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Women and Minority Aerospace
Industry Profile, 1979-1986

Statement of
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Before the
House Committee on Education
and Labor
House of Representatives



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Mr. Chairman and Members of the Committee:

I am pleased to be here today to provide information you requested on the Equal Employment Opportunity (EEO) profile of federal government contractors in the aerospace industry. In 1986, the federal contracting segment of the aerospace industry employed about 679,000 workers nationwide. The federal government purchases about 62 percent of the aerospace industry's products; in 1987, these purchases totaled \$30.7 billion.

Your committee asked us to determine whether (1) representation of minorities and women in the aerospace industry has changed over time, and (2) representation of minorities and women in aerospace reflects their representation in the labor force. We also attempted to learn whether minorities and women in aerospace receive pay similar to that received by white men for similar work.

Because we have concerns about the adequacy of the available data for the comparisons we made, I will first describe our approach to each issue and the data limitations we encountered. I will follow with a summary of our findings.

METHOD AND DATA LIMITATIONS

In looking at trends in the representation of women and minorities, we focused on the period 1979-86; 1986 was the last year for which complete data were available at the time of our review. Our review of minorities included blacks, Hispanics, and Asians, but not Native Americans, primarily because their number is so small. For the trend analysis, we used the Joint Reporting Committee's¹ national EEO database. This database contains EEO information that is required to be reported by various organizations, including (1) private employers with 100 or more employees who are subject to title VII of the Civil Rights Act of 1964, as amended, and (2) federal contractors with 50 or more employees that have government contracts amounting to \$50,000 or more. The national EEO database is not fully representative of the civilian labor force, which includes all those employed, plus those not employed but seeking work. On the basis of 1980 data, the national EEO database represents about one-third of the civilian labor force.

Also, we included in our analysis only those aerospace companies with both 50 or more employees and \$1 million in

¹The federal Joint Reporting Committee consists of representatives of the Equal Employment Opportunity Commission and the Office of Federal Contract Compliance Programs, which jointly collect, maintain, and use these EEO data.

federal contracts. Essentially, then, for the period 1979 to 1986, we looked at the changes in the percentages of minorities and women in aerospace companies with 50 or more employees and \$1 million or more in federal contracts, in comparison to changes in the percentages of minorities and women in companies with 100 employees, and companies with 50 or more employees, that have federal contracts of \$50,000 or more. This analysis may favor aerospace companies in that it only compares them with other companies having at least 50 employees, rather than with the full civilian labor force. We could not use the civilian labor force as a comparison group because the Census data on which it is based do not include each minority group broken out by gender for each year from 1979 to 1986.

To learn whether the representation of minorities and women in the aerospace industry reflects their representation in the labor force, we again were limited to use of the national EEO database and also lacked information on the relevant labor pool from which aerospace companies draw their employees. The national EEO database contains information on nine broad job categories--managers, professionals, technicians, sales workers, office/clerical workers, craft workers, semiskilled workers, laborers, and service workers, but not on specific job titles, such as mechanical engineers or accountants. Caution must be used when examining the results of comparisons

of such broad categories, particularly in the case of an industry such as aerospace, which may have unusual demands for highly specialized workers. In such a case, for example, one risks comparing highly specialized "professionals" from aerospace to a broad mix of "professionals" in the national EEO database. In short, the relevant labor pool for aerospace "professionals" may not be those "professionals" in the rest of the national EEO database.

Notwithstanding, we used these broad comparisons because (1) these were the categories available in the database, (2) federal oversight agencies use these data in their EEO enforcement activities, and (3) data were not available from the aerospace industry on specific job titles, such as electrical engineer or accountant, covered by the broad job categories. Although we obtained data on nine broad aerospace job categories, we focused on only two--managers and professionals--because your committee received the most complaints from employees in those categories and expressed the most interest in them.

For both of the first two issues you asked us to address, we used the EEO database to calculate descriptive statistics; that is, numbers and percentages on minorities and women from 1979 to 1986 in various broad job categories. We looked at,

first, all establishments² nationwide; second, small, medium, and large aerospace establishments nationwide; and third, establishments in the two largest local aerospace job markets--Los Angeles and Seattle. We then compared the representation of minorities and women in aerospace jobs with their representation in the remainder of the EEO database over time for the nation, and for Los Angeles and Seattle. We analyzed the data by racial/ethnic group (whites, blacks, Hispanics, and Asians), by gender, and at the greatest level of detail available in the database, by racial/ethnic groups of women and men, such as black women and Hispanic men.

We found no nationwide database with which to compare aerospace salaries received by minorities and women and those received by white men for similar work. Consequently, we developed case studies of compensation equity and employment representation in four establishments of the largest aerospace companies, using data on managers and professionals provided by the companies for the period 1979-87. These data are limited in two ways. First, they cannot be viewed as being representative of the 372 establishments that we identified in the aerospace industry. Second, even within the four cases, we cannot draw conclusions because we were not able to account

²Establishment refers to a particular plant, unit, site, or place of business of a company.

for employees' education or years of experience, factors that frequently affect salary.

RESULTS IN BRIEF

In brief, our analysis of EEO data showed that, first, in the aerospace industry as a whole, the percentages of all minority groups and women increased slightly from 1979 to 1986.

Second, in the aerospace industry the representation of blacks as a group, and women as a group, was lower than their representation in the nationwide EEO database. Third, we focused on managers and professionals because of your committee's interest in those categories. Asian and Hispanic aerospace managers and professionals were fully represented when compared to the national EEO database. In contrast, blacks and women were less represented as aerospace managers and professionals than in the national EEO database, even though the percentage of women in these jobs almost doubled from 1979 to 1986.

In Los Angeles and Seattle, all managerial minority groups had lower representation in the aerospace industries than in these local areas' EEO database comparison groups. In the Los Angeles aerospace industries, all minority groups had a lower representation in the professional category than in the local EEO database group. However, in Seattle, only black

professionals had a lower representation than in the local EEO database group. Women were less represented in both Los Angeles and Seattle as both managers and professionals, than in their respective local EEO database comparison groups. Salary information we collected from four aerospace establishments showed that minority groups and women in managerial and professional jobs earned less, on average, than white men in these same job categories. Two of the establishments sorted their managers into entry, middle, and upper levels, so that we could compare salaries at similar levels of responsibility. Minorities and women were concentrated in the entry and middle levels of management and, although they earned less on average than white men, the disparity was less at the entry and middle levels than in the overall managerial category. Let me expand on these findings.

REPRESENTATION OF MINORITIES IN THE AEROSPACE INDUSTRY

As of 1986, of the total aerospace employees nationwide, 83 percent were whites, about 8 percent were blacks, about 5 percent were Hispanics, about 3 percent were Asians, and less than 1 percent were Native Americans. These percentages have remained relatively the same since 1979. To determine whether aerospace industry EEO percentages reflect those in the national EEO database, we compared the representation of each minority group in the aerospace industry with its

representation in the remainder of the national EEO database-- that is, all other industries combined.

In making these comparisons, we noted that blacks comprised 11.7 percent of the national EEO database in 1979, increasing to 12.3 percent in 1986. In aerospace jobs in that period, however, blacks' percentage decreased from 8.2 to 7.9 percent. In the national EEO database, Asians comprised 1.4 percent in 1979, increasing to 2.2 percent by 1986. In the aerospace industry, Asians' representation increased from 1.7 to 3.2 percent in that period. In the national EEO database, Hispanics comprised 5.2 percent in 1979, increasing to 5.8 percent by 1986. In the aerospace industry, Hispanic representation increased from 4.8 to 5.4 percent during that time. In short, when considering all jobs in the aerospace industry, and comparing them in this way, blacks and Hispanics in aerospace had a lower representation than in the EEO database, while Asians had a higher representation.

In focusing on managerial positions in the aerospace industry, we found that the total percentage of the three minority groups together increased from 5.8 percent in 1979 to 7.6 percent in 1986. The representation of Asian managers--1.9 percent in 1986--in the aerospace industry exceeded their representation in the national EEO database--1.5 percent. Hispanics were represented as managers in the aerospace

industry at a similar rate, 2.5 percent, as they were in the national EEO database. Blacks, in 1986, filled 3.2 percent of managerial positions in the aerospace industry, compared with their representation of 4.7 percent in the national EEO database.

The total percentage of aerospace professional positions filled by the three minority groups increased from 8.7 to 12.2 percent from 1979 through 1986. Over this same period, black professionals in the aerospace industry increased from 2.9 to 3.8 percent, but remained lower in representation than in the national EEO database, where their representation was 4.7 percent in 1986. The percentage of aerospace Asian professionals increased from 3.3 to 5.4 percent from 1979 to 1986. The national EEO database percentages of Asian professionals were 3.4 and 4.3 percent for these years. Hispanics increased their percentage of professional jobs held from 2.5 to 3.1 during the 1979-86 period. When compared to the 1986 national EEO database of 2.1 percent, Hispanics were fully represented.

REPRESENTATION OF WOMEN IN THE AEROSPACE INDUSTRY

We also examined national EEO data from 1979 to 1986 on gender and found that men predominated in the aerospace industry in most job categories. While women in aerospace made gains,

they were less represented as managers and professionals than in the national EEO database. Industry officials noted, however, that the aerospace industry often performs highly technical work in which, traditionally, relatively few women have been employed.

In 1979, women made up 21 percent of the total aerospace industry work force, while women were 40 percent of the employees in the national EEO database. In 1986, women were 25 percent of the total aerospace industry work force, while they were 45 percent of employees in the national EEO database. Women's share of the aerospace industry's managerial and professional positions almost doubled from 1979 to 1986; however, they remained a marked minority in both categories. Women managers increased from 3.9 to 7.3 percent and women professionals increased from 8.2 to 16.3 percent in the aerospace industry during this period. In 1986, in the national EEO database, women had reached 25.5 percent of managers and 45.4 percent of professionals.

White women accounted for most of the increase in aerospace management and professional positions over this time. In 1986, white women held 6.2 percent of managerial positions and 13.4 percent of professional positions, up from 3.4 and 7.0 percent, respectively, in 1979. In 1986, in the national EEO

database, white women had reached 22.3 percent of managers and 39.6 percent of professionals.

As of 1986 in the aerospace industry, minority women held 1.0 percent of managerial positions and 2.8 percent of professional positions. Black women in the aerospace industry held 0.5 percent of management jobs and 1.1 percent of professional jobs, up from 0.3 and 0.5 percent, respectively, in 1979. The 1986 national EEO database representation of black women was 1.9 percent for managers and 2.8 percent for professionals. Black women aerospace managers and professionals were less represented by 73 and 61 percent, respectively.

Hispanic women in 1986 held 0.3 percent of the management jobs and 0.6 percent of the professional jobs in the aerospace industry, compared to 0.2 and 0.3 percent, respectively, in 1979. When compared with the 1986 national EEO database of 0.8 percent for Hispanic female managers and 0.9 percent for Hispanic female professionals, those in the aerospace industry were less represented by 63 percent and 32 percent, respectively. Asian women in the aerospace industry increased to 0.2 percent of managerial jobs and 1.1 percent of professional jobs in 1986, up from 0.1 percent and 0.3 percent, respectively, in 1979. In the 1986 national EEO database, Asian women held 0.5 percent of the management

positions and 1.9 percent of the professional positions. This meant that in the aerospace industry, Asian female managers were less represented by 55 percent and Asian female professionals by 46 percent.

REPRESENTATION OF MINORITY MEN IN THE AEROSPACE INDUSTRY

In examining the racial/ethnic EEO pattern of men in the aerospace industry from 1979 to 1986, we found that the percentage of black, Hispanic, and Asian managers each increased slightly. Black managers increased from 2.4 to 2.7 percent; Hispanics, from 1.9 to 2.2 percent; and Asians, from 1.0 to 1.7 percent. When comparing the 1986 aerospace industry percentage to the national EEO database, black men were slightly less represented as aerospace managers--the national EEO database percentage was 2.8 percent. Asian and Hispanic men who were managers, however, held a higher representation in the aerospace industry than in the national EEO database--1.0 percent for Asians and 1.8 percent for Hispanics in 1986.

Among men who were professionals in the aerospace industry during 1979-86, blacks and Hispanics remained relatively the same at about 2.4 percent. Asian professionals who were men increased from 3.0 to 4.3 percent. In 1986, all minority groups of men in professional positions in the aerospace

industry were better represented than they were in the national EEO database.

SIZE OF AEROSPACE ESTABLISHMENT

HAD LITTLE EFFECT ON PROFILES

At your request, we also compared small (50 to 999 employees), medium (1,000 to 9,999 employees), and large (at least 10,000 employees) aerospace establishments to determine whether they differed in representation of minorities and women. Based on the data provided, the size of the employing establishment made little difference in the EEO profile of minority and women professionals. Small establishments employed a higher percentage of women as managers than medium or large establishments.

MINORITY AND WOMEN MANAGERS AND PROFESSIONALS

IN LOS ANGELES AND SEATTLE

Also, at your committee's request, we compared the EEO profiles for aerospace managers and professionals in the two areas with the most aerospace employees--Los Angeles and Seattle--with professionals and managers in all other industries in these areas.

In summary the data showed:

-- Minority groups generally comprised a higher percentage of aerospace managers and professionals in Los Angeles than they did nationally. Except for Asians, minorities comprised a smaller proportion of aerospace managers and professionals in Seattle than in the nation. However, minority managers and professionals were less represented in the Los Angeles local aerospace industry than in the local EEO databases. In Seattle, all groups but Hispanics and Asian professionals were less represented. In the nationwide EEO database comparison, only blacks were less represented as managers and professionals.

-- Women comprised a higher percentage of aerospace managers and professionals in Los Angeles than in the nation. Still, they were less represented when compared to the Los Angeles portion of the EEO database. While the proportion of aerospace women managers and professionals in Seattle declined sharply in the early 1980s, the percentage has been improving slowly since. Women in these categories have remained less represented in comparison to women in the Seattle portion of the EEO database.

SALARIES OF MINORITY MANAGERS AND PROFESSIONALS

The limited salary data we obtained from four aerospace industry establishments showed that, generally, minorities in management and professional positions were paid less on average, than white men in these positions. The data showed that from 1979 to 1987 (1986 for one establishment) the ratio of average minority managers' and professionals' salaries to average white managers' and professionals' salaries generally moved upward slightly. Aerospace company officials asserted that minorities may have less education and/or experience than white men, which may help explain the salary differences. These officials could not support these statements, as they had not analyzed individual employee salary data.

Blacks earned the least in relation to average managerial and professional salaries when compared with white men. As of 1987, black managers' and professionals' average salaries ranged from 74 to 87 percent of white men's average salaries. Hispanic managers and professionals in 1987 earned average salaries of between 80 and 89 percent of white men's average salaries. Asian managers' and professionals' average salaries in 1987 ranged from 88 to 96 percent of the white men's average salaries.

When we examined average salaries for entry, middle, and upper level minority managers in two establishments, the disparity from white men was less at the entry level. Entry level minority groups of male managers earned 93 to 104 percent on average of the white male salary in 1987. There were not enough employees in upper level minority groups to make this comparison.

SALARIES OF FEMALE MANAGERS AND PROFESSIONALS

At the four aerospace industry establishments providing salary data to us, the average salaries of women managers and professionals were less than the average salaries of white men in these positions during the 1979-87 period (1986 for one establishment). Company officials suggested that lower educational and experience levels among women may contribute to their lower average salaries.

Women managers' average salaries in 1979 ranged from 64 to 78 percent of those for white men who were managers. In 1987 these percentages were 72 to 83 percent. Women professionals' average salaries in 1979 ranged from 73 to 80 of those for white men who were professionals. As of 1987, the range was from 75 to 82 percent.

When we examined average salaries for entry, middle-, and upper-managerial women in two establishments, we found that the disparity from white men was less at the entry level and the middle level than in the managerial category overall. In both establishments, there were not enough upper-level women to make this comparison and both establishments had too few minority women managers to make this comparison by minority group.

SALARIES OF MINORITY MALE MANAGERS AND PROFESSIONALS

At the four aerospace establishments providing salary data to us, the average salaries of managers and professionals who were minority men were generally less than the average salaries of white men in those positions during the 1979 to 1987 period. For managers, average salaries for black men ranged from 76 to 84 percent of those for white men in 1979, and from 75 to 86 percent in 1987. The range for Hispanic male managers in 1979 was from 80 to 87 percent of the average salaries of white male managers, rising slightly to a range of from 81 to 88 percent in 1987. Asian male managers in two establishments earned average salaries in 1979 ranging from 86 to 105 percent of the average salaries of white men; as of 1987 in three establishments the range was from 90 to 97 percent.

The average salaries of professional black men ranged from 83 to 87 percent of the average salaries of white men in 1979, increasing to a range of from 85 to 91 percent in 1987. The range in 1979 for the professionals who were Hispanic men was 85 to 89 percent, rising to a range of from 87 to 92 percent in 1987. Professionals who were Asian men in 1979 earned, on average, from 94 to 96 percent of the white men's average salaries, increasing to a range of from 95 to 100 percent in 1987.

When we examined average salaries according to levels of managers who were minority men in two establishments, in general the difference from white men at the entry and middle levels and one case at the upper level was less than that for managers overall. In fact, the average salaries for some groups exceeded those of white men. Only one establishment had enough upper level managers who were minority men to make this comparison.

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This concludes my prepared statement. I will be pleased to answer any questions.