day in and day out to keep them hanging in there. Their skills are deficient. Trying to say go upstairs in the training center to start learning your education—it starts problems at home. It causes sacrifices. Susan and I both are sitting here and both of us are examples of sacrifice. You have to make some choices. Is it home? Is it career? Is it family? Sometimes there are very gripping things.

It's not as simple as we are trying to make it sound on this panel. I only wish we had more time to go into the very specifics—the human lives that we see on a day-to-day basis and how hard it is to succeed. When does a company end? Where does a person start off? How do you make up for all that back time when they don't know how to work. They don't know what

to work. They don't know what to do. Trying to give the back education, trying to give them the drive, trying to give them the ambition, trying to give them the role models, trying to tell them it's right there if you want to try for it. Just before that happens something happens at home and you lose that person. In employee relations, you go through constant cycles. You hope you win them, but you lose a lot of them, and it's through things that you give it your college try. You do the best you possibly can, and sometimes it is just bigger than you are.

Yes, integrated-circuit companies or high-tech companies are the wave of the future because it gives you the opportunity to bring people in in good times when it would be characteristic to have 500 open regs. And the only criteria you need to have is you can breathe and think to come through the door. And yet we still lost a lot of people because it is bigger; some of the problems that still exist in this society are bigger than we are. Yes, we're trying. We're doing all we can. Maybe it is not fast enough, but there is a lot of us who—a lot of people out there, a whole lot better with skills—they could walk across the street during a lunch hour and bargain for 25 to 50 cents more per hour. In 1980 lunch hours were a big risk because they could go across the street to a competitor and put themselves on the open market and increase their salary in ways that you never believe possible. And it exists even today. Our people are tremendously valuable, tremendously valuable. It costs us over \$5 million a year in turnover alone.

It behooves us to look at these things, to make sure you have grievance procedures, to make sure that you treat your people well. We cannot afford not to, and it makes good management sense the way we teach it to our managers and to our investigators. I think it is the wave of the future.

Ms. LINCOLN. May I add one comment? Sometimes there are little things that could make a lot of difference. In terms of, for example, just trying to get a job and get started in high tech or something else, the people that we're working with from a poor, rural background can easily be intimidated simply by the interview process. Even though they may have some coaching and some training prior to going to that interview—they are told what to expect, what kind of questions may be asked, and how to present oneself. Suddenly being thrust into that situation, being interviewed by somebody in our State, for example, who may be coming from the North, may be wearing a three-piece suit, and all of a sudden firing some questions at a black woman who has only worked as a sewing-machine operator previously, that can be intimidating and she may not get through the interview.

There are other things that may act as discouraging factors. If employers require certain testing levels on the GATBY [general aptitude test battery] test or other aptitude tests, if women and minorities are not scoring high on

those tests, they may not even get to the front door to get interviewed. And those are things that employers can do to help in that regard.

If consideration can be given to what kind of background a person is coming in with or whether they can, how they function on the interview does, indeed, have a relationship to how they will perform on the job once they are a little bit more comfortable with the situation they are in—whether having a 90 or an 80 on a GATBY test really is a fair measure of how they will act once they were put into a job situation, these kinds of things need to be recognized.

COMMISSIONER RUCKELSHAUS. What kind of test is that?

MS. LINCOLN. The GATBY test is a general-aptitude, battery test that is often given. It's a widely accepted, standard, aptitude test that measures skill in such areas as numerical areas, verbal areas, and whether you have good spatial relationships.

MR. ALEXANDER. Is that in North Carolina that that test is used frequently?

MS. LINCOLN. It is used very often in North Carolina, but I assume it is used elsewhere. It is not a North Carolina test.

MS. TANENBAUM. It is not generally used by industry at all in these areas. There are no entry-level tests, a paper and pencil test, in the semiconductor industry in Silicon Valley.

MS. LINCOLN. What it is used for in North Carolina, for example, is—the employment service commission is used often as a recruiting device for high-tech businesses. And they may put the order to the employment service commission that they would like to interview candidates who scored *X* percentile or above on the GATBY exam. If the percentile that they quote is low enough—such as GE who has been one of the better employers—saying they want people who score above 60, that means a lot of poor people, a lot of disadvantaged people can get in, but if, on the other hand, the order comes down, “I want to interview candidates starting with ones who got the highest score and working down,” you can see how some of the lower scored people will never even get to interview in the first place.

I'm not saying that employers [don't] know what they're doing when they are using that nor know the effects; but I'm just saying it does have an effect, and changing the procedure that GE has used in our area could make a big difference.

CHAIRMAN PENDLETON. I want to thank you very much for—

MR. BACON. Could I make a final remark? Everybody has had the opportunity to make a final remark.

CHAIRMAN PENDLETON. We're through.

MR. BACON. I would like the opportunity to take—

CHAIRMAN PENDLETON. We're through. We are half an hour overdue. You can make it in writing, Mr. Bacon, to us.

MR. BACON. I question the bias of this Commission, Mr. Pendleton. It seems to me you're much more anxious to listen to the industry than to listen to the workers who work in it.

CHAIRMAN PENDLETON. Thank you. Next panel can assemble after a 5-minute break.

[Recess taken at 10:34 a.m. and reconvened 10:42 a.m.]

[Mary N. Rogers, Charles Harris, and Sylvia Gerst were sworn.]

TESTIMONY OF MARY N. ROGERS, PRESIDENT, SAN FRANCISCO BAY AREA SECTION OF SOCIETY OF WOMEN ENGINEERS; CHARLES HARRIS, PROGRAM MANAGER FOR EQUAL OPPORTUNITY, IBM GENERAL PRODUCTS DIVISION; AND SYLVIA GERST, CORPORATE MANAGER OF AFFIRMATIVE ACTION PROGRAMS, HEWLETT-PACKARD COMPANY

CHAIRMAN PENDLETON. Let the record show that Mr. Green is enroute and we hope that he makes it.

MR. ALEXANDER. Starting with Ms. Rogers, will each of you introduce yourself, your full name, title, and city of residence?

MS. ROGERS. I am Mary N. Rogers. I live in Los Altos, California. And I am president of the San Francisco Bay Area section of the Society of Women Engineers.

MR. ALEXANDER. Thank you. Mr. Harris?

MR. HARRIS. I am Charles Harris, program manager for equal opportunity, IMB General Products Division. I live in San Jose.

MR. ALEXANDER. Ms. Gerst?

MS. GERST. I am Sylvia Gerst, corporate manager of affirmative action programs at Hewlett-Packard Company. I live in Santa Clara, California.

MR. ALEXANDER. Ms. Rogers, you yourself are a professional engineer; is that correct?

MS. ROGERS. Yes, I am.

MR. ALEXANDER. And could you tell us a little about the Society for Women Engineers and why it was formed and what its objectives are?

MS. ROGERS. It's a national organization that was formed in 1949-50, and the objectives are to help young women, their parents, their teachers, counselors, to understand that there is a place for women in engineering, to help women who have been out of the work force for a period of time to get back into the work force, to help women engineers achieve their fullest potential as professionals, and to gather statistics on women in engineering.

MR. ALEXANDER. The purpose of this panel this morning is to look at the issue of career advancement for professionals and technical persons within the industry. And as I understand your organization, it has been tracking that issue as it applies to women engineers and both the successes and perhaps some of the problems that exist. Could you briefly give me an

idea of what we see for females in this industry with respect to upward mobility for professional women?

MS. ROGERS. I feel that what we see is you're better off being an engineer than not being an engineer if you are a woman. You are better off on the West Coast than most other places if you are an engineer.

I think there are opportunities for upward mobility. I think a lot of companies have very good programs. How they are implemented seems to vary quite widely. There are a lot of excellent programs on the books in various companies that are implemented differently with different results.

In a lot of cases, it simply comes down to—depending on who you work for—who is your immediate superior, how well you do. Large companies are different from small companies.

MR. ALEXANDER. How so? In the area of upward mobility?

MS. ROGERS. Small companies are either just getting started—so busy they haven't time to do anything but get the job done. And there is no discrimination under those circumstances.

MR. ALEXANDER. Did you mean that there is no affirmative action or did you mean that no discrimination occurs? I am not sure what you meant.

MS. ROGERS. Some of our members work for small companies where there are problems. They are so new and so small that they don't seem to understand that there is anything they are doing or should be doing. But basically women engineers are pretty well off, simply because they are doing the job.

MR. ALEXANDER. As an overview sense, are there additional barriers with the process that you have already identified that need to be addressed for progress to continue to be made within the engineering field, the high-tech field, in the bay area peninsula?

MS. ROGERS. I hope I answer your question. I feel that there is a continuing need for some kind of pressure to make sure that there is no discrimination. I think very often managers are perfectly happy with the status quo. It is working for them and it is, therefore, necessary to keep up the pressure.

I believe it was 1972 when things started changing. I heard that there were no women to promote. Well, that's not true. We were here in 1972, also. We suddenly started getting the advancement and the upward mobility at that time, and I think it had to do with legislation.

MR. ALEXANDER. Federal legislation that you are referring to?

MS. ROGERS. Yes.

MR. ALEXANDER. Okay. Mr. Harris, could you briefly describe to us your corporate policy with regard to affirmative action and upward mobility?

MR. HARRIS. Yes. I have a prepared statement I would like to read into the record.

MR. ALEXANDER. We would like to have it submitted for the record. Could you briefly summarize it?

MR. HARRIS. IBM's commitment to equal opportunity is exemplified in the policy statement of the chief executive officer that IBM will not discriminate for any reason—race, creed, sex, national origin, age, or handicap. Equal opportunity is the goal for every employee in IBM.

Now, we will take affirmative action [steps], internal and external, to ensure that all protected class persons are given the opportunity to succeed.

MR. ALEXANDER. Ms. Rogers indicated, and our statistics indicate, there is variance from corporation to corporation, and that sometimes there is excellent corporate policy on the top, but there is an implementation problem, sometimes, throughout the organization. What specific steps does your corporation take to make sure that corporate policy is carried out in the area of affirmative action throughout the line?

MR. HARRIS. The chief executive officer annually prepares a statement which outlines management's responsibility to make sure that in every area—recruiting, advertising, training—that managers fulfill their responsibilities as outlined in the corporate policy statement, and managers are appraised on their equal opportunity performance as a separate line item.

MR. ALEXANDER. Are statistics kept, company-wide, on the progression of women and minorities?

MR. HARRIS. Yes, they are.

MR. ALEXANDER. Do we have them from you in your prepared data?

MR. HARRIS. I have a brochure here outlining the statistics for the company.

MR. ALEXANDER. Ms. Gerst, could you respond to the same question I asked Mr. Harris as to the corporate policy and how it is implemented?

MS. GERST. Yes, and I also have a prepared statement that I would like to enter into the record.

MR. ALEXANDER. We will receive it.

MS. GERST. I will submit a copy of it.

MR. ALEXANDER. Thank you.

CHAIRMAN PENDLETON. We will receive both your statement and Mr. Harris' statement for the record.

MS. GERST. Reading from my statement, one of the corporate objectives of the company—which was founded in 1939—talks about our people, and the commitment to develop our people and to bringing good people into the organization.

With regard to affirmative action, I would like to read exactly what that objective states: "There is a strong commitment at HP to the concept of equal opportunity and affirmative [action], not only in hiring but in also in providing opportunities for advancement. Advancement is based solely upon individual initiative, ability, and demonstrated accomplishment."

Since we promote from within whenever possible, managers at all levels must concern themselves with the proper development of their people and should give them ample opportunity through continuing programs of training and education to broaden their capabilities and prepare themselves for more responsible and desirable jobs.

With regard to the second part of your statement requiring we talk about implementation of our affirmative action policy, we have three specific things I would like to enter into the record: One is a company-wide, affirmative program workshop which all management and all supervisors and anyone who has responsibility for hiring or interviewing is required to take. It is a 3-day-long workshop, and what it does is gives managers specific tools for analyzing their work force. It shows them how to attempt setting goals placed on their work force structure, and it looks at implementing any corrective actions that need to be taken and how to develop outreach programs within any facility.

The second thing that we have done—and this is fairly recent but it is probably one of the most innovative things our company has done—is to look at three, professional-development workshops which take into consideration the participation of women, Hispanics, and blacks in the organization at a professional level. This workshop is one that is totally developmental and personal from the standpoint of the employees and deals with organizational types of issues.

The third thing that we feel is very important is a reward and evaluation system of managers and supervisors with regard to their affirmative action kinds of activities. This is also, as with IBM, a separate line item on their development evaluation which is yearly, and they are compensated according to the kinds of affirmative action activities that they themselves decide to do.

MR. ALEXANDER. How long have you been with your company, Ms. Gerst?

MS. GERST. Ten years.

MR. ALEXANDER. Have you been with the affirmative action program all that time?

MS. GERST. I have been with it 5 years.

MR. ALEXANDER. You've been with it for 5 years, so you are familiar with its history?

MS. GERST. I am familiar with the progression through the years. As part of our attendance here today, I would like to provide to all the Commissioners some information which I feel would really help you in deciding what kind of a company we—what we are all about, and what we are trying to do.

CHAIRMAN PENDLETON. The items will be accepted for the record gladly. Let the record so note.

MR. ALEXANDER. The company, I assume, adopted its affirmative action policies and program sometimes in the early seventies; is that correct, in a full sense, Ms. Gerst?

MS. GERST. Yes, we had probably our first formal statements issued in the late sixties, early seventies, and they dealt with the objective of our people and how our whole system at HP is based on merit.

MR. ALEXANDER. Okay. Starting in about 1970, at that time could you tell me what number of women managers existed within your company??

MS. GERST. I am afraid I brought no data. I asked Mr. Schwartz a couple of times and it was decided that I didn't need to bring any data—and I wasn't with the company in 1970, unfortunately.

MR. ALEXANDER. Well, let's go to 1975. Do you have an idea of about what proportion, in the area that we are speaking, of upward advancement positions were occupied by women 5 years ago?

MS. GERST. Yes, I do have this. Hold on just a minute. How about 1977?

MR. ALEXANDER. Fine.

MS. GERST. Okay. In 1977 Hewlett-Packard had 9,000 women employed. In this year, 1982, we have 20,000 women employed. We also had 3,300 minorities employed in 1977 and we are approaching 9,000 minorities of a work force of 67,000 worldwide, probably a little over 47,000 nationwide.

MR. ALEXANDER. All right. And women, as professional managers within that category, has there been a growth over the last 5 years?

MS. GERST. There has been incredible growth for women and minorities, more so for women, but I think you will see that women were already in place in a lot of instances in the work force, so they were beginning from a different place. Yes, our annual report, which is entered into the record, will show those kinds of statistics.

MR. ALEXANDER. Do you think that such growth within the corporate structure that you say has been achieved in your company would be possible without an aggressive affirmative action program in place such as yours?

MS. GERST. Yes, I believe it would.

MR. ALEXANDER. Without your program?

MS. GERST. Yes, I do.

MR. ALEXANDER. Will you explain that?

MS. GERST. I would. In fact, I wrote a statement about it. Our affirmative action and equal opportunity employment are really built within the fabric and philosophy of our company. And I think the systems that are in place are looked at annually, and are, more than that, they are reviewed with regard to the bottom-line results that they get.

If we have statistics on hiring, we look at how those hiring statistics look, and we back up and we look to see if our system is, in fact, doing what it should be to bring in minorities and women. And upward mobility

kinds of issues are looked at in the promotional area. So we feel we are constantly reviewing those things out of my office. And at every facility—which I visit once a year—these kinds of self-audits are done as a means to further institutionalize the whole kind of concept of affirmative action. Because one of the ways that affirmative action and equal opportunity will survive is if it becomes part of the business plan, if it becomes part of the basic, daily way to do business. And unless it does—if it is an exception process—then you have a tougher time of implementing things because the priorities are different for managers.

MR. ALEXANDER. Before your affirmative action plan, were these priorities part of the business plan of the company or is it since your becoming involved in the affirmative action that you have now integrated this into your corporate system?

MS. GERST. I think what you're going to see is that it was always there; it was never formalized. We dealt with people on what they could do and how well they could do it. And we really didn't formalize that, I guess you would say, until the seventies. But that was always a kind of a founding and a company-wide effort.

MR. ALEXANDER. Mr. Harris, in terms of your corporation, I would like to ask you the same question.

MR. HARRIS. When IBM joined the U.S. Government's plan for progress in 1962, there were something like 1,250 minority employees—blacks, Hispanics, American Indians, and Orientals—and that represented less than 2 percent of the population in the company. Today, the total exceeds 29,000 minority employees representing over 14 percent of the work force as compared to the 2 percent in '62, and more than 20 percent of the 17,600 new hires in 1981 were minorities.

The role of women in IBM continues to expand. The company had some 10,000 women employees in the United States in 1962 or 13 percent of the work force. Today there are more than 49,000 or 23 percent, and more than 7,400 women were hired in 1981, which was about 42 percent of all the new U.S. hires.

We had 2,700 women managers in the U.S. last year, and there are over 2,600 minority managers; 470 of those minority managers were women, so I think the record—

COMMISSIONER RUCKELSHAUS. Do you have the percentages of those employed in those categories that correspond to the numbers you are giving?

MR. HARRIS. Yes. They are here, and I have it in a package that you can refer to to be entered to the record.

COMMISSIONER RUCKELSHAUS. Thank you.

MR. ALEXANDER. Mr. Harris, in terms of the second part of my question, would you say that this achievement has been part of the company's affirmative action program?

MR. HARRIS. As I mentioned, this is our 20th anniversary for affirmative action at IBM. We started with the plan for progress, and it has reached the level that it is today. Every manager in IBM is cognizant of his or her responsibilities, and they are rated on their responsibilities.

MR. ALEXANDER. So you feel you have made significant achievements under your affirmative action plan?

MR. HARRIS. Outstanding achievements.

MR. ALEXANDER. One of the programs I would like you to tell me a bit about is accelerated career development in the executive resource program.

MR. HARRIS. Accelerated career redevelopment program is a program designed, written—I wrote the program—to identify those women, minorities, handicapped, and Vietnam veterans that have the potential to progress at a rate faster than their coworkers. These individuals are identified. There is a development plan made for them, training experiences and assignments outlined, and they are followed by a high-level manager.

MR. ALEXANDER. I understand that you have statistics on the numbers of people that have been able to make advancements through those programs.

MR. HARRIS. No, I did not—I wasn't asked to bring promotional statistics on those individuals.

MR. ALEXANDER. Could you submit those for the record at a later point?

MR. HARRIS. If my counsel and your counsel can get together and agree on that.

MR. ALEXANDER. Fine. Okay. Ms. Rogers, I understand that your organization has done some survey of your membership to see what the experiences have been within just a range of companies. What in terms of actual reality do you find women experiencing as these programs develop?

MS. ROGERS. Well, it is a very informal survey.

MR. ALEXANDER. Yes, I understand.

MS. ROGERS. But what we have found, and what has been substantiated from beyond our membership, salaries of women do not keep up with their men equivalents with similar skills. This is from both the people who feel they are not getting the salaries and also from "headhunters" who can see that they are definitely behind the average. There is also a perception that varies from one company to another, depending on the company's policies, that if you are unhappy where you are, your only recourse is to move because any kind of formal complaint is a very black mark against you.

There are a lot of very good affirmative action programs. There are a lot of very good-sounding affirmative action programs that perhaps look almost identical to the ones that work well. They don't work well because there is no checks and balances on whether they are really being used.

MR. ALEXANDER. Checks and balances in what sense? What kind of checks and balances would you want to see?

MS. ROGERS. Well, an example would be two companies might have a similar type of program where you fill out a career plan; you are evaluated at the end of the year. One company will specifically rate management on how those two things track and how well that person is doing. Another company that requires the same or close to the same pieces of paper, they get filed; they get added up for affirmative action report totals, or something—I am not sure what—happens to them, and there is no progress, if there isn't very firm action from above so that the woman herself isn't having to point out discrepancies. Then you get into this, "You have to move if you are not being treated right"; move to another department or another company, whichever.

MR. ALEXANDER. In yesterday's testimony there was a fair amount of discussion about networking in the electronics industry as being an important component to advancement, that promotions are not always posted, that it's often in the discretion of managers and being in the system. Could you give me your views on that, Ms. Rogers, and how it affects women engineers? Or is it still a problem?

MS. ROGERS. Oh, yes. It's still a problem. There are several networks. There is the old boy network, and if you get a toehold in that, good luck; there is the women's networks, and they are very informal networks—I don't mean any club with a title, but just informal networks. They are very valuable as far as being able to help somebody new understand how the system in that particular company works.

As far as job postings are concerned—which I suppose are to get around the networks—again, there are many companies that have job postings which, after all is said and done, it all comes back to the old boy network anyway because they either—the job descriptions are written so that only one individual in the whole world might apply for that, or more than likely because, through the filtering selection processes, that's just the way it comes up.

MR. ALEXANDER. Ms. Gerst, in your self-analysis of your corporation to determine possible problems, do you identify networking as a possible problem that you have to design to overcome?

MS. GERST. For women or minorities, or both?

MR. ALEXANDER. For women or minorities and/or.

MS. GERST. Okay. And/or. Let me say that the whole issue of networking is a very general type of thing. It usually comes down to one person trying to get information and what are the resources that person knows about.

There is a great attempt within Hewlett-Packard to share information. One of the things we live on is more data and more information. That translates into the job bidding system, which is incorporated throughout

the company for all jobs, except perhaps the board of directors and the CEO. I would say for most areas of networking where informal types of systems seem to exist, people have access to them if they ask.

One of the issues that keeps coming up for women especially—and I don't mean to talk for all women, even though I am a woman—is that there is the old boy network and what do you do about that? Well, I am here to say that women should start talking with each other, understanding what kinds of things the organization requires, and in that way they can build their own network. They can also link up with men who seem to be mentors—but resources for them—so the networking is an individual effort when you need information. And I see people coming to me all the time, and all they need to know is what is the way and where about we show them.

MR. ALEXANDER. The other thing that Ms. Rogers pointed to—and we have heard from a number of interviews—is that even though there might be an excellent policy in existence, that managers, individual managers, will fail to follow that policy. What particular systems do you have to assure that managers are held accountable to the corporate policy in this area, if any?

MS. GERST. Well, as I mentioned before, each manager, as well as all employees, receive a performance evaluation yearly, and on the management performance evaluation there is a specific item of affirmative action and equal opportunity kinds of issues that their managers need to look at.

I have brought with me today a copy of the *Achiever Magazine* which our department puts out. This is an inhouse publication dedicated to communicating to all managers and supervisors throughout the organization—I am talking about 10,000 of them in some cases—the kinds of criteria that they need to be looking at for their managers. So we have developed a set of guidelines—and managers really like to, at least, be able to hang their hats on some kind of data—so we provided for them a set of criteria, if you would, that they could use for their management.

MR. ALEXANDER. Mr. Harris, would you comment on the two issues raised by Ms. Rogers?

MR. HARRIS. Yes. IBM has a company booklet—and I will provide a copy for you; there are three pages in there that outline to the employees their rights and IBM's equal opportunity programs.

In addition, we stress open communication within the corporation. Every company is aware of the open-door policy that if he or she has a concern about anything to include the management and/or lack of advancement, they can go to either their second-level manager, the personnel director, the chairman of the board, and these issues will be thoroughly investigated, and the employee will have the results of the investigation explained to them.

MR. ALEXANDER. Ms. Rogers, would you care to comment on those devices and their effectiveness, in general, as you understand them from the industry?

MS. ROGERS. Yes. Please remember the "in general" because—

MR. ALEXANDER. For sure.

MS. ROGERS. I have gathered information from all kinds of industries.

MR. ALEXANDER. All kinds of companies in this industry?

MS. ROGERS. Companies in this industry—well, several industries are represented, also. The booklets and the affirmative action workshops, if they are implemented, they work; they are not always [implemented]. Even if you have the booklet, even if you have the workshop, there is an undercurrent of understanding that, "Well, we have to do this, but it doesn't really count." It doesn't really matter in some companies.

There is a tone set, for example, at some affirmative action for harassment, or whatever, workshops that come along where, even if they are required for all management to take, there is an emphasis placed, for example, on how not to get sued rather than how do we do what's right. Pieces of paper with the latest on whatever the policy is in the company, if they are written with the tone that, "We have never done anything wrong, but we now have to do this because these people are complaining," invites backlash, puts the women or the minority on the defensive, makes the victim the one at fault, in effect.

There are a lot of companies with formal complaint channels that work. You know they work because the managers that have been complained against are moved, fired, or whatever the appropriate action is.

In other companies, all that happens is that that woman is never given another raise, never given a promotion. The word gets around and nobody even wants her in the next department. So it is very variable; it depends on who is implementing whatever nice rules have been written about a company.

MR. ALEXANDER. Earlier in your testimony you said that a necessary ingredient—at least I inferred that you said—a necessary ingredient for continued progress was pressure in this area. Whose pressure are you referring to?

MS. ROGERS. Governmental pressure. There are so many people that are happy with the status quo in the power positions that, if somebody isn't telling them this is what they need to do, "This is the law. If you don't abide by the law, there are penalties."

MR. ALEXANDER. Do you think that even a degree of progress that has been made to date could continue to be made if government pressure was reduced?

MS. ROGERS. Our perception, it has reduced and we are very worried about it.

MS. GERST. I guess I would like to comment on that, please.

CHAIRMAN PENDLETON. Excuse me. As a perception, what has been reduced?

MS. ROGERS. That Federal interest in making sure that laws are on the books are fully implemented is not as strong as it has been.

CHAIRMAN PENDLETON. Okay.

MR. ALEXANDER. Ms. Gerst, do you want to comment on that same question?

MS. GERST. Yes, I would like to say that, although there are some companies that Ms. Rogers may be talking about, most large companies—and I know I speak for ours—have gone far beyond any legal obligations that may exist for affirmative action and equal opportunity. That workshop that we are going to give you a copy of shows so many issues that go much further beyond what our real bottom-line obligation would be to hire and promote and develop minorities and women.

As an addition, I would like to quote from an AEA—that is the American Electronics Association—study survey that was done in 1981, last year. This was done at a time when economic conditions evoked generally conservative market perspectives. The survey showed that by 1985 the electronics industry would need an additional 113,000 professionals and 104,000 technical professionals, a combined total of over 55,000 electrical engineers and computer science engineers will be included in that number. That is one of the best reasons I can see that whatever the needs are in the future they will go far beyond affirmative action laws.

MR. ALEXANDER. Mr. Harris?

MR. HARRIS. Yes. I would like to direct the Commission's attention to the fact that IBM has had a program since 1971 which encourages employees to take a year's leave of absence to teach in the areas of engineering and computer technology, mostly in minority colleges, some female colleges and handicapped colleges; since the inception over 375 employees have participated in this program at more than 90 educational institutions, and another 500 have taken a year's leave of absence with full pay to work with organizations such as the Urban League, Junior Achievement, and others to help individuals get the training and skills they need to be successful in industry. So I don't know the generalized comments that she's made, whether they are applicable, but our company is doing much more than the Federal law requires.

MR. ALEXANDER. I guess the reason I asked, so that we're very specific here, 1970 is the point in time that Order No. 4 under OFCCP went into effect—late 1970—and that would be the starting point of major affirmative action requirements, and many of the programs that you've talked about have generated in this decade; is that correct?

MR. HARRIS. Since '62 in our company.

MR. ALEXANDER. Okay. Mr. Chairman, I have no further questions at this point.

CHAIRMAN PENDLETON. Very interesting exchange in questions. I just want to ask one preliminarily. Ms. Gerst, you made the point that affirmative action is a part of a good business plan.

MS. GERST. Yes.

CHAIRMAN PENDLETON. And you have given up some statistics and we have heard some other statistics with respect to the need for people in the industry—that's a generic term—in the future. How do we get minorities and women to accept your premise that affirmative action is a believable part of a business plan?

MS. GERST. Mr. Chairman, it has to be done by example. The only thing that makes sense is do we say what we mean and are we doing what we say. If you can't show that things are happening in your organization, they are not quite as credible.

CHAIRMAN PENDLETON. My other question, I guess, is to Ms. Rogers. Are there enough—is there a large enough pool of trained minorities and women to take advantage of the opportunities available for employment now and in the future?

MS. ROGERS. There are not enough engineers of any kind to fill all the jobs which is one [reason], I think, [that] 59 percent of offers to bachelor's degree candidates last year went to engineers; 10 percent of the degrees went to women; and I don't have any statistics on other minorities.

CHAIRMAN PENDLETON. Now, as a president of a responsible professional organization, what is it that this Commission can do to help enlarge the pool and at what point in the educational process does there need to be public policy intervention?

MS. ROGERS. I haven't thought about this question enough. Clearly, illuminating the problem is part of it. We in the local section have a very well-developed career guidance program. We get very good support from local industry for this—about \$30,000 last year, which is the best we have ever done—and we have about 150 members in the valley, 160. We feel that there is a place for government, for example, on the State level in increasing requirements for high school graduation so that everybody is better prepared for making choices when the time comes to make choices.

I think the whole educational system, whoever is responsible, that is, State government or local, needs to be upgraded and needs to understand where the need is for the future and what needs to be done to develop more people that are technically competent.

CHAIRMAN PENDLETON. Mr. Harris, I guess Ms. Gerst—a kind of a collective question—both your corporations pay a lot of taxes, corporate taxes.

MR. HARRIS. Right.

CHAIRMAN PENDLETON. And those corporate taxes are used to support the various public systems in this country. My specific question goes to the educational system. Would it not be important on your part from a public

policy point of view as major corporate taxpayers—not discounting the people who pay income taxes—but would it not be important that you somehow intervene in the public education system to see if it cannot prepare people with the basic skills much earlier?

I have talked about high school graduates in high school programs having some academic background. I happen to think that's a little late. When I go into shopping centers and I see youngsters at the electronics games machines and I read stories about youngsters in computer programming and so forth, it does seem to me that one of your focal points needs to be more than it does, or as much there, as it does in the inplant system or in supporting programs like Ms. Rogers is talking about. How do you feel about that and should there be some public policy suggestions from your point of view, particularly in here in the State of California where we concentrate our program dollars.

MR. HARRIS. I think that there is no question that we have to take and reemphasize or redirect the educational process, not only in California, but in the United States—with only 9 percent of graduating engineers going to the minority population, and about 5 percent of those being Oriental—and it is estimated that in 1985, 50 percent of the youth in the United States, 16 years of age and older, are going to be minorities—clearly, if they can provide only 9 percent of the engineers, we're going to be in deep trouble.

So our company has recognized a need to improve the educational system, and we have given social leaves of absence and faculty-loan leaves to mathematical institutions and mathematic institutes in New York City and other educational institutions where they are emphasizing math and science. We are trying to assist them with faculty people, and recently we have assigned to the University of California at Berkeley an advisor there to assist and advise students who want to go into engineering science programs. One of that person's responsibilities will be to get out into the community and act as a role model and encourage kids to take the proper courses in the lower levels of school so they can be prepared to get into engineering or science-type programs when they reach college level.

CHAIRMAN PENDLETON. Any response, Ms. Gerst, at all?

MS. GERST. Yes. I think when you look at where the openings will be in the future, you are talking about making a decision to take mathematics in the sixth grade. If a decision to go on into the mathematical kinds of careers and fields is not made at that point, 80 percent of the jobs in our industries will not be open to these people. So what we are about is trying to put our equipment in the high schools and junior high schools, and we haven't gotten down as far as the first grades. There is such a need to put them in the other schools—HP is one of the largest equipment givers in the United States and presently we are looking at putting a network of terminals and small minicomputers into the junior achievement kinds of programs and teaching one class in economics for, I believe it's high school

level children. So we are looking at trying to impact that whole area. It is not done simply, but if other manufacturers, other people that have the capability to take the instruments that we give and develop some programs for these kids, then the familiarization will translate up into the higher grades and they won't have as hard a time.

CHAIRMAN PENDLETON. I would just suggest to you, I somehow think that sixth grade is too late, and I somehow suggest to you that perhaps the companies that you represent, and all of the research that you do for the advancement of the field, you can certainly get in, probably think about some programs that could certainly interest our youngsters much below grade six.

MR. HARRIS. Some of the personal computers have been donated to kindergartens. There are plans afoot for our company to donate personal computers to the kindergarten level.

CHAIRMAN PENDLETON. I am sorry, Commissioner Smith?

VICE CHAIRMAN SMITH. Ms. Gerst, again back to the Chairman's reference to your statement that a good affirmative action program was part of a good business plan, would your interpretation of that be that it's part of the good business plan from the standpoint of public relations, image of the company, or is it vis-a-vis the profit line, the bottom line, or both?

MS. GERST. Ms. Smith, what I am talking about is the management responsibility of developing its people and also targeting yearly for what kind of things are going to happen in any level organization. That is done with capital equipment; that is done from a financial aspect; that is also done from a human resources and affirmative action kind of aspect, so that's what I mean about putting it into a business plan that it's all taken care of.

The bottom line certainly helps. The profit is our number one objective in the company. Without profit we have nothing, and some of the programs you have heard about today could not exist without the kind of profit that we need to make.

VICE CHAIRMAN SMITH. But you believe that—you are saying that—it does contribute to that in the sense that it contributes to a full and resourceful and profitable total business plan?

MS. GERST. Yes. You are talking about a very efficient productive kind of organization, one, for instance, in it's very specific—but the targeting process may only be done once during a year. But at that time that targeting process takes care of the whole organization and looks a year, 5 years, 10 years out so that whole process of getting people developed, bringing people into the organization and replacing those people and training those people that need training is done at that time.

VICE CHAIRMAN SMITH. Do you think that this philosophy and the activity that you are describing would have developed without govern-

ment emphasis as counsel described beginning in 1970 on affirmative action?

MS. GERST. Ms. Smith, it is continuing—and I guess by listening to Ms. Rogers—it is continuing in spite of the perception that there is a nonvisible attitude of affirmative action in the government.

VICE CHAIRMAN SMITH. Do you think the emphasis—do you believe it would have started—do you think that was a motivating factor in beginning to emphasize this approach?

MS. GERST. I think what I am saying is it was always there; it was emphasized. There was a formal reason since 1972 to do those kinds of things, but I don't think much would be different from the standpoint of how we are planning to operate our business.

VICE CHAIRMAN SMITH. And would the extension of that, if there was less emphasis on it, would it continue at the same rate or greater?

MS. GERST. I believe my statistics will show that, yes, the motivation is there to do that.

VICE CHAIRMAN SMITH. Would you like to comment on any of those questions, Mr. Harris?

MR. HARRIS. I think that there is no question that the Federal laws had some effect on American business in general. I think that it goes without saying that IBM was committed prior to the 1964 Civil Rights Act or the 1970 Order 4, or the Revised Order 4, but its active involvement with plans for progress in the Bedford-Stuyvesant Association, and the efforts that were taken by the company before 1970 started the ball rolling as far as IBM was concerned. And I think that, if all the laws were taken off the books today, there would be no change in the way we do business.

VICE CHAIRMAN SMITH. Ms. Rogers, I have one question: In your surveys, formal or informal—or whatever you do through your association—where you find that women supposing they had achieved great success in, say, the professional areas that you deal with and had been successful in moving up in the company, what could you comment on pay scales if they have moved up? Are they paid at the same rate? Are your surveys finding that there is equity in pay for women doing comparable jobs or equal jobs?

MS. ROGERS. Very informally again, I think no, and I am talking averages. Anybody can pick out a particular woman and say, "Now, see, she is getting as much as her peers," and I am sure that this is true and easy to find in a lot of companies, because a good guy will be a good guy and a bad guy will be a bad guy.

On the average I don't think that the promotions and the salaries are commensurate with the skills and the abilities and the responsibilities.

VICE CHAIRMAN SMITH. I think it is only fair to give the other representatives a chance to respond.

MR. HARRIS. Well, I can say, unequivocally, that we have a program that reviews the salary equity for every woman, every minority, every handicap, and those Vietnam-era veterans. And we look at the salaries of all people, not previously covered, over the age of 40; and we don't want to have an exposure—and we cannot afford to have an exposure—of disparate salaries, so we look at them very closely.

We have the records and the records are reviewed by the Federal Government. I review them when I do an audit, and I can say that salaries are equal.

VICE CHAIRMAN SMITH. Ms. Gerst?

MS. GERST. Well, our system of compensation allows every individual salary to be reviewed four times a year and with that kind of a review process, which is done by each supervisor reviewing their employees' salaries, their growth, where they are going and how they get there, it is very difficult to see that any inequities would exist on any large level.

If something would exist—and I have no problem saying that no one is perfect—but our industry has computer systems, and most large companies are quite mature and quite professional in the way that salaries are reviewed. It is not a built-in, inherent thing that race and sex are looked at, but if discrepancies would occur, they would—given our system that I know about, they would be fixed.

VICE CHAIRMAN SMITH. Thank you.

CHAIRMAN PENDLETON. Commissioner Saltzman?

COMMISSIONER SALTZMAN. Ms. Rogers, I would like to ask you to expand a little on your comment that complaints lead to a black mark. Do you think that there is a general atmosphere in the industry, the high-tech industry, of harassment or intimidation of those who blow the whistle on the areas of concern to this Commission?

MS. ROGERS. In many companies, yes.

COMMISSIONER SALTZMAN. Is there any way you can submit some evidence of that to us, or is this an intuition?

MS. ROGERS. It is collected from many sources, working for many different companies, and it varies. I am a little uncomfortable with what seems to be developing into an adversarial relationship here.

COMMISSIONER SALTZMAN. I don't want to get into an adversarial relationship with these panelists, and I am on a different direction.

MS. ROGERS. In different companies this is very definitely true, and there are many women who would be glad to tell you about it personally. I cannot tell you any specific cases. I don't think it's appropriate at this point.

COMMISSIONER SALTZMAN. No, I don't want specific cases. I would like—since in a prior panel and from Ms. Rogers there is a suggestion of harassment and intimidation on the part of some of the companies in this industry—that our General Counsel pursue this; that he consult with Ms.

Rogers and with others who have given the intimation or the presence of intimidation and harassment of those who in the industry blow the whistle on the disabilities in their companies for minority and women employment, that you consult with Ms. Rogers, secure the names of those who can provide us further testimony or evidence of that; that we consult also with the EEOC to determine whether there have been complaints from employees in the industry relative to threats, intimidation, or harassment and by any threats that might be issued; that we consult, thirdly, with the city human relations commission—and I understand they recently had an open hearing on aspects of this—and receive and enter into the record at this point any testimony from that hearing relative to the presence of intimidation or harassment. Mr. Chairman, may I have that entered into the record?

CHAIRMAN PENDLETON. The record will so note Commissioner Saltzman's request, and the attorney is guided accordingly.

We want to thank you very much for appearing before us today. Thank you.

I understand that Mr. Gladden from the OFCCP will be here by 1:30 per telephone call.

[Ray Schneyer, George Castro, and John Reinhardt were sworn.]

TESTIMONY OF RAY SCHNEYER, SPECIAL ASSISTANT FOR AFFIRMATIVE ACTION AND EQUAL EMPLOYMENT PRACTICES, LOCKHEED MISSILES AND SPACE COMPANY; GEORGE CASTRO, FOUNDING MEMBER OF THE COALITION OF LATINOS IN ENGINEERING AND SCIENCE; AND JOHN C. REINHARDT, PRESIDENT AND COFOUNDER OF CORPORATE TECHNOLOGY

MR. ALEXANDER. Starting with Mr. Schneyer, could you each identify yourself with your full name, your position, and city of residence for the record?

MR. SCHNEYER. My name is Ray Schneyer. I am a special assistant to the president of Lockheed Missiles and Space Company for affirmative action and equal employment practices, and my company is in Sunnyvale at 1111 Lockheed Way.

MR. ALEXANDER. Dr. Castro?

DR. CASTRO. Of the many hats I wear, I suppose I am using the one of founding member of the Coalition of Latinos in Engineering and Science, here in San Jose. I also happen to work at IBM.

MR. ALEXANDER. Thank you. Mr. Reinhardt?

MR. REINHARDT. My name is John C. Reinhardt. I am president and cofounder of Corporate Technology which is a recruiting operation in Sunnyvale, California, 599 North Matilda.

MR. ALEXANDER. Thank you. Mr. Schneyer, I understand that you have prepared some data for the record on employment statistics for Lockheed; is that correct?

MR. SCHNEYER. Yes. I was asked if I could prepare information on the professional employment and recruitment practices, including the offers that we have made, the hires that we've made, in terms of percentages of minorities and women, and our total professional work force broken into the portions of the administrative work force and the engineering and scientific work force.

MR. ALEXANDER. Is that in writing, sir?

MR. SCHNEYER. I have that data and I'd be glad to submit it. I also included the colleges at which we recruit and the list of of the colleges from which we have acceptances. There is a difference between the two. We recruited at about 120 colleges and universities around the country for engineering personnel. We have acceptances from about 250 universities around the country. That primarily is because we get a great deal of mail applications, and if they are engineers or scientists or professional people, we are interested in them, and we include those, and we make offers to them.

MR. ALEXANDER. Could you submit that data for the record, sir? You might want to keep a copy to refer to as we go along.

Could you briefly describe the staffing that you utilize for your recruiting effort? How big of an effort are we talking about?

MR. SCHNEYER. Well, our recruitment effort is carried out by our employment organization. We have an organization, both professional and nonprofessional employment. Professional employment includes the personnel that are familiar and knowledgeable in the technical fields that we are interested in and the professionals that are nontechnicals. We recruit nationally, essentially, for engineers and scientific personnel. We recruit locally at the colleges for almost all of the administrative areas because, generally, we have more than a sufficient number of applications locally for those positions.

We utilize, in our recruitment, not only the professionals from our employment organization, but a number of personnel who are engineers in our work force, managers, often, who will go to local, to certain colleges where they are known, knowledgeable, and where they can recruit personnel for us.

MR. ALEXANDER. What particular efforts do you make with respect to recruiting minorities and women?

MR. SCHNEYER. Well, we attend and we go to the universities that have been the largest supplier of minority and women personnel. We recruited the black colleges in the East and Southeast. We have expanded our recruitment—at some time in the past, about 10 years ago—to include

colleges in the Southwest because of the rather relatively large Hispanic population and their engineering graduates.

It is not large. It is very small, but it is relative compared to other things, and we recruit wherever the engineering graduates are with large numbers of women. There are not a great number of them. By far the largest number of women are going into the computer sciences field, not the engineering field—they are still going in the engineering field in much too small numbers—but we, I think, reach into every college which is on the list of those with the most engineering graduates that are women and every college that are among the list of those with the most engineering graduates that are minority.

MR. ALEXANDER. Do you recruit nationwide or beyond the local area for other than engineers for your administrative and management positions, or is it predominantly engineers?

MR. SCHNEYER. Not really. We have more than sufficient applications from the local community for positions that are not purely technical. We, on occasions, have recruited for very special groups of people. For instance, there was a time when there were a scarcity in the area of machinists. There were a scarcity of people who have been in the technical electronic technician category, and we have recruited other parts in the country where there are such people to try to get them here, but that is when there is a special need and there is a very local scarcity.

MR. ALEXANDER. With respect to the statistics that you submitted in terms of your engineering and scientific work force, do you perceive that you've been able to make, through your recruiting effort, any significant inroads in obtaining additional minority engineers, for example, Hispanics? 1977 to 1982 the figure is basically the same, 2.5, 2.4 [percent].

MR. SCHNEYER. Well, percentage-wise, the numbers are up—by about 40 Hispanic engineers, as an example. If you were to look at the numbers in the three local colleges that would have reasonable quantities of them, U.C.–Berkeley, Stanford, and San Jose State, you would find there was a total in 1980 of 40 Hispanic engineers that graduated. Now, that's less than one for each—

CHAIRMAN PENDLETON. How many?

MR. SCHNEYER. Forty from the total of all three colleges; that would be less than one for anybody that is out looking for them. They are just in very small numbers in the college. The numbers for blacks, as I recall, was something similar to it. By and large, the largest number of minority personnel in engineering are the Asians, who are there in very large numbers, and we have been able to recruit substantial numbers of those. We recruit the University of Hawaii, which has a substantial number of Asians.

We haven't made any major change in the percentage of the population that is Hispanic, and my only comment to that is that the number of

Hispanic students graduating is still much too small to permit that for any one company.

In the black engineers, our primary problem has been that the largest number of them are graduating from colleges in the Southeast. We have found a real reluctance for them to want to move to this high-cost-of-living area, and it has been very difficult to encourage them to come. We have tried and we continue to try.

MR. ALEXANDER. Dr. Castro, could you tell us a little bit about your organization that you are representing today?

DR. CASTRO. The organization that I am representing today is about 3 years old and primarily made up of fairly young engineers, all Chicano, most of them having moved here in the last 3 or 4 years. We have been trying on our own to address the whole problem of what can we do—from people who have gone through it, to help make the very poor statistics that you've heard—of what can we do to get more Chicanos into the science and engineering fields.

We who are in it enjoy it. We think it is a very good industry for us to be into, and the representation is poor and we are trying everything we can do to get more people into it, on a volunteer basis. And that includes trying to help each other professionally, trying to help tutor college students, and going down and seeing what we can do in speaking and helping with people in high schools and, in some instances, even to earlier grades than that.

MR. ALEXANDER. How long have you been an engineer, sir?

DR. CASTRO. I am, in fact, not an engineer. I have a Ph.D. in chemistry and my degree, my Ph.D., was in '65, and I have been here in San Jose since 1968.

MR. ALEXANDER. How was it that—I gathered that—from all the statistics we've seen, there are a very small number of Chicanos in this industry in the professional categories? Maybe we could learn something from your own story as to how you came to get into this field?

DR. CASTRO. Having been successful in going to college and entering this field, there are many instances, many obstacles that you face, and a lot of help that you get from various sources. The most poignant one that I can picture has a lot to do with an accident, an accident that really staged and set things up for me in a way that I almost couldn't lose for a while. Basically it was this: I was living in East Los Angeles and going to a typical Chicano, ghetto, junior high school, not being a particularly good student or anything else. And just like every other Chicano there I wasn't motivated; then, for some reason, my father moved us out of that neighborhood for a period of 6 months to a suburb that was all white, and I was the only Chicano in class, and being the only Chicano in that area, I naturally had to get into the same subject matter that the rest of the class was getting into.

It just happened that what was typical of the suburban junior high schools in the Los Angeles area was that at the eighth grade they take algebra as a mathematical subject. It was something I would not have gotten in East LA had I stood in my situation. But anyway, I was prepared to go into algebra and get into algebra. Then my parents moved back into East LA, back into the Chicano neighborhood, and I had this thing already psyched up, ready to go into algebra, and so I signed up and took algebra and all of a sudden I find out I was in a different world, that even though this was a junior high school in the heart of East LA, I, all of a sudden, became in a different track. I found myself in a class no longer with my Chicano friends but only with Jewish and Japanese students—our particular junior high school and high school in that part of East LA was ethnically mixed, but having no white Anglo-Saxon or Protestant, but had Jewish, Japanese, black, Mexican, and a handful of what were called White Russians.

Anyway, I found myself in this track of students taking algebra and the system, the school system, identified these students as something to go into a different track. I ultimately learned that later. By sticking with these students and sticking with algebra as I went into junior high school, all of the students took the academic curriculum, and I naturally tried to go with it.

I had some obstacles getting into it, but I managed. But once I was in this academic track, I couldn't lose. You naturally take the right courses. After algebra, you take geometry, and without algebra and geometry you cannot take chemistry or physics, and you just go on and also you find yourself that even though you are in an integrated school, you are in a segregated class of people designated to succeed. And I have a story that is incredible to tell you people that one time when I wasn't even trying and I succeeded just because I was tracked. It is something that really impressed me in later life of how unfair the system was. When it wants to make you succeed, you can.

Anyway, once I was in the academic track, I couldn't lose. There was no way I could lose. I was determined I was going to get good grades whether I deserved them or not; for putting the same amount of effort, the same teacher would give me an A whereas in an earlier class in the day if you were industrially tracked you could get a D for the same amount of work. I had very vivid examples where I copied somebody's notebook because I didn't have one of my own. I erased his name on every page and I turned it in because I didn't have anything. He got a D for the notebook. I got a B for his notebook. Anyway, I was going to succeed and as a result, I did graduate from high school in this academic track and received a scholarship, and I went on to U.C.L.A.

Then another accident that happened was that Riverside was starting a graduate school in my senior year, and they were hunting around for

students, and I had no intention or ideas or any knowledge of graduate schools. I was prepared to go in the Army, but the recruiter found me and said they needed something, and they recruited me.

And once I was in graduate school, I really couldn't lose. I've never entered an area where people were really just treating you on what you could do, not who you were; that's what the graduate schools of science in the world do. Once given that, I just continued to thrive, but there was luck in the system and I basically thought it was unfair for those few statistics like me who didn't slip through.

MR. ALEXANDER. Well, given that experience and the work that you do with your organization, are there programs that you are aware of in the Latino community in San Jose, what have you, to create the kind of interventions deliberately that occurred for you by accident?

DR. CASTRO. There are a few and they are rapidly declining because of funding from State and Federal levels, and they did not address the scientific and engineering areas in particular, but just the educational attainment in general. There were monies available and curricula developed, people trained to help in this area—and if you know those people now and if you see that scene now, it is an absolute disaster. They are the first ones to be cut. They were never put on hard money in the educational system. They are scrambling around just to find a job to live and, as a result, whatever few programs we had, which originated essentially with government money, I have very little faith in.

What I do see happening are certain private things happening. People raising money from industry, people using their own skin just to help—and I'll give you an idea. I sit on the board of a scholarship foundation, the same scholarship that Ray here, on my left, started. We are facing the problem that counselors have been cut from the high schools, those very same counselors that we used to rely on to help students apply for our scholarships and help them in career guidance. They are gone.

We are going to have to try and make up for that as volunteers, and we are going to do that. We are going to go to the schools themselves, and we are going to force the kids to fill out applications. High school kids don't like to do things like that; they don't know how to write autobiographies; they don't like to fill out forms.

Somebody has to get after them. It is part of life and growing up. It is part of what the school system should have been doing for them. We are going to try to make up for that because it is necessary. I see that a lot of private resources, just out of necessity—we are going to try to meet this need, but it is really—we see a tremendous disappointment as to government's commitment in general to affirmative action and equal opportunity.

MR. ALEXANDER. Mr. Reinhardt, could you briefly describe what your company does?

MR. REINHARDT. All right. Any remark that I have to say will fairly exclusively be with electronic-type companies of the type we have here in the valley.

Most of us in the company are engineers, electronic types, and that is our area of expertise, so we recruit technical people for electronic-type companies. The companies come to us. They give us a background that they are looking for, a technical description. What we do then is we recruit, we screen, and we present those people that elect to be presented for that particular position.

MR. ALEXANDER. Do you also basically try to keep listings and groupings of possible people that could eventually be utilized by industry, keep your own computer bank of possible applicants?

MR. REINHARDT. Yes, we do.

MR. ALEXANDER. Do you know, for example, of the people that you keep, your data base, whether they are black or Hispanic or Asian? Is that something that is within your system?

MR. REINHARDT. No, it is not. We do not think that's important.

MR. ALEXANDER. When you get an order from a company to find a certain type of technical person, do you ever get instructions as to affirmative action from that company to try to find a female in this field if possible, or an Hispanic, or something of that nature?

MR. REINHARDT. We have; however, it is very, very infrequent.

MR. ALEXANDER. Most of your orders just specify the technical skill that the company is looking for; is that accurate?

MR. REINHARDT. That is true.

MR. ALEXANDER. Would you say that that's generally true for your peers in other "headhunting" firms as, I guess, they are known?

MR. REINHARDT. I believe that's true.

MR. ALEXANDER. That is true. There was testimony on the previous panel—I wonder if you could shed any light on it—that in the salary groupings, I gather your fee is paid based upon the salary of the individual?

MR. REINHARDT. That is true, by the company.

MR. ALEXANDER. That women in comparable engineering slots to men tend to get somewhat lower salaries, would you have any data on that?

MR. REINHARDT. I don't agree with that.

MR. ALEXANDER. You don't agree with that. Have you run—you would know whether your engineer is a female or male, of course?

MR. REINHARDT. Usually by name only.

MR. ALEXANDER. By name only. Have you run any statistics on that, or is that just an observation?

MR. REINHARDT. No, it's an observation. We do not keep statistics on that particular item.

MR. ALEXANDER. Thank you. Mr. Schneyer, in some of the items that Dr. Castro mentioned about intervention at an earlier stage before you

recruit people, you are also in charge of affirmative action, generally, for your company?

MR. SCHNEYER. Let me correct that. I don't recruit people. I am not part of the recruitment process.

MR. ALEXANDER. I understand that. Could you tell us what your company is doing in this area?

MR. SCHNEYER. You mean in terms of working with the community, actively?

MR. ALEXANDER. Working with the community and the education system to increase the supply, if possible.

MR. SCHNEYER. Well, we have quite a few programs. The one that Dr. Castro mentioned was one specifically trying to encourage more Hispanic students into college initially and also into engineering and science subjects because that was the primary purpose of the long-range program. It started about 10 years ago.

It is a company program in that the private sector handles it entirely in cooperation with—I shouldn't say entirely—in cooperation with a local Hispanic organization, the GI Forum. American GI Forum is one of the oldest Hispanic organizations in the country, and we have three or four chapters here. The particular foundation includes representation from all three of the chapters plus industry and educational representatives on the board.

The role is to get industry to provide dollars for scholarships and to encourage the students to consider applying for scholarships so they will consider college. Because a lot of the dollars are coming from the engineering and science-oriented companies—and the companies are allowed to specify what fields they are interested in giving their scholarships in—this provides for quite a lot of scholarships that are sort of sitting there waiting for engineering applicants or science applicants. And over the past 7 or 8 years, as the program has grown—currently this past year it gave away about \$44,000 worth of scholarships to over 50 students. About a third of them have come to be engineering and science applicants whereas in the very beginning of the period, I think we had something like 80 applicants, or 70 applicants, and only 2 in the science and engineering fields. So there is a gradual tendency for students in the schools now to think more in terms of science and engineering as they start into their field.

We are also working in a program to encourage youngsters in high school to consider the fields of electronic and computer technology. We have a program that you will hear about this afternoon—I guess I don't need to talk about it. The Urban Coalition is the sponsoring organization, and I see they are on the agenda. But industry, working with the coalition, initiated a program with a school district up in San Mateo County to take 10th grade students and put them in a program that will carry them for 3 years in a very special program. Hopefully, they will come out somewhere

between a high school graduate and a technician that would have had 2 years of community college in the field of electronics and in the field of computer technology.

We are working—and Dr. Castro has been involved—in the kind of program where we are sending people into the high schools to try to encourage the high school students, through role models, to understand that engineering is a field and science is a field that they can consider, and that they ought to think about it even though they might not have had all the mathematics that they were supposed to have.

I happen to disagree with one of the earlier statements that, if you don't get into it by the sixth grade, if you don't get into the math subjects by the sixth grade, you won't be able to do it, because I don't think there is any part of mathematics that cannot be corrected if you can start working on the correction. But the problems have been in the past that the students fall behind in mathematics and then no one corrects them; and once you're behind, you can't catch up unless somebody stops, takes the time to correct it; and once you're behind, you also assume you can't do it anymore; so everybody who falls behind sort of drops out of the mathematical cycle.

I believe that you can be put back into the cycle in grades up to about 9th or 10th grade and still make a success of it if you want to do it. But it does take something different in the school system than what the current school system does. We have been involved with MESA [mathematics, engineering, science achievement]—you are going to hear about this afternoon. We have been participating in it here at San Jose State, and so I'd have to say, if there is a program that we think can help encourage people in the science and engineering fields, we are going to participate in it if there is something we can contribute.

MR. ALEXANDER. Thank you. Dr. Castro, in earlier panels there was a discussion about the problems that women may face in upward mobility. Is there, for the Latino community, enough engineers and scientists around yet to know whether or not Latinos are moving up the corporate structure?

DR. CASTRO. There is really not enough yet to have very good statistics. In my experience, over the past 13 years, I have tried to seek out and meet as many as I could and, in general, what I would find is that very few of them had managed to enter the management ranks. And though I can't give you an exact number, I certainly would say that they have not been as successful as the population as a whole. That certainly has been my experience.

MR. ALEXANDER. Mr. Reinhardt, you mentioned that you had had several, or a few, orders that were either race or sex based from companies. Could you tell us exactly how many?

MR. REINHARDT. Well, the one I remember—and I think there has been two that I can recall—was General Electric; and what they had—they had

eight categories which ran in order of the ones that they would be most interested in down to the bottom of the list.

MR. ALEXANDER. This is out of the past 5 years that you have been in this particular business?

MR. REINHARDT. Yes, it has.

MR. ALEXANDER. How many orders would you have seen? Just a gross figure estimate would be fine.

MR. REINHARDT. Now we have contracts with most of the companies that we work with, and in each of the contracts it says right in the contract itself that they are a company, that is, they hire minorities and we are not to discriminate.

MR. ALEXANDER. In the general contract—

MR. REINHARDT. Yes, and that's in almost all the contracts we have from all companies.

MR. ALEXANDER. I understand that. How many people have you placed in 5 years, I guess, was my question?

MR. REINHARDT. Oh, it's been 10 years.

MR. ALEXANDER. Ten years.

MR. REINHARDT. And a few hundred.

MR. ALEXANDER. A few hundred?

MR. REINHARDT. Hundred, maybe 1,000.

MR. ALEXANDER. Maybe 1,000. Mr. Chairman?

CHAIRMAN PENDLETON. Commissioner Ruckelshaus, do you have any questions?

COMMISSIONER RUCKELSHAUS. I have a question for Mr. Reinhardt. How do you collect the pool of names when you are starting to search for somebody?

MR. REINHARDT. This is an ongoing thing. Now, I came out of the semiconductor computer industry in which I had worked for many years. I, therefore, had a great many names in my head and as to what they did and so forth, so that was the nucleus of our starting. Now, in addition to that, we use referrals; we use ads in the paper, just like, you know, companies and what have you, and we are also a part of a national organization where we trade backgrounds. So we have in our computer, at this time, approximately 15,000 technical people all of which are primarily electronic, and they are all at the professional level. So, we can draw out of our computer for particular backgrounds whenever we have a requirement.

COMMISSIONER RUCKELSHAUS. Of course, probably when you left the field 10 years ago there weren't very many women and minorities, certainly not in the numbers that we hope we're seeing now and in the future.

MR. REINHARDT. That is true. I spent a great many years in going to graduate schools, and there were very, very few, at that time, of female,

and there were very, very few minorities, and I believe that the increase in those students in grad schools has probably not been significant. I am restricting myself to electronic and chemical engineering type students.

COMMISSIONER RUCKELSHAUS. Do you have any idea how many women's names would appear on your file of 15,000 names?

MR. REINHARDT. Not really, but it's probably quite a small percentage. You find out that most of the females will usually get into mathematics as a pure subject, which then can lead them into computer programming—or quite a few of them get into the chemical area; however, the chemical area that we are interested in would be those that had taken a lot of solid state physics, which in that case lends itself to the semiconductor industry.

COMMISSIONER RUCKELSHAUS. Okay. I thank you very much. Mr. Schneyer, would there be anything, would you think, that in a contracting economy—the kind that we now face with lots of people who are 40-plus losing employment in areas in which they have experience over time—if those people took advantage of the educational opportunities that are around and retrained themselves so that they were qualified to enter a high-tech industry at a certain level, is there anything in their ages that would make it difficult for them to enter? It sounds like such a young person's field, active recruiting is for the young graduate and—

MR. SCHNEYER. Well, I think there is quite a lot of background that says there are also some not so young people that are around in the field, particularly if you are going to speak in terms of women and speak in terms of computer sciences. We have quite a lot of women in their forties who have gone back, taken courses in computer sciences, and applied for positions, and we are very happy to hire them.

COMMISSIONER RUCKELSHAUS. They are entering the industry for the first time?

MR. SCHNEYER. They are entering, but I don't know if they are entering the economy for the first time. But I think many of them, for instance, have had degrees in the liberal arts in the past, but found that that degree was not as marketable as getting a background in computer sciences, and they have been entering the computer science field.

I think in general that if someone were to apply for a position as a "young" engineer at the age of 40 or 45, they would get hired. If they were to try to compete for the position of a 45-year-old engineer who has been in the field for 20 years, they probably would not get hired. But I don't think there are any bars on the doors in this area because of the age of someone.

We have seen people coming to our doors at the age of 60 ready to go to work, and we've hired some of them when they have the skills we need. I don't think that's a barrier. I think actually what we are finding—the economy is declining here as well as elsewhere, but everyone knows that that is going to change in the near future here and they also know that the

manpower pool is quite dry, that we have to live with the people that are here.

It is hard for people to move in because of the cost of housing. We are sort of geared to live with the people who live in our community, and the more we can get them to take those higher jobs, age would not be a matter.

COMMISSIONER RUCKELSHAUS. Thank you.

CHAIRMAN PENDLETON. Commissioner Smith?

VICE CHAIRMAN SMITH. Yes. I am going to ask you a question that is based not on fact or not on numbers or not on figures or anything, but perhaps just your perception and maybe not necessarily related to your own individual companies.

Just as we have in the past seen that medical schools, for instance, have been a domain of male, white, Anglo-Saxon, that we've broken some of that barrier, but coming out of that people were quite willing to have, for instance, a female nurse but not a female doctor. Do you see in your industry any of this kind of mind set that women just aren't as good engineers or that Hispanics just aren't as good engineers? Is there any built in, whether you voice it in the concept of discrimination, whether it is cultural patterns—we have had some suggestion of this attitude. Some believe it's there, some have said that it isn't—but if I can divorce it from you personally, because I recognize the tremendous activity you are making in this field, and I don't believe you think this—but do you run into that kind of a barrier?

MR. SCHNEYER. Is that to me?

VICE CHAIRMAN SMITH. Yes.

MR. SCHNEYER. Well, let me first say, I think there is a difference between women and minorities in that aspect. Primarily, women have entered the software fields. They have stayed out of the hardware fields in large numbers. Now, whether that was part of the educational system that we are into for a long time, which said women are not supposed to do things that sounds like they take muscle or brawn or something, at any rate, even today, if you look at the professional women coming in the engineering and science field, they are up around 18 or 20 percent of the computer sciences field, and they are down around 3 and 4 percent of the mechanical engineers graduating and 3 or 4 percent of the electrical engineers, or 5 percent—they are not in a big percentage there. When they come into a company, then, they tend to be oriented toward the software fields.

That's a limitation, to some extent, upon their usefulness to a company. It doesn't limit them from going up the ladder. It just means there are certain numbers of jobs in which they have no background initially. I think that ought to be changed by the way.

I am trying to encourage that. We find some resistance to that in the school system. There are people in the high schools who believe that

engineering is a dead-ended profession, whereas computer sciences is a wide-open profession, and I don't know where they get that impression, but they don't get it from the companies. Nevertheless, they preach it to some of their students, so women continue to go into the software fields in much larger numbers. Even in the engineering field, they go into chemical engineering much more than they do in the others because it is more of a software field.

In my company, I can tell you that if you were to go back 15 years ago and speak about women and this subject, there would be a definite bias because there were so few around that no one really paid much attention to them. The past 15 years has seen so much awareness and so much of a change that I would say that you'd see almost none of that now. Women have proven themselves in so many places and in so many ways, that I think the acceptance is very high right now. I think that is true in the valley as a whole because of the demand for people with those skills. When you put them in and they perform, once they are performing, no one cares whether they are male or female.

In the Hispanic and the black community—and I leave the Asians out because the Asians are in those engineering and science fields way out of their population parity—I think you would see that again they were in small numbers. There were successes among them; there were failures among them. But there was a general impression among the Anglo male majority manager in engineering and science that they were not up to the par of others because those that failed stood out so much in their minds that they linked that to everybody—the successes didn't show up as well, let's put it that way. They were there, but, as you know, a bad example is very easy to propagate and a good example sort of disappears into the woodwork in some way.

So I think the awareness of the past 15 years has made a change in that. I think people are much more ready to accept that a good engineer is a good engineer who is black, or Hispanic, regardless of the question of where they came from. We no longer look to the colleges and say that college turns out the best students because we found that that changes over the years.

The best student in a college may not have the same background, but they may become the best engineer we have. So there is some of that in it, but I think there is still some bias that way, but it is much lower than it was 10 years ago, and I think it is changing.

COMMISSIONER SMITH. Mr. Castro, do you want to comment on that?

DR. CASTRO. I think a bias exists, and it is different for minorities and women. And basically the bias that I see that exists is that scientists and engineers don't believe that one can be a part-time scientist or engineer, and if there is a woman that is married and has children, there is a

perception there is no way that that person will ever compete with other scientists and engineers.

It may not be a fact, but it is certainly a perception. I would think that there is absolutely, at least among scientists, absolutely no bias that a woman, if they can make science or engineering their number one passion their every waking hour—which is what most scientists and engineers do—then I think there is absolutely no bias against them in terms of their success.

MR. ALEXANDER. The same would be true for the minorities?

DR. CASTRO. Yes.

CHAIRMAN PENDLETON. Part-time, minority and part-time scientists.

VICE CHAIRMAN SMITH. Part-time engineer.

DR. CASTRO. No. I really believe that this—well, let me just give you an example. I run a very prestigious research team of Ph.D.s—and the American-born scientists represent a very small minority, maybe only 25 percent—and understand in science and engineering you can have great respect for a person without ever having met that person because you can read of their contributions and understand their value, and that's rather unique to our industry.

VICE CHAIRMAN SMITH. Mr. Reinhardt, any comment here?

MR. REINHARDT. Not relative to Dr. Castro; however, relative to some of the statements that Ray made just a bit ago. Number one, I agree with Ray in that the sixth grade is a nice point of math and what have you; however, with the perseverance and such, anyone can get into almost anything they elect to with dedication; that doesn't make any difference whether they are the smartest folks around or not the smartest folks.

Secondly, relative to age, I believe that, if there is a discrimination—now we are talking about American-born scientists and engineers—if there is a discrimination, especially in the semiconductor and computer industries—and I am not relating to the military-type industry at this time—there is discrimination. In fact, if you get your curves from AEA—which I am sure you can get good access to—you will see that at the age of 40 that the salaries will start to decrease.

Now, engineering, and specifically electronic engineering as differentiable from electrical, is the only profession I know where that happens, and the curves are there. You will also find out, especially in the semiconductor industry, that there are very, very few engineers over the age of, say, 40, 45. If you are not a part of or have equity in a company and you are a shirt-sleeve, ongoing engineer, you will find that you will probably be the most likely to go on the bricks, and I think you can find stats that will support that.

CHAIRMAN PENDLETON. I just have a couple [of questions] before we break. Dr. Castro, you raise a lot of points, raise a lot of questions, but let me just ask this one: No matter what the administration in the future,

whether it is Republican or Democrat, it is my belief that we will not return to the prideful past of a lot of Federal programs and of a whole variety of activities.

What do you—and I guess Mr. Schneyer with your illustrious record of community service—and I applaud you for that—what do you tell everyday folk about their own preparation for the future and the preparation of their youngsters? What kind of sacrifices do they have to make and what is the point of attack for them who want a better life for their youngsters—and especially where I believe that microelectronics and biotechnology are the future centers of employment in this country?

DR. CASTRO. Here's what I tell people here in San Jose. Do you want your kids to live in this valley 10 to 15 years from now? If you want them to live in this valley, you'd better start to help them get into the jobs that this valley is going to have. We don't pick fruit here anymore. The canneries are closing every day, and even the manufacturing jobs for the electronics industry are not growing as fast as the R&D jobs. Those will start moving out and the R&D—this will become more of an R&D center.

I tell them, if you want your kids to live here, then you have got to get them into math as early as possible and get some aspect of a high-technology career; otherwise, they are not going to be able to afford to live here. They are going to have to move out of the valley. They are going to move to Gilroy or to some other small town because they won't be able to live here anymore, and that's the truth. I tell them that, and expecting that government is not going to help, they have got to somehow do it themselves.

CHAIRMAN PENDLETON. Mr. Schneyer, do you have a comment?

MR. SCHNEYER. Well, I would like to say I think that between the education system and the private sector we have to form some much closer ties than we have in the past. I think there has been a big gap that developed over the years. For instance, vocational education became a thing in itself. It really had nothing to do with the jobs that people were going to get when they were through, more because it got built into the system without regard to what happened outside the system. I think we have to do much more together. I think both groups are getting to where they're accepting that. I think both the private sector and the educational system are getting closer together.

I believe, with George, we have to tell people those are the jobs that are going to be here. When we talk, I try to decipher the difference between a job and a career, and point out that a job gives you enough to eat on while you are working on a career, and hopefully, if we can get people oriented to thinking in careers, they will go into some of these other things.

The thing we have going against us is that engineering and science per se, even a technician degree, are considered hard subjects, and too many

students in the schools are looking for the easy subjects so they can get better grades. That puts them behind the eight ball when it comes to making the decision to go ahead. So we have to make it clear that choosing the easy path isn't always the best.

CHAIRMAN PENDLETON. Do we put more burden on the accident Dr. Castro mentioned? There are others, as you well know, who have been a part of an accident in a sense, and I would wonder whether or not we should take the accident you talked about and institutionalize it to a point whereby we begin to let the public sector know that it is really financed by the private sector dollar, and that the private sector wants a better return on that dollar in terms of the products being produced.

DR. CASTRO. Well, I think we have got to do the best that we can with what we have, and if it is that—but I would like to back up and say that I disagree with you in terms of your perception of we are not going to go back to the programs of the past. The programs of the past may have ended for some of us, but they haven't ended for everybody. And I still see a lot of money being given to support that free enterprise, you know, called growing tobacco, and I see a lot of money supporting that free enterprise called agribusiness in the form of free water. Government is still in the business of redistributing money. It is just, for the moment, not redistributing it to us, and I don't think we should give up that fight.

CHAIRMAN PENDLETON. Okay.

MR. SCHNEYER. Can I add one more thing?

CHAIRMAN PENDLETON. Sure.

MR. SCHNEYER. We have been talking about how we can get students to think of these things before they are all through high school and out and out of jobs. One of the areas that I think has the most chance for developing this concept in the kids is to get them into the companies at an earlier age. One of the barriers to that are some of the job-work laws. We have a very difficult time with anyone under the age of 17. We even have a difficult time with people who are 17, using them on a part-time basis or using them in a summer job because of restrictions on where we may or may not use them.

I think the Commission might very well take a good look at how much of a barrier this is causing to the young people to be able to get some concept of what the world of work is like and to prove themselves.

CHAIRMAN PENDLETON. We could have a long debate about that, but I won't go into it. I can support you, the statements you are making. Dr. Castro, just to be clear, I am talking about the fact that the amount of money available to do a lot of things will not be there—and I support the fact that things like agribusiness and water and dairy price subsidies and the like need to be reversed in some respect. I do think we need a lot of work with the private sector. This is to not say we substitute one for the other. I guess what I was really concerned about is that, in addition for

fighting for activities, I am not so certain we continue to fight for the government programs as much as we fight for the cooperation between the private and public institution to make sure that the dollars that are going to those public institutions are spent wisely and we don't have to continue to make corrective expenditures because institutions we first put our dollar in has not become productive. But I agree with you, that there are a lot of things that government, on the State and Federal and local levels, is spending money on that needs to be changed in some other direction.

DR. CASTRO. The dollars can help, and wherever they come from, they end up as dollars.

CHAIRMAN PENDLETON. Thank you very much. We will adjourn until a little bit after 2. Thank you, gentlemen.

Afternoon Session

[William Gladden was sworn.]

TESTIMONY OF WILLIAM GLADDEN, ASSISTANT REGIONAL ADMINISTRATOR, OFFICE OF FEDERAL CONTRACT COMPLIANCE PROGRAMS

CHAIRMAN PENDLETON. Mr. Gladden. The years have been kind to him and unkind to me. We went to high school together in Washington, D.C. We kind of like know each other a little bit. We will start with the staff attorney.

MR. ALEXANDER. Thank you. Mr. Gladden, could you describe yourself for the record, give us your full name and your position and your city of residence?

MR. GLADDEN. William Gladden, Assistant Regional Administrator for the Office of Federal Contract Compliance Programs. My office address is 450 Golden Gate, San Francisco, and my residence of Concord, California.

MR. ALEXANDER. OFCCP in this region has responsibility for oversight on Federal contracts. Is that generally true?

MR. GLADDEN. The government contractors, the area covered by Region IX is California, Arizona, Nevada, and Hawaii. We have nine offices in this region: San Francisco, Oakland, San Jose, Hawaii, Los Angeles, Van Nuys, Santa Ana, Phoenix, and San Diego.

MR. ALEXANDER. How many people are employed by you in the region?

MR. GLADDEN. We have 103 people employed presently. The authorized number is 107.

MR. ALEXANDER. How many Federal contractors are in the region?

MR. GLADDEN. About 30,000.

MR. ALEXANDER. What are we talking about in terms of dollar volume?

MR. GLADDEN. We don't have any figures at this time in terms of dollar volume. That fluctuates based on the contracting that they do.

MR. ALEXANDER. Do you have a range, an estimate?

MR. GLADDEN. Not with me. I wouldn't be able to.

MR. ALEXANDER. Would you supply that for the record, please?

MR. GLADDEN. Yes.

MR. ALEXANDER. What portion of the industry that you are responsible for oversight on does the high-technology component contain? Is it a tenth, 5 percent, or what have you?

MR. GLADDEN. I would not be able to give you a precise estimate, but just take the San Jose area office, for example. San Jose area office covers 14 counties in the middle of the State, and that would, for the most part, be the concentration of the high-tech contractors. Now, we also have a considerable number in San Diego and the Phoenix area offices.

MR. ALEXANDER. How many reviews are conducted each year in the Region IX?

MR. GLADDEN. We conduct about 400 reviews each year. That does not include complaints.

MR. ALEXANDER. Does not include complaints. Could you give us an indication on what factors you determine to conduct reviews in this region?

MR. GLADDEN. I would like to explain that this year we are allowing the area offices to select contractors on the basis of frequency of review in the past—those contractors that had not been reviewed since consolidation, which was October 1978. In the previous 2 years, the national office in Washington established a national contractor priority listing which, in a sense, targeted certain industries such as banking, insurance, and so forth.

MR. ALEXANDER. Where would the high-technology industry be within the targeting?

MR. GLADDEN. They were not included that first 2 years.

MR. ALEXANDER. Okay.

MR. GLADDEN. Last year was the first year that they were included, and it was included in this region because we recognized that that is a significant part of our universe.

MR. ALEXANDER. Okay. Could you tell what coordination currently exists between OFCCP and the EEOC with respect to activities in this region?

MR. GLADDEN. In this region, as in all of them, I am sure we have a memorandum of understanding with the EEOC which required that we refer all individual complaints to their district office that is appropriate. In addition to that, in any compliance review or investigation, our people routinely visit the EEOC office that covers the area where they are going to be working to review the charges and see what the results might be of any investigations that have taken place in the past.

MR. ALEXANDER. Do you provide OFCCP data to EEOC so that it can utilize that to determine where and how to do its systemic reviews of industries or companies?

MR. GLADDEN. We do have a relationship with them.

MR. ALEXANDER. Okay.

MR. GLADDEN. This is more or less an informal kind of thing in that it isn't a formally drafted kind of step-by-step procedure, but in San Francisco I relate directly to the Director.

MR. ALEXANDER. In terms of complaints—and if you don't have the data with you, I would like it supplied later for the record—have you received complaints of employment discrimination in the high-tech industry?

MR. GLADDEN. Some, but I wouldn't be able to give you a figure. But it is surprisingly low considering the impact of the industry here in this region.

MR. ALEXANDER. Our staff has requested from your San Jose office a list of data in a letter to Mr. Cordova dated September 8. I would like the record held open for submission of that data when it is provided by your office.

MR. GLADDEN. We will furnish it.

MR. ALEXANDER. Mr. Chairman, I have no further questions at this time for Mr. Gladden.

CHAIRMAN PENDLETON. There are no Commissioner questions, Mr. Gladden. We want to thank you and the OFCCP for responding so rapidly. I hope your drive back up the highway is not as cluttered as it was coming down. Thank you.

COMMISSIONER RUCKELSHAUS. Thank you for coming.

CHAIRMAN PENDLETON. I think the record should note from this morning's conversation that the OFCCP did attend the afternoon session and that satisfies our request in terms of maintaining the integrity of the subpoena process. Thanks again. Our next panel will be Mr. Treisman, Dr. Hamlett, Mr. Finnell, Dr. Stage, and Dr. Landis.

[Robert Finnell, Elizabeth Stage, Bruce Hamlett, Raymond B. Landis, and Philip Uri Treisman were sworn.]

TESTIMONY OF RAYMOND B. LANDIS, ENGINEERING FACULTY MEMBER, CALIFORNIA STATE UNIVERSITY; PHILIP URI TREISMAN, EMPLOYEE, U.C.-BERKELEY; BRUCE HAMLETT, STAFF MEMBER, CALIFORNIA POSTSECONDARY EDUCATION COMMISSION; ELIZABETH STAGE, RESEARCH EDUCATOR, U.C.-BERKELEY; AND ROBERT FINNELL, EXECUTIVE DIRECTOR OF MATHEMATICS ENGINEERING SCIENCE ACHIEVEMENT, U.C.-BERKELEY

CHAIRMAN PENDLETON. Will you please be seated. If you have material for the record, we will like to have that submitted and, if there is

something you want to summarize, that is fine, but we will gladly take it for the record. Our questioning will start with our staff attorney.

MR. ALEXANDER. Starting with Dr. Landis, would each of you identify yourself for the record, that means giving us your full name, title, and the city that you are from?

DR. LANDIS. My name is Raymond B. Landis. I am a member of the faculty of engineering at California State University, Northridge, and director of the minority engineering program.

MR. ALEXANDER. Mr. Treisman?

MR. TREISMAN. I am Philip Uri Treisman and I am an academic employee at U.C.-Berkeley, and I live in Berkeley, California.

MR. ALEXANDER. Thank you.

DR. HAMLETT. Bruce Hamlett. I am on the staff of the California Postsecondary Education Commission based in Sacramento.

DR. STAGE. I am Elizabeth Stage. I am research educator at Lawrence Hall of Science at the University of California, Berkeley.

MR. FINNELL. My name is Robert Finnell. I am executive director of MESA, mathematics, engineering, science achievement, which is based in the Lawrence Hall of Science at the University of California in Berkeley.

MR. ALEXANDER. Thank you. Mr. Hamlett, could you briefly explain to us what the California Postsecondary Education Commission is?

DR. HAMLETT. We call it CPEC. It is much easier and quicker to say it that way. CPEC is a body established by the legislature and the Governor back in 1973 to function as an advisory body to them on all issues relating to education beyond the 12th grade. We do not have any authority for administering monies. We are there to advise, to coordinate, to review, to evaluate.

We do a number of evaluations such as, for example, reviewing the various equal education opportunity programs in the State. Those reports go to the legislature as well as various educators.

MR. ALEXANDER. I would like to go through with you a bit about what your findings have been with regard to the California system. Where are minorities and women in the California college system in terms of equal opportunity today?

DR. HAMLETT. Last year we published a report entitled *Equal Education Opportunity, Part IV*. In that report we tried to look back over the past 6 years to make some assessment of the progress that we have made in the goal of increasing the numbers of women and minorities who go on to education in California.

Our conclusions would be that, in the case of women, they now are no longer underrepresented in postsecondary undergraduate programs, by and large. They are underrepresented in some disciplines, such as the engineering-math disciplines, but there has been enough progress over the past 4 or 5 years to indicate, I think, if we continue the existing

programmatic efforts, by 1990, roughly, we will achieve some degree of rough parity.

MR. ALEXANDER. Parity overall or parity within the programs?

DR. HAMLETT. Parity overall and in most of the academic disciplines. We are continuing to make progress, and I think that if we continue what we are doing, we will achieve rough parity in most of the disciplines.

In the case of minorities, the progress has not been as evident. If you look at blacks, for example, the number of blacks going on to 4-year institutions in California has not systematically increased at all. It is about the same level as we were back in 1975.

MR. ALEXANDER. Latinos?

DR. HAMLETT. Latinos, Chicanos, have increased, but the rate of increase of that population has not kept pace with the rate of graduation from high school. The numbers are going up, but the rate of increase is not as great as one would expect if all potential high school graduates went on to college.

MR. ALEXANDER. Are there any trends with respect to minorities in the sense of clustering at 4-year institutions or at the junior college level; are there differences in those patterns?

DR. HAMLETT. In California, approximately 75 percent of all students who go on to college are in the 2-year community colleges. If we look at the ethnic minority population, blacks and Chicanos, that's much higher; about 85 percent are concentrated in the 2-year colleges and the rate of transfer from 2-year schools to 4-year schools is considerably lower for blacks and Chicanos and Latinos than it is for white students.

MR. ALEXANDER. What about in graduate education?

DR. HAMLETT. In graduate education those trends that I talked about at the undergraduate level are the same but even more drastic.

MR. ALEXANDER. And for women, particularly, in graduate education?

DR. HAMLETT. Graduate students, for example, in the university they were about 27 percent of the graduate population in the University of California, while they are about 40 percent of the undergraduate population, so there is a substantial reduction.

MR. ALEXANDER. Have you, in your research, identified any particular reasons or barriers for the particular statistics that you have just related with respect to minorities and women?

DR. HAMLETT. To focus first of all on ethnic minorities—if we are talking about why such a low proportion of minorities go on to college—I think there are three reasons to look at: First of all, the dropout rate of blacks and Latinos, Chicanos, from high school is substantially higher than it is for white students, for about 35 or 40 percent of the students, blacks, Chicanos, who enter kindergarten, first grade are likely not to be retained through and graduate from high school.

MR. ALEXANDER. Has there been any research done by your institution in California as to the factors that relate to the dropout rate?

DR. HAMLETT. The commission itself has not, since we deal with college-level instruction. There are several academic studies, though, that have dealt with that.

A second reason that I would point to would be, in California, the way the college-level system is structured. The University of California recruits and educates students who are in the top 12 percent of the graduating class. State University enrolls students from the top third of the graduating class, and all other students then go on to the community colleges.

In California, ethnic minorities become eligible for U.C. and the State University at a considerably lower rate than do white students, so we have the first problem of a high dropout—

COMMISSIONER SALTZMAN. Lower rate of what?

DR. HAMLETT. Lower rate of eligibility to get into the U.C. or the State University. They just do not complete the courses and do not achieve a high enough GPA [grade point average] to be eligible for University of California or the State colleges. So that's the second problem: lower rate of graduating with a high enough grade point average in the right courses to be eligible to get into a 4-year institution.

And the third reason would be that, even though among those students who complete the right courses, do get the right GPA, they tend to be clustered in the humanities, social sciences, rather than in the hard sciences and the math areas and, therefore, their movement through a 4-year institution is not as high a rate as a student who has completed a greater number of math and science courses in high school.

So those would be the three reasons: high dropout rate, low rate of eligibility for a 4-year school, and, thirdly, not a thorough academic program while in high school to make them prepared for quality college-level work.

MR. ALEXANDER. Dr. Landis, you are from the University of California at Northridge; is that correct?

DR. LANDIS. California State University.

MR. ALEXANDER. California State. Excuse me. You, I understand, are involved with a special program in the field of engineering and science at your institution; is that correct?

DR. LANDIS. Yes.

MR. ALEXANDER. Could you briefly explain what that program is?

DR. LANDIS. Well, we have been working at Northridge for about 10 years to attract black and Mexican American students into engineering and computer science studies in great numbers and to build the kind of an environment and support system that would facilitate their performing at a higher level in those majors.

MR. ALEXANDER. What kind of success have you had in that program or lack of it?

DR. LANDIS. Typically, I think, in California, minority students are being retained to graduation in engineering at about one-half the rate of white students, which is probably about 15 to 20 percent. We are presently retaining our students at about a 50 percent level.

MR. ALEXANDER. Thank you. Dr. Stage, you are involved in the EQUALS program; is that correct?

DR. STAGE. Yes.

MR. ALEXANDER. Could you briefly describe what that program is?

DR. STAGE. EQUALS is an inservice program for teachers, counselors, and administrators of grades K-12, primarily in northern California, to encourage them to attract and retain both female and minority students in mathematics and related subject areas.

MR. ALEXANDER. How would you characterize, from your involvement in this program, the progress or lack of progress that's been made with respect to women in the field of math and science in the past decade or decade and a half?

DR. STAGE. We are making progress in retaining them at least through perhaps the third year of high school mathematics, whereas 10 years ago they only made it through a couple of years. Now they are, by and large, making it through 3 years; however, there is still room for improvement in terms of eligibility for calculus as college freshmen, and there is also room for improvement in terms of performance where we have seen that young women who have completed 3 years of mathematics on average do not perform quite as well as young men who have completed 3 years of mathematics.

MR. ALEXANDER. What factors, if any, have you identified in your work that contribute to the underrepresentation that we have heard so much about of women in the fields of math and science?

DR. STAGE. I would say that primarily one of these is knowledge of the importance of acquiring training in mathematics for future employment. Many young women today are still under the impression that they will be supported by someone else, which is, by and large, not correct, so that apprising them of the fact they will work and probably for a majority of their adult years, that their options in work will be much greater if they have strong quantitative skills, that it is possible for them to succeed, and then that they are in an environment where parents and teachers also have a belief that it is possible for young women to succeed.

MR. ALEXANDER. People say all sorts of things about women in math and there are all sorts of stereotypes. Is there any hard research on the ability of female students and male students in the early age in terms of math ability and veering off and so on?

DR. STAGE. There is quite a bit of controversy about this, but one statement with which most psychologists would agree is that we do not observe sex-related differences in mathematical ability or performance up to early adolescence, 11, 12, or 13 years. Even the most extreme publications which would suggest some sort of inept difficulties do not observe such differences until approximately 6 or 7 years of schooling has taken place and about a dozen years of influence of family, friends, and television.

MR. ALEXANDER. Would it be your professional opinion that at that point it is an accumulation of socialization and steering that then tracks people into different systems?

DR. LANDIS. I think we can make a strong case for the fact that many women do emerge from the educational system with enough encouragement and enough capability that it is possible through a responsive educational system for them to emerge with those skills, so what we need to do is make the education system responsive to developing those potentials.

MR. ALEXANDER. Thank you. Mr. Treisman, could you explain to us what the math-science network is and why it was created and how it operates?

MR. TREISMAN. I think some of our labels may have been interchanged.

DR. STAGE. I'll take that one, too.

MR. TREISMAN. Let me just say I represent a professional development program, a project of the U.C.-Berkeley faculty that concerns itself with ethnic minority students.

MR. ALEXANDER. I am sorry, could you-

DR. STAGE. The math-science network is an organization of approximately 1,000 scientists, engineers, educators, and community people, primarily from northern California but also from across the United States, who are involved in encouraging the participation of young women and adult women in mathematics and related fields, and we hold career conferences and run a number of educational projects to that end.

MR. ALEXANDER. How is that supported financially?

DR. STAGE. It is, by and large, a volunteer organization. We have had some funding from the Carnegie Corporation of New York which has helped us to maintain a resource center where people can call and find out about our programs and so on. We have had some money to pay some staff time from Carnegie.

We have had a number of grants, primarily from the Federal Government in the past, which have enabled us to document some of our work. We have had money from the Women's Education Equity Act to make a handbook to show people how to carry on a conference like ours on a volunteer basis, and a study from the National Science Foundation to document the effectiveness of our career conferences.

MR. ALEXANDER. Currently, your funding is—

DR. STAGE. Very hazy.

MR. ALEXANDER. —very hazy. Thank you.

DR. STAGE. We are starting on private initiatives, but basically, we found that the Federal monies is the best source of seed money for new projects.

MR. ALEXANDER. Thank you. Mr. Treisman, getting back to you, I gather you are involved with the Berkeley program helping to retain students in the sciences. Could you explain that program to me briefly?

MR. TREISMAN. Yes. The faculty of the University of California, Berkeley, have conducted, for the last 5 years, a series of honors programs for black and Hispanic students entering U.C.—Berkeley. This program serves the great majority of black and Hispanic students who have embarked on math and science-related fields of study.

MR. ALEXANDER. What impact has it had in terms of retention rate?

MR. TREISMAN. Currently, at U.C.—Berkeley we are very proud to say that blacks and Hispanics are persisting at least into the second and third years at a rate higher than that of Caucasian students. Furthermore, in the critical math and science course—calculus for engineers, chemistry—both black and Hispanic students have now for years outperisted their classmates at U.C.—Berkeley.

MR. ALEXANDER. Are there any key factors in trying to increase the retention of minority students in colleges that you have been able to identify that may be generalizable to other programs and other schools?

MR. TREISMAN. Research on this question is currently underway. Preliminary results suggest that one of the major problems that face minority students on a campus such as Berkeley is great isolation. We have found that many of our black and Hispanic students are loners, completely insular, and have no way to really learn about what they need to do.

Also, we suspect that many of the programs which have been designed for these students set very low goals which do not encourage black and Hispanic students to achieve the highest level of excellence.

MR. ALEXANDER. Thank you. Dr. Landis, I know your program has had notable success compared to other schools. Could you comment on that question, what factors are identified?

DR. LANDIS. I think Dr. Treisman hit on it. I think perhaps one of the biggest areas that have kept minorities out of the engineering in the early years was the sense of isolation they found themselves in. For example, a black student who pursued engineering would find himself as the only black in a calculus class or chemistry class and finds it difficult to find relationships for the purpose of exchanging information or studying. They would, of course, find their social outlets through people who were not into heavy academic majors and, in many instances, would be a negative influence and tend to pull them out of their academics.

What we have tried to do at Northridge is build a community of minority people who were supporting each other and creating an environment where our students could find their social outlets within the context of their academic environments so that their friends would not pull them out of their academics but pull them into their academics—to be very common for a student's friends to say, "Let's get together and study," rather than, "Let's get together and party." I think this is a big factor in the performance of all students.

MR. ALEXANDER. Thank you. Mr. Finnell, would you tell us why the mathematics, engineering, science achievement program was established, or did I mess up the program again?

MR. FINNELL. MESA was established because there were very few students entering university programs in engineering or computer sciences, physical sciences, and related fields, and they didn't enter those fields because they lacked the secondary school preparation in math and science. So we organized MESA for the purpose of preparing students during their high school years in the math, science, and English courses and study and test-taking skills so that they could succeed at the university level.

MR. ALEXANDER. Which groups do you designate as underrepresented minorities in the State?

MR. FINNELL. Those groups are those that are not participating in the advanced high school math and science courses at the rate that you would expect, or completing the math-based disciplines at the university level at the rate you would expect.

MR. ALEXANDER. Which are blacks?

MR. FINNELL. In California, those groups are blacks, Mexican Americans, Puerto Ricans, American Indians. Half of the students that we work with in MESA are women.

MR. ALEXANDER. What has been the effect of the MESA program to date?

MR. FINNELL. I think there have been three or four influences of the program. First of all, in the last 5 years—and we expanded from the bay area to 100 high schools around California. Between 1977 and 1982 we had over 2,000 high school graduates completed our program. Over 90 percent went to 4-year universities and about two-thirds of them entered math-based fields of study. This is in contrast to minority students that did not participate in the program.

I think the second major impact was to create a very strong network of major corporations, foundations, universities, professional societies that are working with the 2,700 to 3,000 students in the program for the purpose of assisting them in this type of education.

MR. ALEXANDER. How was your program funded?

MR. FINNELL. The program was initially funded by the private sector from 1970 until about 1978. In 1978 we began to get funds from the State of

California through the two university systems. To date we have spent \$3.5 million; \$2.5 million of that has come from the private sector, major corporations and foundations, a million from the State of California, and we have received approximately \$50,000 in NSF grants. I guess less than about 1 percent from Federal monies.

MR. ALEXANDER. Earlier today we had a Chicano engineer testify that when—and he was going back maybe 15 years—when he grew in East Los Angeles, it was a fortuitous chance that his family resided in a white suburban neighborhood for about a year, that he got into the algebra program, and from there on attracted to an academic program—and as our interview report shows, none of his peers at that time, from the barrio, was in that program.

At the local high school level that you work with, are there major changes going on today or do we have significant steering and tracking, in equality of educational opportunity?

MR. FINNELL. I think there are major changes, but there is also the kind of steering and inequality that you are referring to. First of all, the experience of that engineer was probably typical of his generation—and I work with many of those engineers in the professional societies, and they feel that had there been programs like the ones you have heard described here today, that many of their peers would be practicing in professions with them. That's why, for example, we are in approximately 70 of the 200 racially isolated high schools in California because we feel we can give a strong focus to the academic message that's necessary.

On the other hand, the deterioration of the educational budgets and the outflow of math and science teachers to industry, to retirement are causing serious problems there, so that even though we have a strong message, an academic message, we feel that we have had to increase in MESA the dollars that we invest in our summer programs and other activities to complement the school work.

MR. ALEXANDER. Are you aware of any programs that are perhaps similar to yours that operate at the elementary or middle school level in this State, significant rather than maybe one or two programs at the school?

MR. FINNELL. Well, there are various programs around the State and around the country that work with elementary school students or junior high, usually in awareness or some special Saturday programs, or like Project Seed that works in mathematical reasoning.

MR. ALEXANDER. But is there anything as, sort of in coordination with industry, education, local school system, as MESA? Is there anything analogous to MESA on the middle school level?

MR. FINNELL. The University of California has a program aimed at the junior high level called "partnership," but it is not aimed and doesn't complement the program that we have. MESA, at one time, when we

submitted our original plan, we proposed a junior high effort for 7th, 8th, 9th graders that would aim at getting more students out of the 9th grade with algebra 1 and biology 1. Because of the funding we received, we chose to initially target on the high school level, but we still feel strongly that unless a major effort is made on the junior high level to double the number of students completing the algebra 1 course by the 9th grade, that it will have an impact on university enrollments in math-based fields of study.

MR. ALEXANDER. Dr. Landis, I neglected to ask you how your program was funded? How is that funded?

DR. LANDIS. Combination of funding from private industry sources and from the university, and—Bob Finnell has not had the chance to tell you—but we just received funding from the State for a new initiative to develop or expand our type of program to a number of universities in the State; so we look forward in the future to State funding. We have a couple of Federal grants. Unfortunately, I think they are beginning to disappear.

We had for 2 years the National Science Foundation grant called research apprenticeship for minority high school students, which was an excellent program. And we also, for two years, have had a Department of Energy grant called PREP, prefreshmen engineering program, which, this summer, we had 40 high school students between their junior and senior year in high school come to our campus for 6 weeks and study solar energy, computer program, and math enrichment. Although the PREP program is being funded next year at a reduced level, the RAPS program, the NSF program, I think is dead.

MR. ALEXANDER. Dr. Stage, we have had testimony of differing views of whether women in engineering—once they graduate and enter into the professional world, be it academia or the other side of that, the corporate side of it—whether they encounter obstacles towards advancement or whether it is a pretty smooth track. Do you have a professional view on that?

DR. STAGE. Yes, I am glad you asked. There was some disagreement this morning about the salary equity, and I think that an article from *Science* magazine, which I will leave with you, may clarify that somewhat.

MR. ALEXANDER. Thank you.

DR. STAGE. Bachelor's degree recipients in engineering on average—female graduates are offered salaries 100.9 percent, so a percent higher than males; however, that salary bonus fades after 1 year so that after 1 year, or within 2 years of receiving the baccalaureate, women get 95 percent, on average, of the salary and a male engineer, and by the time that they have been in the labor force for 24 to 25 years, the women engineers are being paid 78.5 percent of the salary of the male engineers, so this is all detailed. I think salary advancement is one of the biggest problems.

CHAIRMAN PENDLETON. If we could enter that into the record, we would appreciate it.

DR. STAGE. I'll be glad to.

CHAIRMAN PENDLETON. So ordered.

MR. ALEXANDER. I will ask—we are running a little tight today—one general question to the panel, and I would like the comments on it about the strategies that can be pursued by the Federal Government in this field so that if we came back in 10 years, we wouldn't be told there isn't a supply of qualified women or minority engineers and scientific people. What strategies need to be pursued?

DR. STAGE. I have another thing to enter into the record which the staff asked, which is a summary I've written recently of programs across the board from preschool through postgraduate opportunities—and I think that primarily finding ways to continue the good models that have been developed and provide funding and support for tested models is a very important thing that needs to be done.

Further, working with the people whom we have as teachers—whatever we feel about these people—they are trying to do something, and we need to work with them to give them strategies to be successful with the larger proportion of the students than they have been.

MR. ALEXANDER. That is a general statement. I know our staff asked a number of you to prepare some written materials on your programs and so on, and I would like to have it all for the record as soon as the panel is over. Dr. Landis, did you wish to comment?

DR. LANDIS. Yes. I think the emphasis on sort of contract compliance through affirmative action in the past has been on recruiting. And when we look at an area like engineering, where the pool of minority engineers is woefully inadequate, I personally feel that encouraging companies to compete for a very inadequate pool—that is, if 1 percent of engineers are black, why try to get one company to have 2 percent black engineers because if they do, another company, by definition, must have less than 1 percent—whereas I think, if companies would put their efforts and resources into the pool, building effort into supporting programs like MESA, programs like PDB at Berkeley or our program at Northridge, so we could, through the education process, increase the number and visibility of blacks and Mexican American, Native American engineers. Particularly, that would be a constructive direction to go.

MR. ALEXANDER. Dr. Hamlett?

DR. HAMLETT. Just to respond a little bit to the opening question, you asked about what the Federal Government could do so that 10 years from now we won't be talking about this issue.

I think one thing we need to do at the start is realize it is not an issue that will not be resolved in 10 years. It is a long-run issue and problem. If we look at the composition, for example, of the K-12 schools in California

now, 2 years ago, fall of 1980, approximately 50 percent of the students in first grade were ethnic minorities in California; 30 percent were Chicano, Latino.

As I said before, the dropout rate for those students is about 40 percent from high school. So by 1995 more than 50 percent of our students in secondary schools are going to be minorities. We have to substantially do some changes in what goes on in those educational institutions in order to retain students, in order to offer math, science, English courses in number and in quality which will prepare those students for college and for careers in high technology. It is not something that will be resolved in a short period of time.

Secondly, I think the postsecondary education commission has been doing—and hopefully will continue to do—a useful job of identifying programs that are working, strategies that are working, and come up with reasons about why they are working. I think the more that we at the State level and you at the Federal level can work together in getting money to go into the useful, functional programs rather than just laying a pot of money out there and have everyone raid it.

We've learned, if nothing else, that simply throwing money at this is not solving the issue. We need to have very careful direction and control of where we spend our funds, so I think the State government and the Federal Government, hopefully, work together a whole lot more effectively in the future than we have done in the past.

MR. ALEXANDER. Anyone else wish to comment on that?

MR. FINNELL. I think that if we want to make significant progress in 10 years, we are going to have to decide to do that and set a national policy of doubling or tripling the number of students completing junior high and high school with the adequate math and science preparation. This worked with physical fitness. Some say it is again beginning to work with nutrition, so let's do it with academics.

Secondly, I think we need to focus on those program models that are producing results and invest in those programs whether it is private, public, foundation money or volunteer time. I think we actually spend more money in this country having awareness conferences and banquets and buying ads than we do on investing hard dollars in students, whether it is a Saturday class, a summer program, or an after-school computer learning experience. And concretely, I'd like to see us just begin to spend as much money on student programs as we are on these showcasing awareness things that were very important 10 or 12 years ago, but which right now, unless you're a Platonist, are not relevant.

Third, I think we need to build on the coalitions that are interested in this problem. A number of individuals testifying here today have talked about the close involvement, both personal and financial, of volunteers from industry, from universities, from professional societies, from the

community, and those are individuals who want to see this problem worked on. Unfortunately, 99 percent of the monies, as far as I am aware of it, go to remedial or non-math-based type of activities. When MESA got started, for example, California which was a high-technology State—it's even more so now—its universities in engineering and science were the best in the country and they still are. We have about one-sixth of the minority populations in the country then, and we still do. And yet 99 percent of the dollars were going to nonmath, nonscience, nonengineering, nontechnical kinds of programs. So, if we can provide some incentives to institutions, whether it's some kind of a financial incentive or other type of recognition, then I think the objective and results will be what are healthy for the country, for the individual, for the professions that we are talking about.

Because the one thing running through our testimony is that we have each found that there are many more students on the public school or university level who can complete math and technical-based programs, and when we provide the targeted resources for those programs—and by that I mean programs that focus on academic achievement—then those students are going to become productive citizens of our major companies or educational institutions or government agencies.

CHAIRMAN PENDLETON. Thank you. Commissioner Saltzman?

COMMISSIONER SALTZMAN. On reflection, that leads me to a question. This morning we had testimony from Dr. Castro, a chemist who came out of Los Angeles, a barrio in Los Angeles, East Los Angeles, and he indicated, Dr. Hamlett, some additional factors to the ones you listed for the disparities that have to be taken into consideration, and I think in his own personal experience that in the school in East Los Angeles to which he went, a predominantly Hispanic school, there was tracking, steering of the children toward vocational instead of academic achievement, and the education was largely inferior.

For a 6-months' period his family moved to a suburb, and in that suburb—a white school predominantly—algebra was offered universally. Everyone just took algebra—and he took algebra. Then he went back to the school from which he came after his parents again moved, then he was tracked and he gave some vivid illustrations of tracking where a student is in that academic program expected to succeed, and how that motivated him and how, despite his coming from an environment which, like all other Hispanics, he was going to be a dropout, he was a poor student, now he has a Ph.D.

So I think one has to consider that he was making a case, it seems to me, for desegregated and integrated education; that in addition to all of the other things that you all have pointed to as aids toward promoting the inclusion of minorities and women into the mainstream of this expanding future for California and perhaps for the Nation, that the issue is how we

are going to, in the elementary education, adequately overcome two persisting factors: one, the inferior education still being transmitted to minority children and, two, the tracking to which they are subject. Apparently from his personal experience it was a desegregated, integrated educational experience that helped him to emerge into the possibilities of his own potential.

In terms of what everything each of you are saying, I think, and what I am looking for is some confirmation of my own interpretation of what I heard from him and others in the earlier testimony that, along with everything else, the important work that you are doing, the future of California's economy, and perhaps indeed the Nation's economy, rests upon our continuing, persisting effort in the elementary grades to provide desegregated, integrated education which overcomes the tendency to track minority students into vocational directions and to provide equality of education for our minorities. Briefly, if you want to concur with me or comment on that.

DR. HAMLETT. I would just briefly concur. Everything I have learned over the past 6 years and the work that I have been doing would totally substantiate the point you made very eloquently.

COMMISSIONER SALTZMAN. Dr. Stage?

DR. STAGE. I would just like to say that, while I agree with much of what you said, I think that what I heard Dr. Castro saying this morning was repeated by you. It was expected that everyone would take algebra—and I believe one of the things that all of us on the panel do in our programs is create an expectation of success; however, the point that Mr. Finnell made shortly ago is very important, that creating the expectation without providing the opportunity to acquire the confidence is a false hope.

COMMISSIONER SALTZMAN. Right.

DR. STAGE. So that we try in our programs to couple expectations that you can succeed with substantial enough resources that it is possible for students to succeed. And I absolutely agree with you that it has to start in elementary schools, but I think it's the combination of expectations and competence that's crucial.

CHAIRMAN PENDLETON. Commissioner Ruckelshaus?

COMMISSIONER RUCKELSHAUS. Dr. Hamlett, how is the curriculum designed for the State? Where are the specific course requirements decided upon?

DR. HAMLETT. In the K-12?

COMMISSIONER RUCKELSHAUS. For graduation at the secondary level?

DR. HAMLETT. There are no State requirements for graduation. Those would be decided locally, at the local district.

COMMISSIONER RUCKELSHAUS. So each local school board makes their own decision?

DR. HAMLETT. Correct.

COMMISSIONER RUCKELSHAUS. And that decision is being made—the level of achievement will vary from school board to school board, from East Los Angeles to Sunnyvale to Mountainview to Palo Alto?

DR. HAMLETT. That's correct. The State has moved to establish statewide requirements for proficiency tests which students must pass in order to receive a high school diploma; however, those proficiency tests are determined at the local level, the local school board level. So, again, they vary. From some estimates I have seen, the quality of requirements to pass a proficiency test would be about a third- or fourth-grade level; others are much higher, but the State of California has moved away from statewide graduation requirements. There is evidence of a trend back to those, however.

COMMISSIONER RUCKELSHAUS. Each district must have a proficiency test, but the quality of that test is of their own devising?

CHAIRMAN PENDLETON. It is like subordinate gamesmanship from the top.

COMMISSIONER RUCKELSHAUS. I see the national trends of literacy—actually ability to read with any competency—are plunging and we are talking functional illiteracy for people who have high school diplomas. It would suggest itself to me, anyway, that perhaps there ought to be some other educational program for people to become members of their school board or perhaps some wider experience for those people who run locally and are elected to maybe show how much it is in their next generation's self-interest to begin to prepare themselves for the future they are going to live in.

DR. HAMLETT. I think that that issue is being debated a great deal throughout the State, in the legislature, and in the current superintendent of public instruction election race this fall.

Members of the State board of education now, I think, are coming to the feeling there is a need for some statewide graduation standards, and I would not be surprised if those were not enacted in the next 2 to 3 years.

COMMISSIONER RUCKELSHAUS. How do you feel about that?

DR. HAMLETT. Personally, I agree with the need for those.

COMMISSIONER RUCKELSHAUS. Can a person graduate from high school in California without having taken any math courses?

DR. HAMLETT. I don't know every school district. I know the school district with which I am familiar in Sacramento, and I think you have to complete one math course at some point during your high school period, although there are no stipulations that that be anything more than simply general math; but I cannot speak statewide.

COMMISSIONER RUCKELSHAUS. We have certainly heard a lot from the people in the high-tech industry about the pool is just too shallow for minorities and women, there are just not enough graduating, and we do

know that what's happening to many minorities and women is they are not being encouraged and supported. And we have seen the employer kick it back to the university who has kicked it back to the high school level—and we pick up a lot of people's responsibility along the way, and it kind eventually ends up with the family.

However, assuming that you don't have that kind of motivation in your environment, in your family, then pretty soon it becomes the school that has the opportunity. I don't think it is completely the school's responsibility, but if there is no motivation for that in your background, then this is certainly a golden opportunity to begin to raise people's basic skills and motivation.

DR. HAMLETT. The State of California, about 4 years ago, began a State-funded effort run by the University of California to send their staff out to the junior high schools to work with high school staff, to motivate the students, to motivate the families of the students, to get a better level of awareness of the need to begin the math sequence in the 8th and 9th grades; so there is some awareness of responsibility that colleges have to work with the secondary schools and with their families to do that, but that is only, I would say, a very small-scale effort thus far.

MR. TREISMAN. There seems to be an endemic assumption that motivation plays a large role, that there are very few minority individuals who seek to make something of themselves. This is insane and a very inaccurate idea.

I think that all of us have found in going out at all levels, junior high, beginning high school level, and elementary school level, that there is no shortage of students interested in doing something challenging and important with their lives. There is a large surplus of programs, however, seeking to find those students, believing that is a problem. There is a great shortage of programs that are actually there to provide quality math and science education to those students.

Each time the faculty at Berkeley takes money out of their pockets—if I may say how we are funded—the primary funding comes from the pockets of faculty, individual contributions. When we went out and solicited for an honors program, we had 500 minority students in the Berkeley area apply for the program. We were overwhelmed by the number of students who sought to do something well. So again in your question I see this assumption that motivation is a main problem. Work needs to be done on the elementary school level with this, but there is an overwhelming number of students who are interested in doing something and who have talent and have demonstrated that talent to do something, for whom very little exists.

COMMISSIONER RUCKELSHAUS. So it is support for those people who are already motivated but need a little—

MR. TREISMAN. Yes. In minority programs, as my colleagues have said, much of the support goes to remediation; very little support goes into rewarding demonstrated excellence and talent. And I think if a change has to be made—and a change does have to be made—that is where we should put it.

There is no shortage of very talented minority individuals out there and women individuals—and men individuals for that matter too—and we need to redirect some of the monies that have gone for students who are the hardest cases to the students who just a reasonable or small amount of money will actually help.

COMMISSIONER RUCKELSHAUS. Would you agree with that, Mr. Finnell?

MR. FINNELL. I agree with it, and we built our program around the idea of incentives. For example, if you do not take the next math and science and English course, then you do not remain in MESA, and, therefore, you don't receive the various services—which you will see described in the handout—whether it be participation in the summer program or field trips or tutoring, or the other things that we do.

Secondly, we built into the program scholarship incentive awards for the students who did very well in their math, science, and English, and this means cash awards to those students.

Third, we have various types of math-science or design contests where certain prizes are given—not just cash—but a calculator or some other tool that can be used in a person's academic career. So they see their performance linked to achievement, in contrast to many programs where you get your stipends or you get your goodies whether you do well or not.

In fact, in some if you do well, you get kicked out of the program. We built MESA around incentives and feel very strongly that that is an important part of it.

COMMISSIONER RUCKELSHAUS. Do you share the feeling that too much Federal money is being spent for vocational technical training and not enough to push people into exploring academics?

MR. FINNELL. In California, I believe \$100 million is spent on vocational education, and I can compare with a million or so that—or a couple of million maybe—that are spent on the academically oriented programs. I imagine nationally—I don't have those figures—the same thing holds true, so that I think we'll always be spending more money on those vocational education type of programs. However, I would say emphatically that we are not spending the appropriate share of the total dollars on the high-performance programs that will produce the B.S. degrees in the math-based or engineering and technical fields.

COMMISSIONER RUCKELSHAUS. Thank you.

CHAIRMAN PENDLETON. Just a couple of questions. I concur with the general panel assessment that we tend to reward—or better still, underachievement seems to be a status symbol in this country with respect to

education rather than achievement, and we put so much into the underachiever and we don't do much with the achiever. I think I have some problem with your definition of motivation. I guess my academic background is you can only change the motivating environment; you cannot begin to motivate people. It is the environment by which the motivation takes place and that's the personal thing, to wit, black athletes have decided that they will escape the entire spectrum of public education if you will. And I suggest that those laboratories in which they are able to practice their skills are open and are abundant for longer periods during the day—I mean, the gymnasium and playground are open for longer periods of time. People begin to excel.

On the other hand, I somehow think, if the classrooms and the labs are open a commensurate amount of time rather than have the down time on the school from 9 to 3, we might be much better off and begin to produce those people that we're talking about.

What it seems to me is happening in this case is that the public school system has taken the taxpayers' dollars but not given it back what it's supposed to give it in terms of the kind of curriculum that will produce the people we are talking about. If what I read into the record yesterday is true, that there are 60 million persons who can't even do basic—how do they refer to it—the routine paperwork of life, which is reading a classified job ad, or an instructional manual, we are in serious trouble. We put a lot of money into that kind of investment.

Would it be that we need to give more attention to changing, not so much just special education activities, Mr. Finnell, but it seems like to me that if we expected youngsters to achieve at kindergarten and first grade, we would have a much better student than those we do not expect to achieve. Is that an accurate statement?

MR. FINNELL. Yes, sir.

CHAIRMAN PENDLETON. Does anybody else agree with that? I think if the expectation levels of minority youngsters and women were greater at the grade school level, we would be much better off in the end. And it seems like to me that one of the public policy issues here is how we can get rid of all of the special so-called programs that we get into and get back to those things that raise expectations. And if we challenge that youngster soon enough, perhaps that youngster would decide that "I don't have to use athletics as a way out" and the percentage—you have a 25 percent chance more of being a doctor than you do of being a basketball player—and perhaps if we can raise expectations to the point whereby minority youngsters begin to achieve earlier and they are expected to achieve earlier and more weight is put upon their back, is that not a public policy issue that we need to get to?

MR. TREISMAN. We go beyond just expectations. We need to use some of the tools which have kept these students from achieving, like tracking,

for the purposes that we seek. I think we should use tools like tracking to make it extremely difficult for students to opt out of courses which will make them useful to this society and which will increase opportunities for themselves.

We both need to expect—and we should expect—very high things from our children independently of whatever color they may be, and we also, in our education system, need to make it very difficult for students to opt for less. That's a personal opinion.

CHAIRMAN PENDLETON. Tell me, what has been—we are talking about the public education system now—the experience of minority students who attend nonpublic schools, parochial schools or private schools? What has been that experience and what is the difference in the educational level?

DR. HAMLETT. Let me partially respond to that question—but also go back to the point you made previously. I think simply making the expectation that the student will succeed is half, but not all, of what we need to do. We also need to provide the environment, the supportive network, which will allow the student, which will help the student to succeed. It is not just enough to make the demands. There also must be the education there too for those who make those demands of themselves that they will be able to be successful.

CHAIRMAN PENDLETON. I thought I was concurring with your point that if the environment by which the athlete is able to achieve is similar to the environment which the academic student needs to achieve, if the academic environment was similar to the athletic environment, we might have better achievers, which is the other part of the matter of expectation. Here is what that result really can be, but carrying through that program is not what has really happened. And we track youngsters into other activities so that they can become one part of that 1 percent that might make it and not the part of the 25 percent who could make it if there were other kinds of activities. I support where you are.

DR. HAMLETT. The parochial schools in California who, in some cases, enroll very large numbers of minority students, particularly Chicano, Latino, Hispanic-background students with Catholic backgrounds, tend, for example, in Los Angeles to go in large numbers to parochial schools. Their records of academic success at K through 12 and on to college, as far as I can tell from the limited data, seems to be at a better rate than than who go through the public schools.

CHAIRMAN PENDLETON. Let me ask a question. That means in many cases poor people, regardless of color, are making a conscious decision about what kind of education they want their youngsters to have, and actually they are spending their disposable income, in addition to whatever taxes they may or may not pay, because they see the value in the kind of achievement that their youngsters need. Is that an accurate statement?

DR. HAMLETT. I don't know. We do not have the data, as best as I can determine, to know the income level of students who are in private K through 12 compared to students in public K through 12. So I don't think the data are there to answer that.

CHAIRMAN PENDLETON. Let me give you an example. There is a Catholic school in Newark, New Jersey, that is predominantly black, and they have good athletes and they have good students, and you would not call Newark, Orange County or Montgomery County or someplace outside of Chicago. I guess the point I'm making is that minority parents of those youngsters have made some decisions about the ability of the public school system to provide their youngsters what they need and allow them a chance to be eligible for the kind of programs you're talking about.

I guess what I'm saying is that—well, I guess I'm saying something else that I haven't said. I think somehow we make a case for the consideration of vouchers and tuition tax credits because, if you don't get it publicly, you've got to find someplace you can get it, and it seems to me if there is a cadre of people who can put together a school that trains people this way, why shouldn't the poor parents who have to pay their disposable income get a chance to do it?

COMMISSIONER SALTZMAN. Why not, Mr. Chairman, with all due respect, upgrade the public school system which has offered so many past generations the ticket to mainstream American society successfully? But I am not sure that's on the issue.

CHAIRMAN PENDLETON. No, but I am just saying—I am not debating the merits of one school over the other; I am saying, based upon the evidence and the kind of selection that people are making at this point, especially minorities in other cities, they have made some decisions by which they get no credits at all, but they have decided to invest their hard-earned dollars into the system that produces the kind of people that this industry is talking about. Where some may be produced in the public school system, we are still saddled with that whole comprehensive high school concept versus that specialized high school concept among many other kinds of things.

COMMISSIONER RUCKELSHAUS. Can we hear the panelist on this question?

CHAIRMAN PENDLETON. Certainly. I am trying to do that. Do you think I was trying to make a speech?

COMMISSIONER RUCKELSHAUS. I have nothing to say on that subject.

DR. STAGE. Having taught both in a private institution and public institution, I would like to add a little data to the conversation. One thing that is important about those schools is the parents in private institutions have made a choice to send their children there. Another thing that's important is that those institutions may choose to exclude those students for whom there is not a good match between the students' goals and the

schools' goals. And I think that the public schools operate under a considerable burden of not being able to exclude anyone, and so that I think that comparisons should be made cautiously.

However, the other thing I would like to say is that in private or independent institutions, teachers and administrators are allowed a lot more autonomy in terms of running their own curricula and so on, so that you can see some of the very best examples of education and some of the not-so-best examples. So I think comparison should be made very cautiously between those different kinds of systems.

COMMISSIONER RUCKELSHAUS. As you answer that question, could you consider what, in your professional judgment, the impact on the public school system might be if we had something like a voucher system on those who are left behind?

DR. STAGE. Those students who are left behind?

COMMISSIONER RUCKELSHAUS. Yes.

DR. STAGE. I was under the understanding that most of the voucher plans that I am familiar with indicate those students who have some less desirable characteristics, such as needing special instruction, let's say, generally are worth more. Their vouchers are worth more, at least in some of the plans I have seen, so there would be a financial incentive to an institution to develop the capacity to teach such individuals—and I think that a little competition and little specialization would not hurt the public schools.

MR. FINNELL. I would like to comment in two directions on this: First of all, money flows to the private schools because certain parents are willing to pay to get that extra academic work at those schools, whether it is the Head Royal School in Berkeley or some on the outskirts of some Connecticut or Massachusetts town, and they get that; they pay extra and they get extra academic work and quality work.

Money flows to the public schools because of attendance. There is no connection between performance. There is no connection between advancement and output. If you go to buy a car, you expect it to run and, if it doesn't, you are going to sue or take it back or whatever. But when you go to the public school, you can't do that when you get out without the education. So if we were to link flows of dollars or additional flows of dollars, whether they are from the private or the public sector to outputs, and link that also to promotions of the leaders there, then we might get some action within a larger system.

Now, the second point is, you merely have to do some gaming out on what happens if we have a private school system; it's working on a small scale, why not double it? Well, who is going to teach there? You get into problems very quickly when you see that in California we produced, this year, 70 or 80 math teachers and we needed 800—when 35 percent of the math teachers had a minor or a less—so that theoretically some of these

things sound good; we can get action out of a small number of schools, or we can set up a boarding school for the sciences in North Carolina at \$6,000 apiece; but when you begin to look at it in terms of the scale that we need in this country—30,000 more graduates in this field or 20,000 more in that—you are then talking about either tens or hundreds of millions of dollars or thousands and ten thousands of teachers that are not there. And so while something might sound good on a small scale here, we had better watch it before we tinker with our basic system unless we can get some action out of it first. And I think we can get some action out of it by setting some standards before dollars flow there.

CHAIRMAN PENDLETON. In deference to my colleague who wants to hear the panel, I do, and I understand the negativism against, about what I am proposing. What I am really saying in this says that the competition that you talk about, Dr. Stage, is extremely important. There is no need for the public school system to do anything differently now when dollars flow to it because of attendance. And what I am really saying in this case, you do not necessarily cut out the public school system, but I think, once it can compete for the students and for the teachers on the same basis as everybody else would, you might get a much better education. And I am not prepared to wait for the public school system to get its act together and give us another generation of illiterates.

It is critical that something be done to do what we are talking about. There is just absolutely no way we are going to get the 200,000 people we are talking about in this area to go to work and supply the jobs for those in the area if we continue to depend upon the kind of system we have right now. It can probably get itself together, and I hope that it will.

Just one other point. I want to put into the record—and perhaps we have to send to the panel—there is an article in a magazine called *Society*—I think it is—called “How Schools Fail Black Children,” and it is done by a young education professor at Syracuse. I’ll put into the record; it’s a very interesting scenario. But in deference to time I will not explain the article except to say that one of the issues becomes from kindergarten through like grade two youngsters were getting a lot of big muscle motivative group activity, and that is the kind of urban environment that many black youngsters and minority youngsters are in. And then you get to grades four and five where there is more disciplined sit-down kinds of learning, the environment at home and the environment at school are a little different, so as a result you begin to track those youngsters off into courses that sort of push them out—and the comparison is made of the intricacies of a basketball player versus the intricacies of a chemical formula, and the amount of time one has to execute a basketball play versus the amount of time one uses to mix whatever you are mixing.

It clearly shows where there is a capacity to do things quickly on the part of youngsters that had been labeled through the process nonachievers,

and what we have in the end is that when a youngster finishes high school, a minority youngster, and you go to get a job, employers know that that minority youngster is primarily 5 years behind even though they have graduated, as compared to the majority youngster who is assumed, because of the record, has a higher achievement level. So, therefore, you don't hire the minority; you do hire the majority and then racism creeps in to be a factor.

So I'll share that article with you a little bit later. I have some other questions, but I'll stop in the interest of time. If there are no other questions, we thank the panel for assembling. We will call the next panel.

Let the record show that Mr. Green from the earlier panel was excused, and that from this panel W. Robert Hudson is excused.

[Phail Wynn, Jr., Steve Duscha, and Doreen Anthony were sworn.]

TESTIMONY OF PHAIL WYNN, JR., PRESIDENT, DURHAM TECHNICAL INSTITUTE; STEVE DUSCHA, DIRECTOR, CALIFORNIA WORKSITE, EDUCATION, AND TRAINING ACT PROGRAM; AND DOREEN ANTHONY, PROGRAM COORDINATOR, PENINSULA ACADEMY

CHAIRMAN PENDLETON. We start our questioning with General Counsel.

MR. ALEXANDER. Starting with Dr. Wynn, could you each identify yourself for the record?

DR. WYNN. My name is Phail Wynn, Jr. I am president of Durham Technical Institute, which is a State- and county-supported community college located in the Research Triangle Park area of North Carolina.

MR. ALEXANDER. Mr. Duscha?

MR. DUSCHA. I'm Steve Duscha, director of the California Worksite, Education, and Training Act program, a State job training program headquartered in Sacramento.

MR. ALEXANDER. Thank you. Ms. Anthony?

MS. ANTHONY. I am Doreen Anthony. I am program coordinator for Peninsula Academy. It's a program of the Stanford Mid-Peninsula Coalition in Stanford.

MR. ALEXANDER. Thank you. Dr. Wynn, in the Research Triangle—which is where you are located—could you tell us whether you perceive any particular need for technical training for minority youth and women?

DR. WYNN. Absolutely, in a number of areas—but I should say that in the Research Triangle Park area, statistics from a job analysis done in 1980 indicate that the one job category in highest demand both now and projected through 1985 is the position of electronics technician. The current and projected needs in the park among those firms currently located there is for 643 electronics engineering technicians between '82 and '85.

For the last 3 years every technician that we have trained has been employed at starting salaries between \$15,000 and \$18,000; so that area, in particular, is a high demand area in which more women and minorities can find employment.

MR. ALEXANDER. Will you tell us a little bit about the training program you run and what the makeup of the student body and the graduating body is?

DR. WYNN. Okay. I did bring some materials for the Commission.

MR. ALEXANDER. Thank you.

DR. WYNN. A catalog and some brochures. The program is a 2-year program which trains electronics technicians, primarily in digital electronics and in fundamentals of microelectronics. We also get somewhat into fundamentals of robotics and into computer design and computer manufacturing.

Again, it is a 2-year program. In 1979—and I brought some figures with me—in 1979, the program consisted primarily of about 80 percent white males. We've done two things in the past 3 years: We've doubled the capacity for the number of students we can accommodate by running a day and an evening program, and through a very concerted marketing program and the establishment of a preengineering program, we have increased the number of women and minorities significantly.

For the class that began this week, we brought in 100 students. Of that 100, we had 58 white males, 10 white females, 20 black males, and 8 black females. We have a total of 42 black males in the program now, 33 white females, and 10 black females.

I should point out that the requirements for getting into the program are a 12th grade reading level minimum and substantial ability in advanced algebra and trigonometry, which, in fact, eliminates a large number of people.

MR. ALEXANDER. Stop right there for a moment.

DR. WYNN. Okay.

MR. ALEXANDER. You say that eliminates a lot of people. Are there existing barriers that are distinct for minority and females in the North Carolina area before they get to the college level, that is, disproportionate graduation rates or issues of that nature that you are familiar with?

DR. WYNN. Well, I think the major problem is in North Carolina public schools there is still the option of students taking on their own certain math and science courses, and also we found that counselors and some instructors tend not to encourage minorities and females to take additional courses in math and science.

We find that, in administering a regular aptitude test to these students, they have high aptitude, but their quantitative skills are not that strong, primarily because of a weak academic background. So that's one of the

reasons that our preengineering program has been somewhat successful because they have the aptitude; they just do not have the preparation.

MR. ALEXANDER. Are there any distinct or particular services that you provide to minorities and women students to try to overcome those obstacles?

DR. WYNN. Yes, there are, and I would say there are primarily four different things we do. First of all, as I indicated, we did establish a preengineering program for those that were weak in some quantitative areas.

Secondly, we do have a peer tutoring program whereby the students that do well are paid \$3.50 an hour to work with those students who have some difficulty. We maintain open labs during the week and on weekends with proctors in the labs to help those students that need additional work—and I think one thing that has helped particularly in our electronics program is we hired two female engineers to serve as role models for significant others, and that has helped a great deal because we found that our female students now have started to enjoy a greater persistence rate because of that.

We have done the same thing in our electronics data processing program. We have four black instructors there, and that has helped the persistence rate with our minority students in that particular program.

MR. ALEXANDER. As I understand it, some of the training that you have provided has been in coordination with some of the companies in the Research Triangle; is that correct?

DR. WYNN. Yes.

MR. ALEXANDER. Could you specifically say General Electric; is that correct?

DR. WYNN. Yes, we have.

MR. ALEXANDER. Can you tell us something about that?

DR. WYNN. We have a custom-designed program to train the wafer-fabrication operators for the General Electric microelectronics center in North Carolina. This is a rather unique program in that we have been able to select unemployed persons that are otherwise qualified for the training, and each one that has completed the training has been offered a position with GE. Let me briefly address the figures on those.

MR. ALEXANDER. Thank you.

DR. WYNN. In the first instance, we have taken three groups through. The first group contained 15 graduates. They all were employed. We had five white females, three black females, five black males, and two white males.

The next two classes were somewhat smaller, but the percentages were essentially the same; in each one we had a majority of minorities and females in the training. And again, as I pointed out earlier, we found that these students do have the aptitude. The problem normally is academic

preparation—and we've also built in an extra week to give them the refresher in math and science before going into the actual training.

MR. ALEXANDER. Thank you. Mr. Duscha, could you explain to us briefly what CWETA is? I gather that is how it is pronounced?

MR. DUSCHA. That's right. CWETA is a State training program created to do custom training somewhat similar to what has just been described on a statewide basis. We fund the training for individual employers or groups of employers. The employers decide what we will train for. They work with a public school to set up a curriculum. That curriculum includes, in every case, on-the-job training as well as classroom instruction.

MR. ALEXANDER. Is it targeted to any particular population or populations?

MR. DUSCHA. It is very generally targeted to the economically disadvantaged youths and others with inadequate or obsolete job skills, but we have found that the businesses that we have dealt with are very anxious to use the program and use the training for affirmative action purposes.

We are active in a number of fields but primarily nursing and electronics and other technical areas where there is a shortage of skilled labor. In the electronics and technical fields, about 55 percent of our participants are minorities; half are female.

MR. ALEXANDER. I understand some of your program trains people who are already employed in the industry for upward mobility; is that correct?

MR. DUSCHA. Yes. We found that the—

MR. ALEXANDER. Can you explain that?

MR. DUSCHA. —business wants to train people for our largely mid-level jobs. There certainly is the problem of engineers and high-level people. We were not set up to address that. We find less interest in entry-level jobs, more interest in the kinds of electronics technician jobs.

MR. ALEXANDER. Are you training people who are production-line workers for managerial-technical jobs within the production line or that type of thing?

MR. DUSCHA. Yes. We are training, in most cases, production-line electronics assemblers to work as skilled technicians.

MR. ALEXANDER. For that particular program, could you tell me what proportion of the trainees are male and what proportion are female?

MR. DUSCHA. I believe it is similar to the overall totals. I don't have a breakdown.

MR. ALEXANDER. Could you get that for the record?

MR. DUSCHA. Yes.

MR. ALEXANDER. We had some testimony this morning as to lack of mobility for females in that area but more mobility for males and, if you have some data specific to that, that would be helpful.

MR. DUSCHA. Yes, I would think that.

MR. ALEXANDER. Racial classifications would also be useful.

MR. DUSCHA. Yes, I can supply that.

MR. ALEXANDER. Who sets the criteria for selecting employees who are to move upward in your training programs?

MR. DUSCHA. The final decision is made by the employer because, as a condition for entering into this training, we ask the employers to agree to hire or promote all those who successfully complete the training; so the employer must have the final say.

If he has a union, the union is involved—and the school is usually involved, too—but the final decision has to be with the employer.

MR. ALEXANDER. Ms. Anthony, could you briefly describe your program to us?

MS. ANTHONY. The Peninsula Academy is a collaborative effort between industries, schools, and the community organization, the Urban Coalition, and it is a 3-year program based in the Sequoia High School District, 10th to 12th grades, in computer and the electronic technical training. The purpose is to motivate students to improve their academic skills and motivate them to continue and finish high school.

MR. ALEXANDER. Could you tell us a little bit about the Sequoia High School District, what type of school system it is, ethnic community, income group, or so on?

MS. ANTHONY. Sequoia is located in Redwood City. It has about five schools. One was closed this year, so it's four high schools.

Students come from the surrounding communities, and there is a very large disparity between the communities. East Palo Alto is a majority-black community; Redwood City has a large Hispanic population; Atherton and surrounding communities are very economically advantaged communities.

MR. ALEXANDER. Do you work with the high school dropout rates?

MS. ANTHONY. That's our target group.

MR. ALEXANDER. That's your target group. Is there a significantly different dropout rate for minority students than for majority students in that school district, historically?

MS. ANTHONY. It is disproportionately higher, yes, much higher.

MR. ALEXANDER. Has your program had any impact on those dropout rates?

MS. ANTHONY. Our program is a 3-year program and we are just going into our second year, so we don't have the figures. But there has been a noted improvement in attendance already.

MR. ALEXANDER. How are you funded?

MS. ANTHONY. We are funded with private industry, corporations in the area, and also foundations.

MR. ALEXANDER. Thank you. Have you identified any distinct problems that a school system needs to address for minority students or female students in trying to improve retention and interest in science yet?

MS. ANTHONY. In science, no. In the technological field, yes.

MR. ALEXANDER. Could you identify what those issues are?

MS. ANTHONY. We have done a study and positions that are available are assembly and electronic technicians, also computer operations, data processors in the area.

MR. ALEXANDER. Mr. Duscha, how would you describe the differences between CWETA and other traditional job training programs?

MR. DUSCHA. The CWETA starts with an employer and a job and seeks people to train for that job. The traditional school or community college vocational programs start with people, train them, and then send them out to seek a job. As a result, according to the statistics we have, far fewer graduates of those programs actually go to work in the areas they were trained. In the CWETA programs over 90 percent of those who successfully complete training go to work.

MR. ALEXANDER. Who funds CWETA?

MR. DUSCHA. State general funds. There are also contributions, generally to individual projects by employers participating.

MR. ALEXANDER. Do you have a per-trainee cost for the CWETA program, for the general program and also for the upward mobility portion of that program?

MR. DUSCHA. The average cost is about \$2,500. It ranges from \$2,000 to \$4,000. The upgrades for electronics technicians run \$3,000 to \$4,000.

MR. ALEXANDER. Dr. Wynn, I didn't ask who funds your program. I know it is part of the State system in part.

DR. WYNN. Yes. We are funded by Durham County, by the State of North Carolina, and also through various types of categorical and special Federal funds.

MR. ALEXANDER. Do you think that affirmative action requirements of the Federal Government have had any effect on your program or not over the past several years?

DR. WYNN. Yes, it has in terms of employment because most of the firms in the Research Triangle Park either have or are doing work with the Federal Government. And, of course, there is a requirement there that they have in place an affirmative action plan. I think that this has encouraged a greater consciousness in the need to hire more females and minorities in the various firms out there.

MR. ALEXANDER. Ms. Anthony, what jobs are you training people for right now?

MS. ANTHONY. Electronic technicians and computer operators.

MR. ALEXANDER. Do you have arrangements with the companies to hire individuals once they are trained?

MS. ANTHONY. At the end of the 11th grade the students go for summer-paid employment, and at the end of the 12th grade they have the options of either jobs or going on to higher education.

MR. ALEXANDER. How many students are involved in your program?

MS. ANTHONY. Presently we have 73 computer students, 43 of those are in 10th grade, 31 are in the 11th grade; and we have 60 electronics students in 11th grade, 38 in the 10th grade.

MR. ALEXANDER. I ask you the same question I asked Dr. Wynn. Do you think affirmative action requirements of the Federal Government have had any effect on the programs that you are operating, directly or indirectly?

MS. ANTHONY. No.

MR. ALEXANDER. Mr. Duscha?

MR. DUSCHA. Something has. The companies are anxious to use our program for affirmative action purposes. I'd like to think it's out of the goodness of their hearts, but it probably is not.

MR. ALEXANDER. Mr. Chairman, I have no further questions at this point.

CHAIRMAN PENDLETON. Commissioner Ruckelshaus?

COMMISSIONER RUCKELSHAUS. Do you think that the Federal Government can play a greater role than it now does in increasing the numbers of women and minorities who are taking vocational technical training in high-tech areas? Is there more that could be done than is being done? Can you imagine another role for the government, for anybody? You are all engaged in that.

MR. DUSCHA. I'm not sure it takes more money. I think some of the money spent on job training and vocational education already could be better spent and targeted more toward actual jobs, and I think that inevitably has an impact on affirmative action and the opportunities for women and minorities.

COMMISSIONER RUCKELSHAUS. Do you think the CWETA pattern is a much more realistic way of getting people in the work force?

MR. DUSCHA. Yes, I do, because it starts—the problem traditionally has been that we train people, maybe train them all, maybe not, and then send them out to go to work and most of them don't go to work, and still we have business saying, "I don't have the trained people I need." It's not just that they can't read and write, but they cannot do the technical things that go beyond that. So what we're saying, in one sense, is business has to take a greater role; business has to lead in education and government just to bid in this field.

COMMISSIONER RUCKELSHAUS. If public-sector monies were significantly reduced in job training, do you think this would have an impact on the number of women and minorities who were trained and hired?

MR. DUSCHA. To some extent, yes.

COMMISSIONER RUCKELSHAUS. You don't think corporations would pick that training up?

MR. DUSCHA. Corporations don't think training is their responsibility.

COMMISSIONER RUCKELSHAUS. Okay. Thank you.

MS. ANTHONY. Corporations have been very supportive of our program, and maybe another role the Federal Government might have is to give incentives to corporations to continue to support programs.

COMMISSIONER RUCKELSHAUS. Thank you.

CHAIRMAN PENDLETON. Commissioner Saltzman?

COMMISSIONER SALTZMAN. No questions, thank you.

CHAIRMAN PENDLETON. Just a couple. Ms. Anthony, in a sense you operate a magnet school, do you not?

MS. ANTHONY. It is a school within the school concept.

CHAIRMAN PENDLETON. A school within a school. What is the cost per placement?

MS. ANTHONY. Of students? We haven't placed any yet. I don't know what the yearly rate is.

MR. ALEXANDER. It is too early?

MS. ANTHONY. Right. We just started.

CHAIRMAN PENDLETON. Mr. Duscha, do you think that it would be more advantageous to the private sector to provide their own training at \$3,000 or \$4,000 per technician or average cost of \$2,500 per person? Could these targeted jobs—could the taxpayers get credit for this kind of money as opposed to having it come out of the State general fund?

MR. DUSCHA. Well, I think there may be a need for both. The tax doesn't set up the training programs that I think business needs, and I think there needs to be some partnership between business and government and labor to put those programs together.

CHAIRMAN PENDLETON. Why?

MR. DUSCHA. Because the existing vocational programs aren't working.

CHAIRMAN PENDLETON. Why do we need existing vocational programs if we have a public education system?

MR. DUSCHA. Well, we've decided as a society, I think, that we will provide both basic education to people and some technical education to help prepare people for work. We train doctors, lawyers, journalists; we also train electronics workers.

CHAIRMAN PENDLETON. But it seems to me that that does not come out of the State's general fund always.

MR. DUSCHA. There might be some scholarship money.

CHAIRMAN PENDLETON. I'm sorry, you're right. But it does seem to me that business is taking advantage of the State's general fund more than once. They don't get in the public school system. Then again you say we need to have special training which is additional cost to the taxpayer.

MR. DUSCHA. We are a new program, too. We are only 3 years old.

CHAIRMAN PENDLETON. You have a good record, though.

MR. DUSCHA. Thank you. What we are trying to do is to get business and labor to use the existing public school system and begin to direct it,

change it a bit. Realistically, we find that that takes money. You have to add more money to make people do things differently.

I think, if we do a good job—and we have some evidence of this already—business will begin to pick up a larger share of the cost. Where we are running programs a second time, we have business covering more of the cost than initially.

CHAIRMAN PENDLETON. Would you support, in your program, an employee tax credit if the employee maybe had a job in a company and got a tax credit for paying for their own training?

MR. DUSCHA. I have to give that some thought.

CHAIRMAN PENDLETON. Okay.

MR. DUSCHA. The one difficulty is you've got to be sure the person gets the job, so there has to be a tie to the employer.

CHAIRMAN PENDLETON. Okay. Ms. Anthony, it's just one more question I have. What is the difference in the motivation level, the individual motivational level, of the students in East Palo Alto versus the students in Palo Alto or someplace else? It seems to be an island of things—and maybe you have, since you taught there, some idea about the motivational levels and why it is that way.

MS. ANTHONY. Traditionally, the students that are from Palo Alto are going on to higher education; that is in their background; they see an end to their high school education. Students at East Palo Alto stop at an alarming rate. They don't see a relationship between their high school education and jobs at the end of graduation.

CHAIRMAN PENDLETON. Is that because of the education system in East Palo Alto versus the educational system in Palo Alto and what might that difference be?

MS. ANTHONY. The students in East Palo Alto don't have their own high school. They are bused at ninth grade to the Sequoia district. There is a difference. The Palo Alto district is another district entirely, but they are not self-contained in their own district; they are bused to Sequoia district.

CHAIRMAN PENDLETON. What would you suggest to us might be a public policy alternative to possibly help correct what happens to the students in East Palo Alto?

MS. ANTHONY. Secondary schools don't offer options a lot of times for those students. I think vocational/educational programs do offer options, and the students can see a relationship between their schools and work afterwards.

CHAIRMAN PENDLETON. I don't have any more questions. Thank you very much. We'll call the next panel, and that involves Dr. Don Phillips, Clarence Williams, and Fred Best. If we could have the next group of witnesses, we can swear them in.

[Don Phillips and Clarence Williams were sworn.]

**TESTIMONY OF DON PHILLIPS, SPECIAL SCIENCE ADVISOR,
NORTH CAROLINA BOARD OF SCIENCE AND TECHNOLOGY;
AND CLARENCE WILLIAMS, DIRECTOR, CALIFORNIA OFFICE
OF SMALL BUSINESS DEVELOPMENT**

CHAIRMAN PENDLETON. Let the record show that Mr. Best is not here and excused.

MR. MCGOINGS. Beginning with Dr. Phillips, would you both please state your full name, your address, and your occupation for the record, please?

DR. PHILLIPS. My name is Don Phillips. I'm special science advisor to the North Carolina Board of Science and Technology and acting director of North Carolina Biotechnology Center. I work in the Research Triangle Park in Raleigh, North Carolina.

MR. WILLIAMS. My name is Clarence Williams. I am director of California Office of Small Business Development, and my address, business address, is 1030 13th Street, Sacramento.

MR. MCGOINGS. Thank you. Beginning with Dr. Phillips, will you briefly describe the initiatives in North Carolina to attract high-technology industries into the State?

DR. PHILLIPS. I might begin by stating briefly that the drive to change the industrial mix in North Carolina began over 20 years ago with the creation of the Research Triangle. At that time it was a cooperative initiative among government—led by Governor Luther Hodges at the time—leading industrialists, business leaders of the State, and the three triangle universities, Duke University, University of North Carolina [UNC] at Chapel Hill, and North Carolina State University.

Building on that foundation for the last 3 or 4 years—I guess almost 5 years now—the North Carolina Board of Science and Technology, which is a group of 15 scientists and engineers chaired by the Governor, has been undertaking a broad-base program aimed at improving science and technology in the State for the purposes of—improving the State industrial development being one of those goals.

The board undertakes a variety of activities, including improving science and mathematics education. The initial program in that area—which has been referenced here this afternoon, the North Carolina School of Science and Mathematics—broadening that effort to include improvements in science and math education throughout the public school system in the State. It's concerned with improvements in higher education—research as well as teaching—as providing a sound foundation for industrial developments. And it is concerned with developments that we like to term “on the frontiers of science” where there, I guess, is likely to be large growth in industrial activity over the coming decades.

The two that the board has singled out for special attention over the past 4 to 5 years has been microelectronics and biotechnology. In both of those

areas, the board does not administer or directly run programs. It acts more as a nerve center connecting initiatives and activities by higher education, industry, and government aimed at providing a supportive environment for industrial development in those areas.

MR. MCGOINGS. How long do you believe that it will take in order for high technology to become a viable industry in the State?

DR. PHILLIPS. Well, I think it already is a viable industry. As I said, the Research Triangle Park began 20 years ago. Initially it went through some tough times, but as a result of the vision of some of the leaders of the State, they stuck with it and now it is a jewel that is desired by other areas in the country and, indeed, in the world.

The list of companies that are included in the directory of the Research Triangle Park are leading industrial organizations throughout the country, so I think it already is a center for high-technology industry. The question is how can that base be strengthened in areas of microelectronics and biotechnology as well as others that are attempted.

I think already as a result of the major initiative in microelectronics, which was centered in a \$24 million program over the last 2 years by the State for the creation of the Microelectronics Center of North Carolina, the purpose of which was to increase the capabilities in this State for research and education in microelectronics which, in turn, would be attractive to industry.

Already that has attracted, as Dr. Wynn mentioned, the General Electric Microelectronics Center; Texas Instruments has taken options on two pieces of property in the State, one near the Research Triangle, one in the western part of the State; several other companies are expressing interest both in locating there and in investing in the microelectronics center. In the biotechnology field as well, where the field in general is at a much earlier stage of development—just we have significant capabilities in North Carolina. We are, I think, having some success in mobilizing resources in all the universities and in industry around that area, and I know of at least three leading companies at the moment—solid, industrial organizations—who have interest in locating in North Carolina.

MR. MCGOINGS. Are any of the programs in North Carolina targeted at getting more minorities and women involved in high-tech industry?

DR. PHILLIPS. I think you've heard of some from Dr. Wynn and an earlier witness yesterday. From the perspective of the board of science and technology, we say we don't have any specific programs. We are, as I say, concerned with improving science and mathematics education—sort of the flagship activity so far is the school of science and math—but we have programs aimed at improving education throughout the public schools and, indeed, one of the purposes of creating the school of science and math was to provide a focal point for improvements in science and math education throughout the State.

As you probably are aware, the school of science and math is intended as an educational experience for people with high talents and high ambitions in science and mathematics. You might be interested to know that the current student body consisting of the 11th and 12th grades—the current student body of 387 students of junior and seniors consists of 55 percent males, 45 percent females, and 3 percent minorities. That percentage of minorities is fairly close to the percentage of minorities in that age category on a statewide basis, and it is fairly representative, indeed, then of the State in terms of sex and race.

MR. MCGOINGS. Thank you. You mentioned State funding in this State initiative. What other sources of funds have come forth?

DR. PHILLIPS. Well, as I did mention a significant State investment in the microelectronics center. That center, in addition, will have a growing industrial support and support from the Federal Government. The school of science and mathematics, as you know, is also a public, residential high school supported by the State, complemented by significant investments of companies as well as foundations.

Those additional investments allow them to run special types of programs and to pay the faculty—all of whom have advanced degrees, a significant portion of which have Ph.D.s—to pay the faculty at a rate above the State salary scale. I would add, however, that one of the roles we see that State government plays in this whole partnership arena in terms of educational research and industrial improvements—certainly the provision of funds is important, and front-end money on which programs can be based that can then attract the additional sources from industry and government; that is important. But we also feel that the government can provide an important catalytic and facilitating function in bringing parties together to work together on planning initiatives on a statewide basis that meets the needs of industry and of the educational institutions and the public at large.

MR. MCGOINGS. Thank you. Mr. Williams, will you describe the office of small business development?

MR. WILLIAMS. The [California] Office of Small Business Development is an office which is located within the department of economic and business development. The department of economic and business development is composed primarily of six offices: One is an office of business and industrial development, we have an office of local economical development; we have a research office; we have office of tourism; and our executive unit.

The office of small business development is primarily the financial entity within the department of economic and business development wherein we run several loan programs. We administer a statewide loan guarantee program—and I understand that you had Mr. Tom Queen who represents one of six corporations that provides loan guarantees throughout the States.

In addition, we run two direct loan programs, both of which originally were funded by the Federal Economic Development Administration in the early stages, using matching funds by the State of California. Those funds from the Feds have evaporated, however. Because we ran this program for a period of 4 or 5 years, we are now in a revolving loan situation and we are operating with State allocations along with the paybacks from the original loans that have been made over the past. Our two direct loan programs that we operate out of the State, one we refer to as the economic development loan whereby we attempt to identify loans where we can stimulate economic development and job creation.

In fact, our primary factor that we are looking for in terms of eligibility is a very high ratio of jobs created per the amount of money that we lend, and we are currently generating about one job per every \$3,000 to \$4,000 actually lent. Our minimum amount is \$100,000 and our maximum is \$350,000. A new loan program that we are operating, based upon a grant of \$2 million from EDA a year and a half ago, is our innovation and development loan program wherein we have a loan parameter of \$100,000 as the minimum and \$500,000 as our maximum.

Our innovation loan program—our innovation and development loan program—we are looking for business that, one, would create jobs, but we are also looking for businesses that are using technology stemming from either engineering techniques and or scientific techniques. We are looking for high-growth businesses throughout the State that will have the ability of generating more jobs and growing. This latter program is relatively new.

We have just gone through a rather lengthy process of establishing at the State level—we had to get legislative approval, and that legislative approval finally came and was given, effective July 1 of this year—and I am in the San Jose area, along with appearing before this Commission, today, reviewing a loan application in San Jose in somewhat of a technological area; it is in recycling business by a minority; it is a minority firm here in San Jose that has tremendous potential, and we are wrapping up and took the final stages of making that loan.

MR. MCGONINGS. Now, the programs that you've just described, are they targeted towards any particular group?

MR. WILLIAMS. There are no lending or financial programs within the State of California that are operated by the State of California that are formally targeted in terms of a formal definition of saying—of being a minority or a woman's program. They are targeted from the standpoint of areas. We targeted our direct loan programs from the standpoint of economic pockets of poverty as have been described by the EDA in the past. We tend to target our loan guarantee program by using the definition of economically disadvantaged. The process of targeting in that manner along with aggressive efforts by those people who administer or who are

involved in all of these State loan programs tend to produce results that would appear as though targeting for minorities or women is taking place, but I think that targeting has resulted by the factors that we use in determining eligibility for loans.

For example, I understand that most minorities and women have problems in terms of getting loans in the normal financial markets from banks or other lenders because of various factors such as high-equity requirements, such as collateral requirements. By reducing those requirements, yet while at the same time trying to maintain high-quality loans, we open the door for minorities and women to be able to participate; and they have participated, I think, at higher levels than exist in the private sector.

MR. MCGOINGS. Can you tell us anything statistically about the participation of minorities and women in these programs?

MR. WILLIAMS. Our largest program that we are looking at right now is our loan guarantee program—and I was just able to do this this morning, using an example of approximately 87 projects. We are looking at minority and female participation of 73 percent; we are looking at a minority male [participation] of 60 percent; and we are looking at a minority female [participation] somewhere in the neighborhood of about 13 percent.

These results, I think—it's more interesting how you achieve these results. One of the things that I find, as a director of the office of small business development and representing the State in terms of its loan program—obviously, as I appear before you I am black. There are several corporations that we operate and some of the presidents of these corporations are Hispanic and black and some are white. The tendency is that, as reviewed by those in the minority community, that by seeing these minority faces—this is what I surmise—is that the participation, or those who come through the door seeking loans is higher. There is, in no way, any discrimination against nonminorities, but I tend to think—and this is based upon informal conversations with various presidents of these corporations—that as whites view these corporations as being run by minorities or seeing them in charge tend to identify them as being minority programs and do not participate as fully as do minorities. So it's—we get these results based upon perception of seeing minorities faces more so than formalized targeting.

It is an interesting result. I'm not critical of it, but I do let people know who will claim they are minority programs—those who criticize the program for being a minority program—that it is more than likely their fault because they have stopped themselves at the door thinking it is a minority program and thinking they would be excluded, nonminorities, that is.

MR. MCGOINGS. Mr. Williams, have any loans been made as of yet under the California innovative program?

MR. WILLIAMS. No. As I said, we received our approval effective July 1. One of our most—we are in the process now of going out. We just received a letter of credit from EDA so that we are now eligible to go forward. We were hesitant to go forward absent that sign off from EDA because we think that we are going to have to approach the venture-capital community within California to get our first projects.

We recognize that in the State we do not have the technical capability of being able to recognize a good high-tech business [or] a bad high-tech business. If someone were to come in the door and tell us this is the greatest new product since the light bulb, whatever they told us would be primarily what we would have to rely upon; however, we are thinking that we're going to the venture-capital community—primarily that community based upon contacts in San Francisco and Los Angeles—and we looking forward to their bringing proposals to us.

And we are looking for proposals where they have, themselves, invested in that; and this, to us, will assure us that, well, at least that will be the type of criteria that we will use in the early stages until we are able to bring technical expertise on board. I anticipate our first loan should be made within the next 6 weeks.

MR. MCGOINGS. Mr. Williams, we've heard testimony over the past 2 days that venture capital is often not available to females and minorities. Do you think you would say the venture capitalism will result in a limitation on female and minority participation in this program?

MR. WILLIAMS. I think in the beginning stages that is definite. What has to take place is we have to talk to the venture-capital community—and I'm not talking about a group of people in this community who are totally unknown to us; we have worked with this community for a long time within the department of economic and business development.

I would venture to say that the first projects that come through the door are not going to be minority projects; however, we feel free—at least I do feel—free enough to be able to say to that community, "Bring us in some minority projects." And so I would venture to say, given that kind of communication, the venture-capital community will bring us in minority projects; but in the early phase, I doubt it. I tend to doubt that minorities will be the first to come through.

MR. MCGOINGS. Mr. Williams, what do you view as the State's role in California for promoting female- and minority-owned businesses in high technology?

MR. WILLIAMS. I think we have begun that effort; we have begun the effort—and unfortunately, Mr. Best is not here. With California's role in the area of innovation, high technology in general—and then how we are able to bring minorities and women within this process here—I think is the approach we are looking at. What we are looking at in terms of this field here is that we believe that there are going to be many, many business spin-

offs which benefit—which will occur from a growing high-tech community within California.

The Santa Clara area is identified or synonymous with high tech in California. From our department's standpoint we are attempting to let people or businesses know that there are many areas in California that will be good for high tech, i.e., in the Sacramento area, parts of the valley. What we are trying to do in the initial stages is to alert these small business people, those minority or existing minority- and women-owned businesses, that there are subcontracts. There are many dollars to be made from working with these high-tech companies in their early growth positions from the standpoint of minority-owned, high-tech businesses getting off the ground.

We are talking about an area now which is extremely capital intensive. The only thing that the State of California can do would be to urge those financial markets, those financial subsidiaries, to make loans and make investments with the minorities, but that is about it. If anything is to be done, we cannot look, I think, to State and Federal Government to be the initiator of the financing, the financing at a level which would be adequate for minorities and women to enter into the high-tech area. That sort of financing is going to have to come from the private sector—and I know it would be redundant to just list those reasons why that is going to be difficult—but if it is to happen, it has to come from the private sector, and the only thing that we could do from the standpoint of government is to be there as a facilitator, to attempt to break down those barriers which would be discriminatory in terms of discriminating against minorities and women.

MR. MCGOINGS. Thank you. Mr. Chairman, I have no further questions.

CHAIRMAN PENDLETON. Commissioner Ruckelshaus?

COMMISSIONER RUCKELSHAUS. Mr. Phillips, how much North Carolina money is involved in your project, public money? This is a collaborative effort, I understand, and I wonder what the dollar figure is of public monies.

DR. PHILLIPS. Well, I referred to several projects. The board of science and technology itself, as I said, is a small body with a small budget of \$390,000. So the board itself is not established to and has no aspirations to administer or run programs itself. It uses its money to try to provide seed money in particularly fertile areas to get things started. Before the microelectronics center was created—as I said, there is 24, a little over \$24 million in State money in that at the moment. We supported some research projects in the universities as a way to help some of the university people enhance their own capabilities in the microelectronics area.

We also served as a convening ground through which people from the six participating institutions in that microelectronics center—the three triangle universities I mentioned, North Carolina AT&T which is the traditional black university, UNC Charlotte [and Duke]—and the Re-

search Triangle Institute. We, the board of science and technology, served as a convening ground through which representatives of those six institutions meet weekly for 2 or 3 months to develop a set of plans through which North Carolina could increase its capabilities in microelectronics, the result of which was the establishment of the center.

The North Carolina Biotechnology Center, organizationally now, is just an office within the board of science and technology. It is a four-person office and has a budget to support them with what I say is a little walk-around money; but because the center is meeting with some success in an area of biotechnology—which necessarily is multidisciplinary and crosses a lot of institutions, and we are finding some success in being able to pull the community of North Carolina together—industry and Federal Government agencies who are also launching new research programs in that area are providing some money. We have some money from the Navy now to do some planning on research that they will be interested, in that they feel they have to become involved over the next decade. The reason that they are interested in us because we can pull together a multidisciplinary group to look at problems of interest to them.

COMMISSIONER RUCKELSHAUS. What will the unemployment rate in North Carolina be?

MR. WILLIAMS. Now? 9.8 percent.

COMMISSIONER RUCKELSHAUS. 9.8 percent; do you know what it is in the minority community?

MR. WILLIAMS. A lot higher.

COMMISSIONER RUCKELSHAUS. We've heard, for the last 2 days, how difficult it is for minorities and women to rise above certain levels in the high-tech industry—that they are really pretty concentrated in the lower paid jobs. I was just wondering if, in your convening, pulling together, innovator role that you play in developing this industry in your State—which is off to a fine start in providing more jobs for all the citizens of your State—if it would not be appropriate to keep the kind of pattern that's been started here—and it seems to be very difficult to overcome—in mind, keep bringing it to the attention of the people that are participating in these projects with you. It has an extension to public school training. It has an extension in vocation training.

MR. WILLIAMS. No. I think that's very necessary—and I was just thinking about the question that was posed to me about what we do directed at women and minorities. The board—since it does not run programs itself and it is more of a policy or program planning unit—what we do do in all these activities—likewise in our programs or deliberations from which have come recommendations for improving science and mathematics, education—we always ensure that, on those bodies, women and minorities are fairly represented so that the programs and policies we are proposing, while they are for improvements in science and mathemat-

ics in general, they take into account the desires and needs of the women and minority communities.

Likewise, with the high-technology development, there is certainly a movement to get to those higher paying jobs. I think education is at the foundation of that role, and the engineering schools—A&T is a black institution, but North Carolina State as well are in a range of activities within North Carolina—aim at identifying women and minority youth in junior high, secondary schools, getting them into the college-preparatory program early on, getting them associated with engineers as role models so that they will be on the right path towards an engineering career. It's a long-term effort to be sure, but I agree with you that has to be inculcated into the planning right from the beginning.

COMMISSIONER RUCKELSHAUS. Thank you.

CHAIRMAN PENDLETON. Commissioner Saltzman?

COMMISSIONER SALTZMAN. Mr. Williams, are you familiar with the history of Silicon Valley and how the funding of the industrial park was certain of a cooperative effort of a university and the government, and how, for the initial birth of the high-tech industries in the area, there was an enormous amount of proportion of government contracts which basically subsidized the growth of the industry? Are you familiar with that?

MR. WILLIAMS. Yes.

COMMISSIONER SALTZMAN. Well, my point is that this was indirect in order to achieve an objective that, as a community, we determined was to the benefit of the society. I am thinking about your reaction to funding minority businesses in the area of high tech. There may be a social benefit as comparably significant in terms of the jobs because, in the testimony we have been given, the employment of minorities and women by minority-owned, high-tech companies far exceeds in positions above the lowest level in middle and top management positions anything the other firms have—and the well-being of the Nation, I guess, from what we have been told depends on the participation here in California, for example, with such a high proportion of the school population concentrated in minorities, Hispanics and blacks, on the success of bringing those young people into the educational mainstream and the economic mainstream. So your statement that the Federal Government or the State government cannot undertake funding but that kind of funding must come out of the private sector begins to perhaps overlook the objectives, the larger objectives, that we have in our Nation today.

MR. WILLIAMS. I think I guess there are two things that are important: The example of the evolution of a Silicon Valley in public and private partnership obviously is the classical California definition of economic development in the first place.

When I talk about the ability of government in general to be able to, when I talk about—when my inference from the question of minorities and women in the high-technical area, I am talking, or I am thinking of ownership more so than jobs. I am thinking more so of entrepreneurship, ownership.

COMMISSIONER SALTZMAN. Well, my point is the entrepreneurship by women and black and Hispanic minorities creates the jobs for that sector.

MR. WILLIAMS. Well, I definitely agree. My interpretation, when I talk about minorities in the high-tech area, I am thinking of minorities owning businesses in that area, and in order to get to that point, tend to view high-tech areas being extremely capital intensive and being capital intensive I do not see—at least in California, given the budget of the State of California or the political scene in California—I don't see the legislation of a program whereby direct proportions would take place whereby minorities would be able to get substantial capital in order to own businesses.

COMMISSIONER SALTZMAN. I misunderstood. I thought you were not reflecting on the political climate but on your own.

MR. WILLIAMS. No.

COMMISSIONER SALTZMAN. Okay. I'm sorry. Thank you.

CHAIRMAN PENDLETON. Just a couple of questions. Mr. Williams, I'm intrigued by one of your responses. You said it cost how much to create a job in the kinds of loans you're into?

MR. WILLIAMS. About \$3,000 to \$4,000.

CHAIRMAN PENDLETON. I need to talk to you because we're creating them for \$190 per job.

MR. WILLIAMS. Fine.

CHAIRMAN PENDLETON. I am amazed that there is that great a disparity, and this is primarily labor intensive. My other question is, I guess, to both of you. We talked about the economic development side in terms of creation and funding businesses. What is the tax mix of incentives that State government can give in today's economic climate that attracts industry to an area—and so much in terms of money—but what are the kinds of tax and zoning variations that you can give? And I guess I am asking the question because that just doesn't get at big companies, but the right mix of tax incentives would certainly be able to attract small businesses, regardless of color, to an area.

I know here we are in high land costs—and we'll never return to the land cost that were used by Stanford University to put up the industrial area here—but what do you think goes into the tax mix? What kind of tax incentives do you think a State should give?

MR. WILLIAMS. Well, from the standpoint of California—and some of the research that we have done in our department, the issue of tax credits is extremely debatable as to its ability to attract and to continue to maintain businesses. As I say, it is extremely debatable, but what I think is more

important right now from the area that you are touching upon—and Stanford Research Institute has done excellent work in the area called nonservice approaches to assist, say, for example, small businesses. Government, local but State primarily, can assist small businesses in many ways that do not primarily require direct financing, i.e., in the zoning area. An example would be a small businessperson on the street, the type of parking status outside of that business is extremely important.

CHAIRMAN PENDLETON. You mean like set-back rules?

MR. WILLIAMS. Exactly. Extremely important. In other words, the policymaking which goes on within government has to include a conscious thought as to stimulating small business—because I'm sure, as you realize, we are talking about the job creators, the job generators within our economy, and that we can no longer have local governments and local, political, policymaking bodies, planning commissions, city councilmen, supervisors making decisions without taking into consideration the impact of those decisions upon small businesses in their community. Oftentimes, if decisions are made whereby they include thought about its impact upon small business—the need for a tax credit, the need for various forms of financing—are not there because the bottom line in terms of the customers are there; the environment in which they have to operate their businesses is good, and we can go, I believe, much further in terms of thinking about those services that government can provide other than giving tax credits.

CHAIRMAN PENDLETON. Any response, Mr. Phillip?

DR. PHILLIPS. Just to add quickly, I think the tax structure in North Carolina has generally been favorable to industry, and it is one of the factors already existing that has attracted companies to the State. There's one tax that would affect a large company that is under review at the moment; that is inventory tax, which corporations now in the State argue should be reduced or removed. With respect to small business, I agree—and within North Carolina State government in the economic development division there is a special program, as in California, entitled "small business assistance," and I think that gets into the whole range of areas that Mr. Williams mentioned.

But in North Carolina, one of the voids that continually is mentioned, which is particularly crucial in tracking small business, is the availability of venture capital. When you go—and those who come from outside of State and sort of view the Research Triangle Park and the surrounding universities are always duly impressed with what's going on there. One of their frequent comments, however, they don't see the growth of the spin-off industries. I think that is improving, but one of the factors most frequently cited as contributing to that lack of spin-off industry is the lack of venture capital. It's in New York, Boston, California, and a few other places, but not in North Carolina; so even if there are the same ideas in North Carolina, their development doesn't happen in the State.

I think that is changing. Just in the last year, there are three or four venture-capital companies who opened up offices in the State; several others are—New York-Boston firms, a new Washington firm. We get calls all the time saying, “You know, we are in venture capital; we understand that there is a lot happening in North Carolina. If you come across people with good ideas, please let us know. We are interested in making investments in the State.” I think we are possibly at a change in the slope of the curve in terms of small business development and availability of venture capital—maybe one of the important ingredients in the changing of that slope.

CHAIRMAN PENDLETON. Then isn't it also true that perhaps somebody that wants to start a business does not want to give away a piece of the action to venture capitalists and find out that he or she might want to go it on their own? I guess what I'm getting at is, we don't want to leave people with the idea that is the only way to start your businesses, go seek out venture capital to do that. We have seen here, in some of the testimony the last couple of days, businesses were started with smaller amounts of money.

Let me ask one other question here. Perhaps maybe if the two of you think of some ideas about the tax mix or a list of tax incentives or zoning requirements—and those kinds of things that we could use in putting in our report—it would be helpful.

Do either of you, or both of you, think that enterprise zones—or, do you support enterprise zones? Or is this innovation for people to get into? Is that innovative activity? Is there enough in it under the present Federal legislation? I know we have some things going in California that we are not quite clear yet, but if you want to mix the State enterprise zone together with the Federal legislation, would you support that as a concept?

MR. WILLIAMS. For me it is extremely difficult to buy off one enterprise zone in general right now. You did specify by saying the Federal legislation. I've spent more time looking at the various proposals at the State level, recognizing that somewhere down the road, if they come into existence, there's going to have to be a marriage of the two if they are going to be beneficial.

I would have to say right now, from the standpoint of my position, my department, that we are still out on enterprise zones, but we are behind the concept if targeted economic investment for development, and to the extent that targeted economic development, targeted economic investment, is taking place—and that is similar to the enterprise zone—then we do have a certain amount of compatibility.

CHAIRMAN PENDLETON. Well, it seems like the followup question would be this: Would you support enterprise zones as a concept if they did not have to be located in the inner cities, say, if a locality could declare any piece of land—California, North Carolina, for example; there's a piece of

land that the State owns here in California and you want to designate that with all of the various land rights down to encourage business to come, could you support that?

MR. WILLIAMS. Unless that piece of land had to have specific characteristics and those characteristics would have to involve the makeup of the people, the community, the unemployment, the nature of the deterioration—but to give local government or any unit of government the ability to identify any piece of land as being eligible for an enterprise zone, that would not be targeting, and therefore, I would not be for it.

CHAIRMAN PENDLETON. Okay.

DR. PHILLIPS. Can I say one thing?

CHAIRMAN PENDLETON. Sure. Excuse me just one second. I guess what I'm saying, if you have the infrastructure in and there is ingress, egress to a location, it's been my experience that minorities and poor people will go to work wherever there is a job; they will find some way to get there. But I'm certain we would not put a piece up in the other side of Big Sur up in the hills and say that's an enterprise zone; but some land that would have the basic infrastructure ingredients that would supply the jobs and also supply small business and minorities with a chance for ownership if you develop the place right away—I agree with you.

MR. WILLIAMS. Given that kind of description, the most I could say is we would at least be walking down the same road in terms of agreement. Whether or not the other, what you call ornaments that may be tacked on, is probably—and this is what is happening now in California and elsewhere—this is where the disagreement takes place. But so far what you've described, I would say, I would tend to agree with that. I could be supportive of that.

CHAIRMAN PENDLETON. Dr. Phillips?

DR. PHILLIPS. In North Carolina that concept is included under the phrase "balanced growth policy" and the purpose is to stimulate economic development across the State of North Carolina, which is largely a rural State. The problem is how you get the development into rural areas and not just in the few metropolitan areas.

One problem as you speak, however, is this whole problem of developing the infrastructure, and that means roads and sewers, and in a rural state like North Carolina, that's a major concern and some of the cutbacks in Federal funds that were directed as building that infrastructure have been a problem for the State.

The second thing, with respect to your question about taxes, I think we also have to recall that in terms of thinking of tax incentives that we also need to be finding ways to maintain investments in the future. I mean, many of the economic problems that we are facing today are the result of short-sighted or lack of investments in the past in terms of future education and training, new knowledge indeed.

The standard phrase is, "We're eating our seed corn." If we are going to develop plans for having a base for that new investment—and if there is some validity to the presumption that there can be significant initiatives in this area at the State level—those industries that are locating within the State benefit from those investments over the long term in new knowledge and in people, and States have to have ways to raise revenues and make those investments. So I think that the tax question or revenue raising or revenue decreasing questions is a two-sided coin: it is not all or none; we can't shortchange ourselves now for the present to sacrifice the future.

CHAIRMAN PENDLETON. My final question is, information has—and I think you have read some things about it, your concerns, Mr. Williams—should there not wind up being some employee incentives to relocate to high-tech areas? An employee comes to take a job and the person who owns the business receives a variety of incentives to come. Might there not be some tax incentives to employees who either relocate or who pay for their own training in the high-tech field? Like, do you have any feel for that as a subject matter area?

MR. WILLIAMS. Yes, but I think this is why, in the beginning, I was cautious when we talked about the tax credits. We realize, say, for example, one of our major problems down here in the Silicon Valley has to do with housing. How are you going to bring people to areas that, as soon as you get growth, you are going to have land and housing prices going up. Affordable housing is a major issue. The subsidy which takes place by government, obviously in the area of training, takes place in those educational programs that train in government, that train people to be able to go to work in this field.

Major legislation was passed this year to provide high-tech training, innovative training, and let that training be provided by the private sector. I think that was a major step that has been taken and that should get off the ground. But to look at—and I guess to just say—should government provide various tax credits to employees who move into areas and they are going to work for high-tech areas, I would not say. I'd have to say I'm too used to having to be required to look at specific proposals to be able to say. But it is an interesting concept and obviously an issue that will be discussed. This is not the first time I've heard it and obviously it is an issue. I've heard more so coming from the private sector as to perhaps maybe parts of their benefit packages themselves, you know, to attract employees, to attract specialists, technical skills that they might have to give up certain kinds of benefits in that area.

CHAIRMAN PENDLETON. Okay. I have no other questions and we can excuse the panel, and thank you very much for coming.

We will call the next panel, Mr. Bell and Mr. Grout.

[Jack Grout and Travers Bell, Jr. were sworn.]

TESTIMONY OF JACK M. GROUT, CORPORATE MANAGER OF EDUCATION RELATIONS, HEWLETT-PACKARD COMPANY; AND TRAVERS J. BELL, JR., INVESTMENT BANKER FOR DANIELS AND BELL

MS. SEIDMAN. Would you both please state your name and address and occupation for the record, starting with Mr. Grout?

MR. GROUT. Yes. My name is Jack M. Grout. I am corporate manager of education relations for Hewlett-Packard Company, and I reside in Atherton.

MR. BELL. I am Travers J. Bell, Jr., employed with Daniels and Bell, and a member of the New Stock Stock Exchange. I am an investment banker. I reside at 56 Dorothy Drive, in Morristown, New Jersey.

MS. SEIDMAN. Mr. Grout, would you please outline the corporate philosophy that underlies Hewlett-Packard's efforts to promote equal opportunity community-wide?

MR. GROUT. Well, I think, very simply, we think it is in our best interest to practice affirmative action. It has been a long-term tradition of Hewlett-Packard to be involved in affirmative efforts, and we just think it is good business to practice it. We have been doing it for a long time.

MS. SEIDMAN. Do you have any specific written corporate policy regarding that?

MR. GROUT. Yes, we do.

MS. SEIDMAN. In what form is that?

MS. GROUT. In a policy form.

MS. SEIDMAN. I guess I wanted you to discuss a little bit about the management objectives and what role they play in—

MR. GROUT. I think it has been already related. We have seven corporate objectives and they relate to various aspects of our business and they guide us in all the various things we try to do.

MS. SEIDMAN. Okay. Your colleague, Sylvia Gerst, described Hewlett-Packard's programs for affirmative action in employment. Would you please describe some of the programs for educational advancement in which Hewlett-Packard is involved?

MR. GROUT. Yes, I will be glad to. We have a number of programs that we discussed the other day. We have a program of work experience which is a rather broad program. It involves approximately 500 college students from all over the country that will work at Hewlett-Packard, in either summer jobs, which are quasi-professional, or will work in co-op programs. The idea is to give young people who are pursuing an education some concept of the various kinds of areas of work, have them understand various careers, have them understand what employers are like, and carry the message back to the peer group on campus and, hopefully, instill an interest in others to have the idea spread. And, of course, we have a large

number of these people come to work for us after they have had this experience.

MS. SEIDMAN. To what extent do minority and female students participate in that program?

MR. GROUT. In excess of a third of our program is in minorities and females.

MS. SEIDMAN. Do you participate in other national organizations that are also designed to encourage the minority students?

MR. GROUT. We support a number of programs that have been represented here and in your hearings: The NACME organization and the MESA organization which you had testimony from. It is wide variety of quite a diverse number of organizations that we support and have been active in.

MS. SEIDMAN. To your knowledge, what efforts does Hewlett-Packard make to encourage and assist the development of minority- and women-owned businesses?

MR. GROUT. Well, we certainly supply a lot of vendors with a lot of business, and I think that's a significant aspect. We do not provide venture capital that we have heard discussed and that sort of thing. We have been particularly supportive and have helped set up certain minority-run businesses in local areas where we have operated. I think specifically the business in East Palo Alto that we talked about earlier that was basically a black enterprise that we supplied a good deal of business for and management consulting.

MS. SEIDMAN. Mr. Bell, could you please describe your business activities that involve capital formation and development of minority- and female-owned businesses?

MR. BELL. Yes. The aspect that involves capital formation is that, as a member of the New York Stock Exchange, we underwrite and participate in underwritings of generally every major corporation in this country in raising equity and debt capital for long-term, short-term needs, specific projects. In the capital-raising side we also participate in raising capital specifically for municipalities in the United States throughout, some foreign debt as well, particularly in Africa.

In terms of minority individuals, we are a lead financier in venture capital and also in liaison to other member firms of the New York Stock Exchange in the raising of capital for acquiring businesses, expanding working capital, start-up ideas, and generally most segments of the venture area for minority persons.

MS. SEIDMAN. We have heard testimony in the last 2 days that venture capital seems often to be unavailable to minorities and females. To what extent do you find that traditional capital sources are unavailable or less accessible?

MR. BELL. Well, to what extent are they less accessible? Of all of the commercial credits in the United States, less than 1 percent are to minorities and women businesses. Of all the venture capital that exists, less than 1 percent are in minority and women businesses.

Of all of the private capital resources other than straight venture capital and commercial credits, which are the traditional routes, there is, when I say less than 1 percent; it is a percentage point that really can't list out in decimals. There are some initiatives, certainly like MESBIC programs and small business investment companies, but their percentage of capital in relationship to the capital pools available represents less than 1 percent of capital available for businesses.

MS. SEIDMAN. What factors do you think are involved that have made that capital unavailable or less accessible?

MR. BELL. I am sorry, I didn't understand the last part.

MS. SEIDMAN. What factors do you think are involved that have made capital less accessible to minorities and women?

MR. BELL. Well, first, of all, there is tradition, and in tradition, minorities and women are not a factor. And those factors that are traditionally acceptable to commercial lenders and venture capitalists and investment bankers are nonminorities and nonwomen. That I think is perhaps the foremost thrust group.

Secondly, in a traditional type of environment people do business with people who they are accustomed to doing business with, and given the world economy and environment, it is not or it has not been the custom to do business with this particular group of persons.

I think perhaps the other aspect of it is, while tradition and customs do play a substantial portion in it, that there has been some evidence of history of sexism and handicapism and racism in the lending of capital.

MS. SEIDMAN. Would you describe your involvement with the Securities Industry Association and its efforts to assist capital formation for minority businesses?

MR. BELL. Well, first, the Security Industry Association is the trade organization that represents our Nation's investment bankers, brokers, and dealers, both in the United States and in Canada—and this trade group accounts for approximately 90 percent of all security transactions in the United States and in Canada. Wall Street investment banking is traditionally the mechanism which fuels the capital houses of the world, governments, municipalities, businesses, and the like, and this association, its members, are the vehicles that liaison capital to the need in investment area.

It was my idea—and perhaps the idea of other members of the Security Industry Association—that, if there were going to be a mechanism that would assist the orderly development of capital for minorities and women that one would be perhaps wise not to create a new mechanism in order to

do it; that perhaps it might make some sense to use the mechanisms that have traditionally worked, that are traditional, that people are accustomed to, and that is also responsible for the actual raising functions of our Nation.

So we established a standing committee in the SIA, the Security Industry Association, called the minority capital committee, and principally it is a committee which has the apparatus to liaison its interests with members throughout the United States and Canada. We have members in almost every city, in certainly every State and almost every major city, minority city in this country. And the purpose is that, if we found a particular interest in Bismarck, North Dakota, or Sioux City, Iowa, or Cedar Rapids, Iowa, we would touch that business by calling on one of our members to become involved—but I must point out that the history and results of the Security Industry Association are ones that in my estimation very noble and have been really the machine that has really built this particular Nation, and they operate primarily on a profit-oriented basis. So while we have our concerns and we have a number of programs, and we also have established a minority capital foundation, principally our interest is the liaison mechanism and not one of some philanthropic type of idea.

MS. SEIDMAN. You talked about using existing capital pools rather than creating new ones. Do you have any ideas for how to make existing capital pools available to minorities and women?

MR. BELL. Yes.

MS. SEIDMAN. Would you describe them, please?

MR. BELL. This is like getting a wish coming true, you know.

COMMISSIONER RUCKELSHAUS. Now that we asked.

MR. BELL. Sure. I mean, it's quite possible to fuel and target a particular area and have that area developed to what you conceive it to be by using the proper resources—and I think one of the major issues that you might want to focus on is that—rather than creating new vehicles in order to get those mechanisms, that one ought to focus on those that already exist and that work and work well.

As I pointed out a moment ago, minorities and women have not been included in the capital resources of this country—and when I say have not, I mean currently are not—and one particular resource comes to my mind—really, in my estimation is the only vehicle that one could focus on, are the Nation's pension funds.

The Nation's pension funds are the largest single private capital resource in this world—well, yes, in this world—but most certainly in this country. And one of the reasons it comes to mind is because often these traditional and accustomed ways of persons who have claimed why we aren't participating in the mechanisms that already exist is because we weren't contributors to those particular vehicles. And the Nation's pension fund's assets total approximately a trillion dollars, and when analyzing those

trillion dollars—which are basically managed by a group of individual money managers who channel these investments into all of the types of high technology, manufacturing, all of the types of investment vehicles that exist, except those of minorities and women, other than Nation's pensions fund—I don't have an absolute figure, but it is close to zero being involved in minority and women businesses.

But, specifically, I think one of the major issues that one could focus on is that this is not all taking and not giving. Because of this trillion dollars, approximately 10 percent, or maybe \$100 billion, have been contributed by minorities throughout this country in various municipalities—teachers, policemen, firemen, workers in various corporations—and at least 30 percent of that, or \$300 billion, come in from women in American Telephone and Exxon and the rest. So it would seem to me that since these funds are being used on a continuous basis for the investment in private enterprise, and further, that the continual cash flow from these funds continually goes into new and existing investment, that this is the most logical mechanism that one should look towards for capital for minority and women businesses.

MS. SEIDMAN. What kind of changes would be necessary to get the change in pension funds to take place to get access to that money?

MR. BELL. Well, what kind of changes would have to take place? Well, first, let's establish this, that there are tiers here. The first tier is the public sector, public sector being the Federal and State and local governments; and the second sector would be the private sector, which is administered by IRSA, the Investment Retirement Securities Act of 1974, which is administered by the Secretary of the Treasury and the Secretary of Labor.

Well, first of all, before I think one could immediately tap those funds—as I think what your question suggests—is that there be a proper mechanism and understanding—because we are talking about the savings of the workers of America—that the funds be properly protected, and that they only be considered in the light in which we are talking about them on a competitive-rate, return basis. In other words, sure, we can direct them to a given target, but the private sector works on a return on asset basis, and that if we are talking about this issue, we have to consider it in that light, that this is not a “give me” and these are funds of Mrs. John Jones whose husband worked for 65 years. So any of that would—without me belaboring on that issue, I think that that is what we should at least keep in mind, but certainly the mechanisms already exist; they simply are not being utilized. The first one being, of course, if there were to be some positive kind of action from this particular discussion, one could immediately tap the percentage—let's talk in percentages, too, by the way, because when we talk about a trillion dollars and we talk about minority participation of a hundred billion and women of 300 billion, if you had \$100 billion or, if

that sort of funds were made available at a given time, they simply could not be invested. The magnitude of the money is quite astounding.

But in any event, assuming that there was an approach and that approach was, say, there was a 5 percent cap that minority and women ought to be entitled to, at least target themselves towards 5 percent of the Nation's pension funds, to direct them in a way to provide the capital mechanism to go into and acquire businesses in high technology, but across the board on some given strategy. Well, first, it could happen within the Federal Government by Executive order, I am certain—and that would be the Army, Air Force, Navy pension funds, 5 percent. Boom, they're gone; they are, on a competitive rate basis, on their way to minority and women investments that would be, I guess, overnight if you decided to do that.

Secondly, I am sure the public sector, that there perhaps could be some moral suasion from Washington to State and local governments to consider the same type of mechanism, and particularly giving the States the benefit of using a mechanism that have those investments come through and targeted in some way to businesses, minorities and women, in their own geographical areas. So we are talking about segmenting at this point as well.

And third, since the Secretary of the Treasury and the Secretary of Labor do administer the private pension funds, short of passing a law, I am sure that they could encourage private pension funds to participate in plans such as this. But you must certainly recognize it is relatively easy for me to say this.

MS. SEIDMAN. Mr. Grout and Mr. Bell, the testimony today and yesterday has repeatedly discussed many barriers that face minorities and women going into high tech. We discussed equal access to education, meaningful employment opportunities, and access to capital markets and to markets in general. In each of your particular areas of expertise, I would like you to think about what you feel the Federal and the State role could be in breaking down those barriers in conjunction with the private initiatives that you have been describing. Mr. Grout?

MR. GROUT. I am really not sure. I would like to comment on one area, though. I think that the private sector is doing—and I have heard several remarks relative to it today that seemed that minorities and women don't have an opportunity to rise above the minimum area of employment. At least in one company's case, that being Hewlett-Packard, that really isn't the case. I think you already have material that was presented to you that indicates that a significant amount of progress has been made in the last few years in bringing minorities and women greatly up into the management ranks and into the professional ranks, and so it is possible to do that. We practice job posting. We practice a good deal of affirmative action hiring, and people are getting all kinds of training opportunities within Hewlett-Packard to move ahead. So I would really rather talk about what

the private sector can do rather than what government can do in this area. I really think the answer lies in private companies, such as Hewlett-Packard, investing as we are, to try to bring about better opportunity for minorities and women.

MS. SEIDMAN. Do you think that private sector would have acted without the government push for affirmative action?

MR. GROUT. I think some of the private sector would have, yes. I don't think you can generalize for all the private sector. In fact, I think we did.

MS. SEIDMAN. Mr. Bell?

MR. BELL. Would you please repeat the question?

MS. SEIDMAN. Particularly in terms of business development, we have been discussing for the last 2 days, barriers that remain that hinder the progress of minorities and women. You have mentioned some of those barriers. And what I would like you to describe is what you feel the appropriate Federal role or the State role can be in breaking down those barriers.

MR. BELL. Well, first of all, government, in my estimation, should be, in its proper perspective, the natural liaison between its citizens and its administrators. I think that to be a key role. All too often it appears, in my experience, that government is not a party bringing two people together; it is a party providing a solution. So that is one aspect.

The other aspect—and I think one that I must say in this low voice, one I feel very strong about—is that government must provide a continual vocal public commitment on this issue. I think this would do more than a specific program. There, in my opinion, appears to be, from time to time, depending upon which administration is administering, whether government is committed to this idea or not—government is either committed or it is not.

Now, I certainly agree—take for instance, several agencies which focus on these particular issues, particularly those of small business—government has, in my estimation, done quite a bit to provide the liaison, but it seems to me that these kinds of efforts have to be unpoliticized; the changing of the guards in Washington which brings in new programs and ideas as opposed to the other, and personnel, I might say, tend to disrupt a trend of thought—and maybe that is certainly the democratic way inasmuch as a given thought might not be the one which one would want to hold—but it seems to me that government must be an advocate to small business in this country, and certainly minorities and women fit within that category. Now, I must say that there probably are ways in which I feel that that effort could be better served, but it doesn't eliminate the need for that kind of advocacy.

MS. SEIDMAN. I have no further questions.

CHAIRMAN PENDLETON. Do you have questions?

COMMISSIONER SALTZMAN. Mr. Grout, do you—I don't mean to place you in an adversarial position—but do you generally concur or disagree with the suggestions Mr. Bell has made relative to the role of government?

MR. GROUT. I think the role of government—I'd like to see be lessened rather than increased, and I think the private sector will respond. I think it has proven it will respond in many areas that we are talking about if there are various incentives to do that. And I think there is a lot of things, in fact, that we can do and we are doing, and I don't subscribe to the thought that the government is the answer to all the problems.

COMMISSIONER SALTZMAN. I am not sure that Mr. Bell was saying that.

MR. GROUT. No, I am not sure he was, either. And this is not in my area of expertise.

COMMISSIONER SALTZMAN. Do you feel, sir, that discrimination in the United States 15, 20 years ago was a profoundly serious problem, limiting opportunity in education, employment, and housing?

MR. GROUT. Yes, I do.

COMMISSIONER SALTZMAN. To a very serious degree. Okay. It would be foolish of anyone, I think, to disagree with that. On the other hand, I want to come back to perhaps that which counsel, I think in the private sector—of course, your firm appears certainly to be one of those outstanding examples of beneficent attitudes and efforts towards minorities and women from the testimony given to us by two, yourself and another representative of your firm earlier.

But the struggle that we underwent in this country seems to me could not really have proceeded as far along as it has without two aspects; incentives, provided even by the voice of government to which Mr. Bell referred to, the moral suasion; and enforcement. And enforcement can always be a danger and moral suasion or suasion can be a danger with a demagogue in the opposite direction. But in the United States, under constitutional government, I think it seems to me that both elements, the incentive and the enforcement, have prompted the private sector, encouraged them to move toward the kind of beneficent manner and responsible manner similar to that which your organization has undertaken.

The fact is from evidence, testimony submitted here, there is continuing obstacles and barriers, disabilities to which minorities and women are exposed in our Nation, and specifically it would seem within the area of the high-tech industries, the statistical evidence seems to support the conclusion that the high-tech field, like other areas—or at least this is my tentative thought after 2 days now—like other areas of economic enterprise in our Nation, is subject to the same kind of systemic tradition that I think Mr. Bell used, discriminatory attitudes that pervade other aspects of American society.

I, along with you, would like to see volunteerism dominate and good will, but I suggest that the role of government is to ensure the well-being

of its citizens in the future of our Nation because—and California in particular, as the statistics seem to point out California—is to continue to move toward the future economically with the enormous numbers of young people who are not receiving the educational opportunity and other opportunities. We are not going to be able to compete in a world that is going to move beyond us.

I think government has to help, and the private sector has to help. Indeed, I think a cooperative mesh of government-private-academic all the forces that we can command at this point, to move the Nation forward. What I look for is precisely what I guess I am getting, a concurrence on your part that it is not any one sector that can find the resolution to this problem, but the cooperative efforts of all of the major sectors of this Nation.

MR. GROUT. I definitely concur with that. I think it is a cooperative effort. I just was trying to make the point that I don't think you can stereotype an industry; I think there are examples within the high-tech industry of very excellent cooperation and very excellent independent action—and I think Hewlett-Packard is one of those companies and, in fact, has done that very well.

I have heard a lot of comments that perhaps that isn't the case—not for Hewlett-Packard—but for the industry. And there are good examples of what we are trying to do. We are making good progress, and I was asked to come and elaborate on some of the things we are doing as examples of what we ought to all be doing. I would be happy to do that.

CHAIRMAN PENDLETON. Commissioner Ruckelshaus?

COMMISSIONER RUCKELSHAUS. Mr. Grout, why is affirmative action good business? Why isn't it a time-consuming, onerous add-on that often forces you to go further afield and hire people you might not have hired under other circumstances to satisfy some governmental requirements? Is it really good business, in the sense of dollars and cents, bottom-line, good business, or is it just an acceptance by the leadership of your corporation that you have a certain social responsibility; it may not be consistent with good business in a hard dollar sense, but it is a sense of responsibility you are willing to accept? Is it really good business?

MR. GROUT. Yes. I think that is a very good question. I think it is excellent business. You know the majority of our employees are minorities and women. We have a very large percentage of women and minorities in the employment of Hewlett-Packard. They represent a tremendous resource for the Hewlett-Packard Company and companies like Hewlett-Packard. We are very pleased that the most important, I think, demographic trend currently going on in this country is the involvement of women in technical education at university level, coming into graduate business programs—which is very important to Hewlett-Packard—as well as technical employment. We see a vastly growing number—and again 20

percent or more of our managers are women at this point, and a large percentage of the professionals—and so it represents a very important group of people, if you will, that represent talent and opportunity for us for the future, for the growing needs of employment that we have in a company that's growing as fast as a company like HP. So it is just good business. The minorities and women obviously make up a pretty good proportion of the customer base around the world, and that's important for us. So in many ways it is in our best interest, as I said, to work hard in affirmative action.

COMMISSIONER RUCKELSHAUS. Well, we have interviewed corporations before this Commission who employ a majority of women and minorities in their work force, but they don't feel constrained by the same kind of objectives that you are; those people are generally concentrated in lower paying areas. They are, in a sense, politically powerless within the corporation; that is, they haven't risen to levels of policy setting in the corporation, so there really is no reason to say just because you have the numbers you have the responsibility unless you choose to accept the responsibility.

MR. GROUT. I think that's very true.

COMMISSIONER RUCKELSHAUS. Or unless you can demonstrate it is making money for you in some way.

MR. GROUT. Well, as I say, we are concerned right now—and one of the things I concentrate on for Hewlett-Packard is the concern about where we are going to get the employees that we need tomorrow. And we think that minorities and women represent a large potential source of people that heretofore—look back 10 years ago, how many were involved in the kind of educational process that we are going to need for tomorrow—and we see, each year, more and more getting to that area to become potential employees for us and potential managers, and to join us. So it is extremely important to us.

COMMISSIONER RUCKELSHAUS. What percentage of its growth does Hewlett-Packard give to 501(c)(3) groups in the course of a year? What's your corporate-giving percentage, do you know?

MR. GROUT. Well, we currently are in the neighborhood of about \$15 million a year in altruism.

COMMISSIONER RUCKELSHAUS. That would be what kind of a percentage, 1, 2?

MR. GROUT. Oh, yes, something like that. I'm not sure exactly, to tell you the truth. Certainly in excess of 2 percent.

COMMISSIONER RUCKELSHAUS. Okay. Thank you.

CHAIRMAN PENDLETON. Mr. Bell, when you made a statement—I think I read it in one the summary statements here about minorities and up-front capital. Is there a perception among minorities that they do not have to take a risk with their own money and the up-front capital should be

supplied by someone else? I mean, when they come to you for a loan, do they bring to you a list of where their assets are and are willing to take those kind of risks like a loan against their home or borrowing money from friends? Is that what usually happens or do people just come to you because there is an assumption that you can provide the up-front capital?

MR. BELL. Well, certainly the latter is true in a lot of cases. But I've been in the securities business for 22 years and I can think, over this period of time, that there have been dozens and dozens of occasions where minority persons who have sought to implement a particular idea were ready to "give up the ranch" for it. But there also was a period of time when, Mr. Chairman, because of the climate in America—and that was the perception that there were more dollars available for these particular businesses—and in my estimation during period of time to raise this particular issue to visibility where minorities were allowed to proceed in a specific direction of entrepreneurship without having to risk the capital that would make them the solid risk taker that that definition would imply. And because this window was open at a particular time, frankly, there were a lot of takers for that kind of program. But I think in actuality, two-fold: One, those legitimate, venture capitalists who will do minority deals insist that minorities risk what capital they have—but I would also like to point out that, as opposed to their counterparts giving, both having equal access to an idea that they want to implement, the counterpart of minority, specifically the white male, would likely run into more persons willing to back his idea than a minority.

CHAIRMAN PENDLETON. Okay. And now we have talked about barriers a lot here today, and I think counsel asked a question about barriers. I would like to advance the theory—and like either of you, or Mr. Grout, to concur to deny the premise here—that investment in businesses are not made to minorities just because it is good to put minorities into business, but they are made because it is a good business deal with a reliable ROI, return on investment, and a reliable ROE, which is return on equity; is that a fair statement?

MR. GROUT. I certainly would agree with that, yes.

MR. BELL. I think you would have to put that in a time frame. There was a period of time, particularly the late sixties and early seventies, where mechanisms developed in order to resolve a perceived problem, and there weren't always the best business deals that could have been made.

CHAIRMAN PENDLETON. But have we, have minorities and women, not suffered from the image created by the variety of government lending programs that lent people money and that businesses go belly-up—not that they are in greater proportions—but the assumption is when you try to go into the private market, the conventional market for capital, that these are bad loans. What I have found in my experience is that when you have the programs that are supposed to help minorities and women to get business

loans, if they come in that group of loans by particular BDO, business development organization, if they were eligible for conventional loans, they somehow got extracted out of the process and they were given conventional financing, and all the high-risk loans which went belly-up were left in the program pot so, therefore, the program was no good.

So I guess we never really know the number of minority loans that were funded because they made good business sense. And it does seem to me that it is incumbent upon the private sector to say, "Yes, there are good business loans and we funded some, but it just so happens that we left into that pot those loans that were high risk, primarily for one reason, that those were guaranteed loans and they get their money anyway," and it winds up where the minority or the woman in a sense becomes the victim of the process rather than one we really got, in a sense, got the loan.

Mr. Grout, I've just got two points for you: Do you think there has been government involvement in these programs to a point in the variety of affirmative action programs, OFCCP and the like? Do you think that statistical variance has now become a Federal offense?

MR. GROUT. A Federal offense?

CHAIRMAN PENDLETON. Yes. That it is a Federal offense to have a statistical variance about the various populations we have in affirmative action, do you feel that way?

MR. GROUT. No.

CHAIRMAN PENDLETON. Okay. I have heard that and I just wanted to check it out with you. One more point, would you support, Mr. Grout, a refundable tax credit program for people who pay for their own training rather than to continue to put so much money into a variety of training programs with corporations or NPOs that provide training?

MR. GROUT. Well, that's the first I heard of it. I subscribe to the idea of somebody having a personal stake in their own destiny, in their own training. I think that's a good idea.

CHAIRMAN PENDLETON. I have no other questions and I thank you gentlemen for coming. We will convene the public witnesses and we ask you all to come up. We'll swear you in together and I will read the rules when you come up, please.

[Francine Wright and Tommy Fucher, Jr. were sworn.]

CHAIRMAN PENDLETON. As you are seated, let me read you a portion of the rules from this session. Each of you will have 5 minutes to speak. There will be no response from the Commissioners. What you have to say will be a part of the hearing record.

Let me read you the other part of the rules. After being permitted to speak for only 5 minutes, you must speak on the subject matter of this hearing. The witnesses may not give any testimony which may tend to defame, degrade, or incriminate any person, and they will not be

questioned by either the staff or by members of Commission. I don't have the names but—

MR. SCHWARTZ. The first witness is Francine Wright.

TESTIMONY OF FRANCINE E. WRIGHT

CHAIRMAN PENDLETON. Ms. Wright, do you have a question?

MS. WRIGHT. Yes, I have a prepared statement, and if it runs a little over 5 minutes—it is three pages.

MR. SCHWARTZ. If you want to summarize your statement, the statement will go into the record as is. Mr. Chairman, it appears from the size of the statement—

MS. WRIGHT. I would like to read it. That's the reason I wrote it.

CHAIRMAN PENDLETON. We want to keep it to 5 minutes. It's been a very long day for us. If you want to summarize your statement, we'll take it for the record and put it into the record and we'll all get a chance to read it. If you are asking me, I will cut it off. So we're asking you to submit the full statement for the record and, if you summarize for us, that will be fine. Go right ahead, Ms. Wright.

MS. WRIGHT. "During times of war," the poster reads, "Uncle Sam Needs You." To the U.S. Commission on Civil Rights, the minority and women professionals of Silicon Valley need you. Who are we? Well I am certainly not going to bore you with statistics that you are better versed in than I. But we are here.

Affirmative action for us means that an employer affirms that he will take action to negate injustice of the past by identifying talented prospectives, training them, giving them career attention, advice, etc. to bring them in and up the ladder. Unfortunately, these firms may only act to get the black, brown, and female faces in, and that much is not out of any altruistic sense of justice but more to avoid the wrath of government headcount requirements. Why do we say this? We don't have to. They tell us. I cannot count the times that interviewers have told me or friends of mine that this is the only reason that they're considering us for a job; that they don't agree with affirmative action, etc. Opinion surveys repeatedly show that large positions of employees think EO and AA have gone too far. We minorities feel it is nonexistent.

As for minorities moving up the career ladder, I will use myself as an example. Who am I? Oh, just a physicist with graduate degrees from Harvard University and MIT; a former teaching fellow at Harvard; an engineer for the last 8 years here in Silicon Valley, having worked at three of its largest corporations; a bibliography in *Who's Who in the West*; a recipient of this year's award for professional achievement given by a local engineering society; a holder of invention disclosing publications; speaker at technical conferences both local and international. I use myself as an example because, for all this evidence of capability and achievement,

I have reached the grand old age of 35 and have never had promotion in my life. Never. Yet I work alongside white, male youngsters, fresh out of college, who have had two promotions in less than 2 years. I work under white males of the same general age and degree status as me, or no degrees, who are third-and fourth-level manager or senior-level engineers. Most minority engineer friends I know who have gotten promotions have had to put up a vigorous fight or threaten to get their promotions. Advancement is not granted to minorities for demonstrated performance, much less as a result of affirmative action advising the minority for career growth. One manager told me he wouldn't recommend me to a certain program I wanted to get into because our company did not care about my career.

Silicon Valley companies may look good on paper for bringing minorities and women in, but they are highly deficient with respect to promotions and career advancements. Ask any minority engineer who isn't either frightened or trying to "shine you on," which is our expression for "give you a snow job," and he or she will tell you that his place is so racist that you can cut it with a knife. As a member of the board of directors for the NCCBPE, Northern California Council of Black Professional Engineers, I am a member of SWE (Society of Women Engineers), a speaker in the MESA (Mathematics, Engineering and Science Achievement) program, I have much interaction with minorities and women in technology. Our number-one concern is: How do we, individually and collectively, survive the scourge of racism and sexism at our places of employment, the daily racist stereotypes and attacks made on us and our careers?

Nearly every company claims to have a method for redress of grievances. Some call it open door. But too many of us are shafted going through this door. Instead of removing managers who are blatantly racist or sexist and against whom many former complaints have been filed, the company's solution is to transfer the complaining employee. At one firm where I worked, several of us blacks came together and filed an EEOC complaint against the company for its rather despicable acts and patterns of racism. I was the only black engineer in the whole company. Incidentally, at that time, we had to go through the San Francisco EEOC office, as one didn't even exist in the south bay region. What happened? The company simply outwaited us who were involved—they fired some, promoted one, transferred others. I eventually left as my career was going nowhere. Nothing was ever done, positive, in response to the suit.

We continue to take the insults, the abuse, the blocks to career advancement. Many of us see the increased advancement of noncitizens over us minority and female citizens. The industry's motto seems to be, "Anybody, just as long as they're not black, brown, or female." And we're supposed to be afraid of the Japanese taking over technology? We are justifiably outraged. We have the right. We have a stake in this country, our valley. And so I say to you again, the U.S. Commission on Civil

Rights, the minority and women professionals of Silicon Valley, U.S.A., "We need you." Thank you.

CHAIRMAN PENDLETON. Thank you, Ms. Wright. Mr. Fulcher?

TESTIMONY OF TOMMY J. FULCHER, JR.

MR. FULCHER. Federal minority business programs, including those that the SBA, Department of Commerce, and almost every other governmental department and agency have been dismal failures. Section 8(a) initiatives, which were originated to assist those firms that provided substantial employment opportunities to unemployed and underemployed persons, have completely lost their focus to the point where they now assist only minority-owned firms, many of which employ few, if any, minorities.

The Minority Business Development Agency, formerly the Office of Minority Business Enterprise, which was set up in 1969 with annual funding totaling \$100 million, precipitated the growth of a crop of instant "experts" on minority businesses. These experts, many of whom did not know the difference between a debit and a credit, set up consulting firms both for profit and nonprofit and began to provide management and technical assistance to a new crop of minority entrepreneurs. The problem was that skill and ability had less to do with which consultants were selected to provide this service to minority business persons than one's political affiliation, acquaintances, or clout in the community. Thus, a situation resulted where the consultants often knew less about business than the business persons he or she was being paid to help.

Recently enacted laws such as Public Law 95-507 and the 4R Act have resulted in eliminating billions of dollars in Federal contracts from the competitive arena and awarding them to minority firms, many of which are not only noncompetitive, but incompetent. While in theory the Federal Government's contracting mechanism seems to be an appropriate approach to stimulating the development of minority enterprise, it does not work in practice. Not only does it precipitate abuse through cronyism, political payoffs, etc., but it also creates a permanent class of dependent, minority-owned firms, creates an air of antagonism and conflict between minority and majority firms, and undercuts the legitimacy of the gains made by minority firms that have successfully competed in the economic environment.

A realistic and honest evaluation of the reasons for the failure of the government's minority business efforts would point out two facts: First, the government is not suited to lead any business development efforts, minority or otherwise. Government bureaucrats have different perspectives, perceptions, and payoffs than those required for success in the private sector. Because these bureaucrats are not confronted by anything as stark and objective as the bottom line on an operating statement, they

can manipulate the evaluation process to make them look good even when they have been totally ineffective.

Secondly, legislated business relationships cannot be enforced, just as legislated social interactions cannot be enforced. When business persons are compelled to do something that they feel is not right, they will and do resort to the most creative and ingenious avoidance tactics. The obvious subversion of affirmative action employment law is a good example of this.

In spite of the shortcomings I see in the government's current minority business effort, my feeling is that government does have a valid role to play in the process of minority business development. To say that government has no place in the Nation's business equation is to deny the reality and the complexity of capitalism in the 1980s. Government already affects industrial development through its military procurement and its research and development program. Government procurement as a percentage of GNP is twice as high in the United States as in Japan. More than 33 percent of all industrial research and development is either directly or indirectly funded by the Federal Government, and more than 35 percent of the Nation's engineers and scientists are employed, in one way or another, by the government.

In 1980, Federal expenditures benefiting particular industries totaled \$303.7 billion or 13.9 percent of GNP. The Nation, as a whole, does not derive maximum benefit from these expenditures because they are largely a function of special interest pressure and not a coherent industrial policy. Industrial policy in this context is concerned with capital allocation, as opposed to capital accumulation, which is the focus of supply side economics. In the corporate sector, it would be called strategic planning.

The shortcomings in today's Federal expenditures is readily seen when we consider that in 1980 our Federal Government spent \$942 million in R&D for the coal industry while spending only \$55 million on research and development in the semiconductor industry. When we consider that high technology is that Nation's best hope in the international trade arena, the spending patterns noted above show little consideration of a well-thought-out capital allocation process. A well-conceived industrial policy would also take into account the need to allocate capital toward the development of this country's human resources. It would also recognize that to exclude investment in this Nation's minority population would be analogous to driving an eight-cylinder automobile that is hitting on only four cylinders. We can no longer afford the cost of rejecting the creative input from America's minority population into our national economic system. We can also no longer afford to continue allocating national resources to industries which are becoming obsolete, while denying them to industries which offer our best hope for controlling trade deficits and putting our Nation's unemployed to work.

To the extent that minority business makes a substantial contribution to the problems of unemployment and poverty among our Nation's minorities, an effective industrial policy should provide incentives to ensure its stability and longevity. However, in the 1980s we must all support those efforts which will ensure a healthy economy overall. Because one thing is certain: If America's business does not do well, then none of us will do well.

CHAIRMAN PENDLETON. Thank you. Witnesses, you're excused. As we close this hearing, I would like to thank several groups of people: the witnesses, the Civil Rights Commission staff, the reporter who is bearing with us with cropped fingers, and a very special thanks to the northern California SAC for making our stay comfortable and for being a part of these deliberations. These hearings are now closed.

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