

Addressing IT Skill Shortage through Administrative Reform

Administrative Reform: Revise DOL regulation 29 CFR Part 656.10(a), which describes Schedule A of the alien labor certification process for permanent employment, to add a new occupational category for IT workers. The category would sunset after two years. Charge the petitioner an administrative fee for the blanket certification.

= declare a shortage in the IT industry.

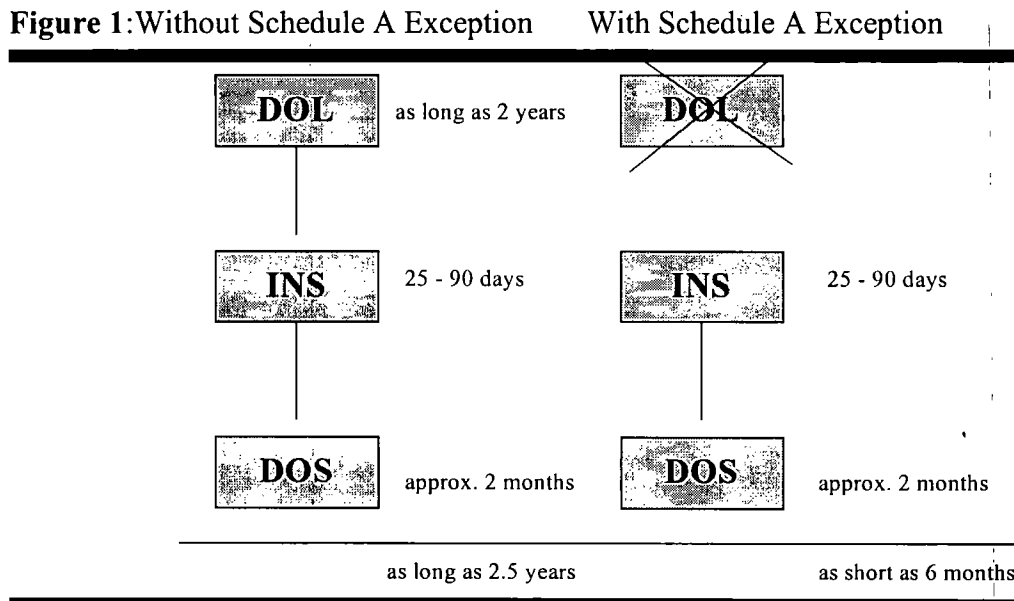
Background: Schedule A outlines occupations that DOL determines have a labor shortage. Petitions for these occupations are not required to have separate labor determinations, and therefore proceed directly to INS. Schedule A currently includes nurses and physical therapists. This is a logical revision given the purpose of Schedule A is to address labor shortages.

The current statutory cap for permanent employment visas is 140,000 annually. The visa allocation is broken down into five preference categories:

- (1) priority workers - - 40,400 visas;
- (2) advanced degrees or exceptional ability - - 40,400 visas;
- (3) skilled workers, professionals - - 40,400 visas;
- (4) certain special immigrants - - 9,940 visas; and,
- (5) employment creation - - 9,940 visas.

In addition, there is a per country cap on the number of visas allotted.

According to DOS, between 10,000 - 20,000 (7-14%) of these visas were unused last year with no preference category reaching its limit. Currently, employment visas are available for an immigrant with an approved petition, except for China and India preference categories 1 and 2 (from above). IT workers would fall under preference categories 2 and 3.



Pros:

- Responsive to the labor shortage in the IT industry but does not open the flood gates to large numbers of foreign workers.
- Provides a timely short-term partial solution within the current caps. This reform could be accomplished quickly through DOL publication of an interim final rule.
- Provides a temporary remedy that expires after two years (by which time the US market will have responded with an adequate supply of trained workers).
- Maintains the importance of training workers first, and not solving labor shortages with increases in the statutory immigration caps.
- Maintains substantial inspections to detect fraudulent applications through INS and DOS review.
- More efficiently allocates permanent employment visas.

Cons:

- Provides a remedy within the permanent program, permitting permanent entry for newly admitted IT workers. In contrast, the temporary program (H-1B) requires workers to return to their home country within 6 years of entering the US. In practice, however, most H-1B workers never leave.
- Likely receive labor opposition for waiving the labor market test for IT workers.
- Does not address the IT worker shortage that is asserted by the industry to be in the hundreds of thousands.

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1996-1997 CRA Taulbee Survey

Undergrad Enrollments Keep Booming, Grad Enrollments Holding Their Own

By Dexter Kozen and Stu Zweben, Co-chairs, CRA Taulbee Survey

This article and the accompanying tables present the results of the 27th annual CRA Taulbee Survey¹ of Ph.D. granting departments of computer science (CS) and computer engineering (CE) in the United States and Canada. This survey is conducted annually by CRA for the purpose of documenting trends in student enrollment, employment, and faculty salaries. Information is gathered during the fall and early winter. Responses received by January 22 are included in the tables.

Information on degree production and enrollment applies to the previous academic year (1996-1997). Information on faculty salaries applies to the current academic year (1997-1998). Faculty salaries are those effective January 1, 1998. Readers should keep in mind that survey results are from Ph.D. granting departments only.

This article reviews the most significant results of the survey, with particular attention to those that differ markedly from last year or that appear to indicate long-term trends.

This year we received responses² from 129 (bachelors), 133 (masters and Ph.D.) departments regarding production; 129 (bachelors), 133 (masters), and 135 (Ph.D.) departments regarding enrollment; 135 departments regarding faculty growth; and 130 departments regarding salary data (this includes US CS, US CE, and Canadian) for a

response rate of over 80%. We thank all respondents for their timely completion of the questionnaire.

Degree Production (Tables 1-6)

There were a total of 894 Ph.D. degrees awarded in 1997 by the 131 responding departments. This is down from 915 last year and continues a slight but steady downward trend from the peak of 1,113 in 1992. The prediction from last year's survey that 1,110 Ph.D.'s would be awarded in 1997 was again overly optimistic, but this year the discrepancy was even greater than normal. The forecast for next year is a continued decline, perhaps as much as 8%. However, new enrollment in Ph.D. programs is up significantly for the second straight year (see the section on enrollments, Table 9) and there was a 14% increase over last year in the number of students passing the qualifying exam, so a long-term upswing in Ph.D. production is likely if programs can retain their newly enrolled students.

Table 4 gives the areas of specialization and types of first appointments for last year's Ph.D. recipients. The expanded format introduced last year was kept, with 10 areas of specialization instead of the previous 6 and further breakdown according to the type of position in Ph.D. granting departments. There was significant improvement in the percentage of unknown areas of specialization, dropping to 19.0% from 21.3% last year.

The number of bachelor's degrees awarded in 1997 by 131 responding departments was 8,063, off 4.1%

from the 8,411 produced by 128 departments in 1996, but still significantly higher than the 7,561 awarded in 1995. The number of master's degrees, which was essentially flat between 1995 and 1996 with 130 departments reporting, rose about 4.3% in 1997 with 131 departments reporting.

The gender and ethnicity statistics for bachelor's and master's degree recipients remained fairly static with the exception of master's degrees awarded to Native Americans or Alaskan natives, which dropped precipitously from 45 to 4. However, the percentage of master's degrees awarded to women (among degree recipients of known gender) rose from 20.4% in 1996 to 22.7% in 1997. For Ph.D. recipients, the combined gender and ethnicity statistics were not reported this year because of the difficulty in collecting the data, but gender and ethnicity were reported separately (Tables 2 and 3). There was an alarming drop in the number of Ph.D. degrees awarded to Native Americans (from 5 in 1996 to 0 in 1997), African Americans (from 11 in 1996 to 6 in 1997), and Hispanics (from 27 in 1996 to 8 in 1997). The percentage of Ph.D. degrees awarded to women showed a modest rise from 12% in 1996 to 14% in 1997.

Student Enrollment (Tables 9-11)

The big news is the continued explosion in undergraduate enrollments for the second straight year (Table 9). Still reeling from last year's 40% increase over the previous year, academic departments were hit with another 39% jump in 1997.

This will undoubtedly translate to a significant rise in the number of bachelor's degrees awarded starting next year. Meanwhile, many departments are finding their resources stretched to the limit as they struggle to cope with overflowing classrooms. At Cornell, more than a quarter of those freshmen engineers expressing a preference listed computer science as their major of choice (more than any other engineering major) and by 1999, the number of graduating computer science majors will have more than doubled since 1995. At Ohio State, the number of premajors (those who haven't yet completed all the requirements to formally be admitted to a major) in computer science jumped 35% over last year. As a percentage of undergraduate engineering students, computer scientists have risen to 19.5%, up from 15.8% last year and 10.9% the year before.

Enrollments also increased at the graduate level, but somewhat less dramatically. From 1995 to 1996, new enrollment in Ph.D. programs rose sharply by about 26%. In 1997 the trend continued with 1,440 Ph.D. students enrolled, a rise of 7% over 1996, with 131 departments reporting in 1997 versus 130 in 1996. Master's degree enrollments remained relatively static.

The percentage of women enrolled in Ph.D. programs increased slightly from 16.2% in 1996 to 17.0% in 1997. But the major demographic change is in ethnicity of students in the Ph.D. programs.

Continued on Page 6

Table 1. Ph.D. Production by Ranking

	Ph.D.s Produced	Average per Dept.	Ph.D.s Next Year	Average per Dept.	Passed Qualifier	Average per Dept.
US CS Ranked 1-12	207	17.3	237	19.8	186	15.5
US CS Ranked 13-24	111	11.1	117	11.7	124	12.4
US CS Ranked 25-36	102	9.3	110	10.0	92	8.4
US CS Other	343*	4.4	426*	5.5	484	6.2
Canadian CS	89*	12.7	93*	13.3	81	11.6
US CE	41*	6.8	54*	9.0	35	5.8
Total	893**	7.2	1,037	8.4	1,002	8.1

Table 2. Gender of Ph.D. Recipients

	CS	CE	CS & CE
Male	699 (85%)	64 (90%)	763 (85%)
Female	122 (15%)	7 (10%)	129 (14%)
Total	823**	71	894

Table 3. Ethnicity of Ph.D. Recipients

	CS	CE	CS & CE
Nonresident Alien	298 (36%)	27 (38%)	325 (36%)
African American, Non-Hispanic	5 (1%)	1 (1%)	6 (1%)
Native American or Alaskan Native	0 (0%)	0 (0%)	0 (0%)
Asian or Pacific Islander	99 (12%)	8 (11%)	107 (12%)
Hispanic	7 (1%)	1 (1%)	8 (1%)
White, Non-Hispanic	365 (44%)	23 (32%)	388 (43%)
Other/Not Listed	22 (3%)	11 (0%)	33 (4%)
Subtotal	796 (97%)	71 (100%)	867 (97%)
Ethnicity Unknown	27 (3%)	0 (0%)	27 (3%)
Total	823 (100%)	71 (100%)	894 (100%)

Table 1

- * Includes 29 CE degrees granted by these CS departments
- @ Includes 6 CE degrees granted by these Canadian departments
- # Includes 10 CS degrees granted by these CE departments
- + Includes 39 CE degrees granted by these CS departments
- Includes 10 CE degrees granted by these Canadian departments
- & Includes 14 CS degrees granted by these CE departments

Footnotes

¹ The title of the survey honors the late Orrin E. Taulbee of the University of Pittsburgh, who conducted these surveys for the Computer Science Board from 1970 until 1984.

² In some instances, departments only answered selective questions within a table or a section. Therefore, for individual fields within tables the response rate may vary ± 3 .

****Totals do not match:** The reader may find that totals from certain tables do not equal each other, even though theoretically they should. These discrepancies stem from inconsistencies in the way departments answered different questions. We tried to minimize this by calling departments that provided inconsistent answers.

Footnote Continued on Page 7

ABRAHAM/DRIER LEGISLATIVE PROPOSAL

The American Competitiveness Act
Introduced by
Senator Spencer Abraham and Representative David Dreier

The American Competitiveness Act will help U.S. companies to remain competitive in global markets and to expand educational and training opportunities for American students and workers. The legislation will increase the number of skilled temporary workers we allow into the United States and create 20,000 new scholarships a year for low-income students to study math, engineering, and computer science in our colleges and universities. The bill will also help keep American companies in this country, saving American jobs and contributing to the growth of the U.S. economy.

The rapid pace of innovation and growth of technology, combined with record low unemployment in many areas, has created an untenable situation — America's leading high tech companies, the engine of much of the nation's growth, cannot find enough skilled workers. Unless addressed, this gap threatens to drive many of their key facilities offshore. The Hudson Institute estimates that the unaddressed shortage of skilled workers throughout our economy will result in a 5 percent drop in the growth rate of GDP. That translates into about \$200 billion in lost output, nearly \$1,000 for every American.

The National Software Alliance, a consortium of concerned government, industry, and academic leaders that includes the U.S. Army, Navy, and Air Force concludes that the current severe understaffing could lead to inflation and lower productivity, and threaten America's competitiveness. The Department of Labor's figures project that our economy will produce more than 130,000 information technology jobs in each of the next 10 years, for a total of more than 1.3 million. But the data also suggest our universities will produce less than a quarter of the necessary number of information technology graduates over the next 10 years. A Virginia Tech study conducted for the Information Technology Association of America (ITAA) estimates that there are more than 340,000 highly skilled positions going unfilled in U.S. companies. High tech firms view this as a crisis, with more than 70 percent identifying it as the leading barrier to their companies' growth and competitiveness in global markets, according to ITAA.

This year a related crisis will occur perhaps as early as May when the nation's businesses and universities reach the cap of 65,000 imposed on H-1B visas for highly skilled foreign-born professionals. H-1B temporary visas are valid for 5 years. These nonimmigrants cannot stay permanently unless sponsored by an employer and, generally speaking, undergoing a long procedure for an employment-based immigrant visa. Individuals on H-1B visas cannot be paid less than the prevailing or average wage in that occupation for that geographic area.

Last year, the cap of 65,000 was hit at the end of August, causing disruption. It is expected to be reached in May this year. With the backlogs that will occur, the cap will be hit earlier each year, until, practically speaking, companies can no longer count on an ability to hire any nonimmigrant professionals. The cap of 65,000 was chosen arbitrarily in the 1990 Immigration Act, and since that time the U.S. economy and

workforce has increased substantially, while the cap has remained unchanged.

Through wise investments in human capital we can give American kids of all backgrounds, including kids whose opportunities seem severely limited, the chance to be part of the new high-tech economy. The legislation would give us time to formulate a long-term solution, allowing us to produce more of the domestic talent we need to keep our industries competitive and here in America. The question is not: Do we allow more skilled professionals to enter the country or do we help native-born students pursue these fields? Clearly we must do both.

The American Competitiveness Act will:

Increase Access to Skilled Personnel for U.S. Companies and Universities

To be certain there are sufficient H-1B visas for this year, the bill increases the cap to twice the total that will be achieved for the first 6 months of FY 1998 (through March 31), for a likely 12-month total of approximately 90,000 for FY 1998 based on current INS data. Then, in case that is insufficient in a future year, as of FY 1999, other temporary visas that Congress has already authorized (H-2B visas) that went unused in the previous year would be available. There would be a cap of 25,000 on the number of H-2B visas that could be made available in a given year. The bill would also remove from the H-1B program specialized health care workers, including physical and occupational therapists, and place them into a new temporary visa category called H-1C. That category will be limited to 10,000 per fiscal year. Foreign-born professionals who may remain in the United States permanently will remain limited by the 140,000 limit on employment-based immigrant visas. This cap would remain untouched.

Create 20,000 New College Scholarships Annually for Low-Income Students in Math, Engineering, and Computer Science

The bill authorizes \$50 million to be added to the State Student Incentive Grant (SSIG) program in order to create at least 20,000 scholarships a year for low-income students pursuing an associate, undergraduate, or graduate level degree in mathematics, computer science, and engineering. The bill provides dollar-for-dollar federal matching funds, that will grow to \$100 million with state matching. The scholarships will be \$5,000 each.

Increase Training and Job Support For the Unemployed

Viewing education and training as the major long-term answers to the problems employers now face, the bill authorizes \$10 million a year to train unemployed workers in new skills for the information technology industry. The bill also authorizes \$8 million for improved online talent banks to facilitate job searches and the matching of skills in high technology.

Toughen Enforcement Penalties and Improve Operation of the H-1B Program

The bill raises fines substantially for willful violations of the H-1B program, from the current \$1,000 to \$5,000. The bill adds new enforcement power by creating probationary periods of up to five years for willful violators of the H-1B program. During

the probationary period, such firms are subject to expanded Department of Labor "spot inspections" at the agency's discretion. The bill also includes reforms to achieve greater accuracy in determining prevailing wages for companies and universities.

Eliminate Discrimination in Employment Visas

Modifies per-country limit on employment-based visas to address discriminatory effects of current treatment of employment-based immigrants on nationals from certain Asian Pacific nations.

Aid Higher Education, Charities, and Other Non-Profit Organizations

In addition to allowing American universities and other non-profits increased access to skilled personnel, the bill overturns the Hathaway Decision by requiring the Department of Labor to permit prevailing wage calculations for universities, charities, and other non-profit organizations to be differentiated from those of for-profit entities.

Record Type: Record

To: See the distribution list at the bottom of this message

cc: Miriam H. Vogel/WHO/EOP, Alissa K. Brown/WHO/EOP, Gay L. Joshlyn/OPD/EOP
Subject: H1B Visas Mtg. Tuesday

THERE WILL BE AN INTER-AGENCY MEETING RE: H1B VISAS
Tuesday, March 17, 1998
5:00 PM
Room 472

White House

Elena Kagan, DPC
Julie Fernandes, DPC
Sally Katzen, NEC
Cecilia Rouse, NEC
Tom Kalil -- NEC
Anne Lewis -- NEC
Peter Jacoby, Leg. Affairs
Cliff Gabriel, OSTP
Rob Weiner -- Counsel's Office
Maria Echaveste, OPL
Steve Warnath

INS

Paul Virtue	514-8223
Barbara Strack	514-3242
Robert Bach	514-3242

Department of Labor

Seth Harris	219-6181
Ray Uhalde	219-6050
John Fraser	219-8305

Department of Commerce

Kent Hughes	482-6315
Andrew Pincus	482-4772

Department of State

Steve Fischel	663-1184
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Message Sent To: _____

Ask Janet Murguia

Kitty Higgins

Hal Ponder

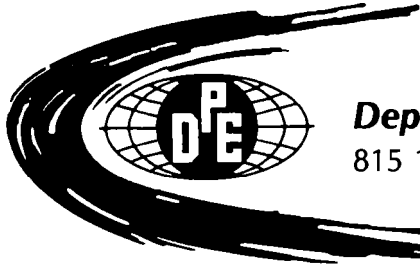
Assistant to the President for
Public Policy & Government Relations



Department for Professional Employees, AFL-CIO

815 16th Street, N.W., Washington, D.C. 20006

Tel: (202) 638-0320 FAX: (202) 628-4379



Department for Professional Employees, AFL-CIO

815 16th Street, N.W., Washington, D.C. 20006

March 4, 1998

The Honorable Orrin G. Hatch
Chairman, Senate Committee on the Judiciary
SD-224 Dirksen Senate Office Building
Washington, DC 20510-6275

Dear Chairman Hatch:

I write on behalf of the AFL-CIO Department for Professional Employees (DPE) regarding your committee's recent hearings on high tech workers and immigration policy. The DPE comprises 22 national union organizations that represent approximately three and a half million of America's most highly skilled professional and technical employees. I respectfully request that this letter be made a part of the record for these hearings.

Mr. Chairman, our affiliated organizations and the people they represent are deeply concerned with the issues being considered by your Committee and will be greatly affected by any decisions the Committee may make with regard to them. We are especially disturbed by proposals that would enlarge the number of non-immigrant professional "guest" workers beyond the numbers that now enter the country under an array of provisions in immigration law. We believe that in the long run legislative programs that encourage a greater dependence on overseas sources for high skilled workers will prove harmful to the interests of professional workers in America as well as a detriment to those who seek to encourage, educate and train a strong capable competitive work force that will help our country compete and prosper in the next century.

Without doubt the information technology (I.T.) industries are experiencing growing pains not unlike those endured by other new, evolving industries. They should be helped as they seek to better manage and develop the considerable wealth of human resources available in our country. Since these industries have chosen to rely heavily on a contingent work force – e.g., temporaries, part-timers, independent contractors – they face unique problems with regard to training, retraining and retention of personnel. With regard to training, they should be and are being helped by government at all levels, by educational institutions and by both private and public training programs.

Within the industry itself more must be done to retain and retrain experienced workers. The industry's record of retaining and employing older (over 40) workers has been strongly criticized (see enclosed New York Times article).

And there is room for the industry to greatly improve its recruitment of women and minorities. For example, while the participation rates of women in the various professions have increased dramatically in the past ten years, the involvement of women in key I.T. professions such as engineers, computer system analysts, etc., has lagged significantly.

Belatedly, the I.T. industries are beginning to recognize their shortcomings with regard to human resource management and they appear to be making corrections.

Is all of this activity too late and too little? We think not. We believe the outside assistance being provided and the industry reforms mentioned above are appropriate and sufficient responses to the magnitude of the current and potential demand for I.T. workers.

A quick fix solution such as that being contemplated in proposals to greatly expand the flow of foreign "guest" workers into these and other industries through the H-1(b) program is not justified. Like the use of a drug – it may temporarily relieve the pain but it could also encourage the postponement of any real treatment of the underlying cause (e.g., better and more education, training, retraining, retention and recruitment efforts, etc.). And it could be addictive. By encouraging a dependence on foreign rather than domestic sources for high skilled talent, the immigration option could be counterproductive and harmful to the best interests of the country and the industry.

Allegations of major shortages in the information technology (I.T.) occupations are unfounded.

Alarmist claims that our nation faces an extreme shortage of skilled workers to serve its growing information technology based industries rest largely on studies initiated and supported by those who stand to gain from an oversupply of such workers – the employers and "purchasers" of I.T. skills. Two such studies and the conclusions drawn by them have been cited repeatedly to the committee and to the media. One was prepared last year by the Information Technology Association of America (ITAA). The other is an update of this ITAA report done at the Virginia Polytechnic Institute.

In his testimony before the Committee on February 25 Dr. Robert Lerman, Professor of Economics at American University, raised serious doubts about the reliability of these studies. He is not the only one to question their usefulness. For example, Rochelle Garner and David Weldon writing in Computerworld, a leading observer of the information technology industries, have criticized both the methodology and the conclusions reached in these reports. (See *The Numbers Game* and *Transforming the Workforce*, Computerworld, Jan. 21, 1998 and Feb. 2, 1998.)

Both Computerworld and Dr. Lerman point out that an important indicator of a worker skill shortage is markedly rising salaries for the possessors of the skills in demand. Figures cited to the Committee by Dr. Lerman demonstrate that this has not happened with regard to I.T. workers. Computerworld also reports that in recent years it "has seen precious little growth in I.T. workers pay. Annual increases in I.T. salaries have often been below the national average for all industries." (Computerworld, 2/2/98, cited above). Despite widely publicized claims of high salaries to encourage new entrants into the I.T. fields, information gleaned by the Economic Policy Institute (EPI) from the National Association of Colleges and from employers' salary surveys between 1989 and 1996 indicate that salaries offered new college graduates in the fields of computer science, computer programming and computer engineering actually **declined** during the period (see attached chart).

Beginning in 1996, surveys indicate that a turn-around took place and that salaries are rising **but the change is too recent to call a trend and the reasons for it are not yet clear.**

One possible explanation could be found in the short-term shortage of programmers linked to the effort to resolve the Year 2000 "bug" to which Dr. Lerman refers in his testimony. BLS data shows a 4.6% increase in real median salaries for programmers between 1990 and 1997 but practically no increase for computer systems analysts and a 5.2% decline for electrical and electronic engineers during the same period.

It should be noted that this data and other wage information recently provided by private surveys do not take into account rising hours of work and a consequent reduction in hourly pay for I.T. salaried workers. For example, BLS reports that in 1997 the median weekly pay for computer systems analysts was \$918. However, as professionals, such workers are exempt from FLSA maximum hour regulation and many are known to work in excess of 40 hours per week. Assuming a fifty hour work week which is not uncommon among such professionals, **the median hourly pay for a computer systems analyst in 1997 could actually be \$18.36 – not much better than union blue collar workers and less than many.**

Clearly more information is needed before your committee and the Congress can properly judge the dimensions of the alleged shortage. What has been presented thus far indicates, at most, temporary "spot" shortages of some but not all I.T. skills. This is not an unusual situation for a growing industry and it hardly justifies a major revamping of policy that will affect all non-immigrants covered by the H-1(b) category. At this juncture we suggest that it would be far more prudent for the Committee to initiate a more carefully drawn investigation of the situation as has been suggested by Senator Warner in his bill, S 798 (now incorporated in S. 1186). This legislation calls for the establishment of an Information Technology Worker Shortage Commission that would "conduct a thorough study of all matters relating to the shortage of information technology workers in the U.S." Among the matters that would be studied are: (a) the causes of shortages, (b) the solutions and (c) the relative efficacy of programs to provide for an increase in the number of technology workers.

We would welcome an opportunity to work with members of the Committee and others to ensure that such an investigation is done thoroughly and expeditiously.

There is no "Crisis." The demand for I.T. workers doubled in the past ten years and was satisfied. The demand may double again in the next ten years but there are ample indications that again, it will be met.

According to the Department of Labor, employment in the computers and data processing services industries will double between 1996 and 2006. This is impressive and, on the surface, may appear to pose an overwhelming challenge until one recognizes that employment in this sector already doubled during the past ten years without recourse to major increases in I.T. workers from abroad.

Our affiliated organizations and the professional and technical workers who comprise their membership are well aware of previous occasions when employers seeking a larger than needed labor pool cried "wolf" in order to prompt Congress and others into serving their purposes. Some of us also recall the dire warnings of economic decline if more key punch operators were not available; others remember a time when it was predicted there could never be enough switchboard operators to operate the manual switching systems in use before the development of automated systems. We have members who were among the thousands of young Americans who were urged to train and educate themselves in the sciences and engineering only to suffer the vicissitudes of changing technology, defense and space related budgets, and corporate "re-engineering" or downsizing. Once again we are being treated to glowing predictions of a booming demand for workers and warnings of looming skill shortages. But, as before, there are changes in the wind that temper these predictions. Below are some which the Committee must take into consideration:

1. The current effort to address the "millenium problem" is employing countless thousands of I.T. workers. In part driven by this unique situation, American companies may spend as much as 9% of their revenue on information technology this year. However, this expenditure is expected to decline to a more reasonable 5-7% in the next few years. (See *Pressure Gap: Transforming the I.T. Work Force*, Computerworld, 2/2/98). **With the end of year 2000 projects, demand for I.T. labor will cool and large numbers of I.T. people will again be "at liberty."**
2. New technologies being introduced with increasing rapidity are making possible far more efficient ways to produce software, store and retrieve data, speed up computations and in other ways improve the productivity of the I.T. work force. **Ironically, the new technologies being developed by the I.T. industries serve to increase productivity and reduce the amount of labor needed within the I.T. industries as well as in others.** (See *The Software and Engineering Industries: Threatened by Technological Change*, William Goodman, Monthly Labor Review, 8/96.)

3. Cut backs in defense spending and related purchases of engineering and computer services that began with the ending of the cold war can be expected to continue. This, too, will have the effect of loosening up the labor market for other I.T. work. (See Monthly Labor Review article cited above.)
4. **Advances in communications technologies are making it easier and cheaper to have some engineering and programming work done abroad.** Firms such as Texas Instruments, IBM and Motorola have operated in Bangalore, India for several years. The main draw is the ready availability of "extremely cheap talent" (EIU Viewswire, 5/95). As their markets expand overseas, American I.T. firms will develop operations that are closer to those markets and, to the extent that the new technology makes it possible, they will export jobs to where the labor costs are the cheapest.
5. The number of computer science degrees (bachelors, masters and doctorates) has been rising since 1992 according to Rochelle Garner writing in Computerworld (2/2/98). She goes on to report anecdotal evidence indicating that "45,000 to 50,000 students per year will graduate from universities during the next few years with I.T. related degrees." Speakers at the national I.T. Work Force Conference that took place in California at Berkeley in January confirmed Ms. Garner's observations. Professors Lynn (University of California at Berkeley), Spencer of Penn State University and Matloff of the University of California at Davis all took issue with those who claimed that enrollments were declining. Add the growing numbers of college educated people who, historically, retrained or cross-trained to provide the bulk of I.T. employment and, as Ms. Garner says, **"its quite possible that the nation could get its annual dose of 95,000 workers"** – the number which the rosier predictions say will be needed. According to the National Science Foundation, only 29% of all computer professionals now working received their degrees in computer fields. Others were educated in engineering, the natural sciences and liberal arts.

There is a strong promise, therefore, that as the I.T. industries continue to improve salaries and working conditions they will find an ample pool of skilled and able workers. A surge of low-paid, temporary workers from abroad, however, could discourage this from happening.

Removing the cap on H-1(b) visas is a "scatter shot" approach to the problems of the I.T. industry.

The H-1(b) provision provides for the importation of highly trained people engaged in numerous professions from music teachers to physicists; micro-biologists to fashion models. Not all of these people are in short supply and no argument has been made that the H-1(b) cap should be raised for all of them. Nevertheless, the problems of the I.T. industry are being used as an excuse to open wide the gates for **all** professional workers. If this happens, some occupations will face an oversupply, a diminishment of pay and benefits and – eventually – a migration of American workers out of the impacted occupations. Dr. Lerman noted that such a counterproductive effect could be

experienced in the I.T. sector as well. Others have noted that legislative programs to expand employment opportunities for foreign nurses during the 1980's (the now defunct H-1(a) program) actually exacerbated a shortage by encouraging employers to rely on overseas sources rather than increasing training, improving working conditions and adopting other more effective methods for promoting nursing within the U.S. Since this program ended, the supply of nurses and the strength of the nursing professions have been improving.

Expansion of the H-1(b) program so as to encourage a greater reliance on foreign skilled workers regardless of occupation is uncalled for and we urge you to reject such an approach.

Furthermore, the H-1(b) program is a flawed program. This was documented in a 1996 audit conducted by the Labor Department's Inspector General. The H-1(b) program, it said, "serves as a probationary try-out employment program for illegal aliens, foreign students and foreign visitors." The Department has responded to this criticism with many constructive suggestions the most recent of which are outlined in the testimony given this committee by Mr. Ray Uhalde, Acting Assistant Secretary. We commend his proposals and urge you to endorse changes in the law that would:

- prevent employers from recruiting foreign workers to replace laid-off "or otherwise displaced" U.S. workers;
- require that prospective employers demonstrate they have made a bona fide attempt to recruit workers domestically;
- limit the H-1(b) visa to three years – a term which should be sufficient to tide an employer over until sources for U.S. based workers can be located and developed. The original intent of the H-1(b) provision was to provide temporary assistance to employers who find their labor market in temporary short supply. This change will help get the H-1(b) program back on course.

We note that employers appearing before your Committee claim a desire to recruit the "best and the brightest" from wherever they can be found. And yet, as the Inspector General found, the H-1(b) provision is being used to recruit inexperienced, entry-level personnel. To deter this practice in the future, we recommend that employers of H-1(b) talent be required to pay at least 5% above the prevailing wage for such workers. This may not ensure that only the "best and brightest" will be recruited but it will discourage the promiscuous use of these visas for workers boasting little more than average skills and experience – easily found within the U.S. labor market. For the same reason we also suggest that – with regard to the recruitment of aliens who are only recently graduated and lacking any real experience – a requirement be added that they show evidence of having graduated in at least the top tenth percentile of their class.

Mr. Uhalde contends that the reforms he suggests would do much to return the H-1(b) program to the purposes for which it was originally intended and discourage abusers of the program. We agree. **Reform of the H-1(b) program along the lines suggested above would, by screening**

out abusers and others who do not face skill shortages, preserve thousands of visas for workers whose employers truly need them to supplement rather than supplant U.S. based workers.

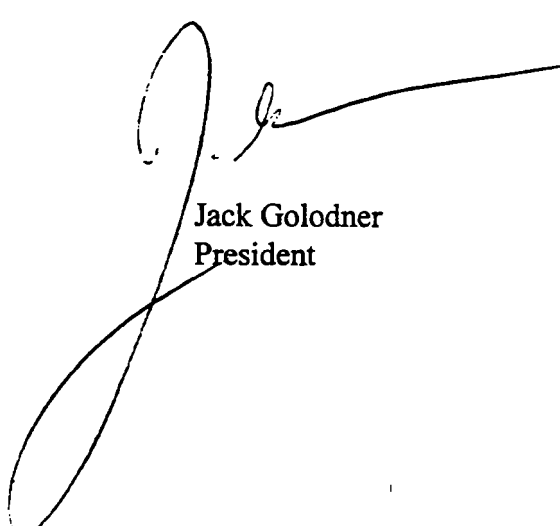
In conclusion — — —

We are convinced that America's superior higher education institutions coupled with training programs that are adequately supported at all levels of government and joined by the efforts of I.T. industries willing to improve their human resources management will produce a work force that will continue to make our I.T. industries the envy of the world. We believe that an over-weaning, unjustified policy that encourages a dependence on non-immigrant workers for skilled human resources will inevitably undermine this effort and damage our nation's long-term competitive position.

Two years ago Secretary Reich pointed out: "Too many employers are using the H-1(b) program to avoid their responsibility to train U.S. workers for high tech jobs." And former Senator Alan Simpson (R-WY) agreed (Hearing, Senate Subcommittee on Immigration, September 28, 1995).

For these reasons we urge you and your Committee to improve the H-1(b) along the lines suggested above and reject proposals to expand the number of foreign workers that can be imported under this program.

Sincerely,



Jack Golodner
President

JG/ml

cc: Members of the Committee

Enclosures

Now Hiring! If You're Young

By Norman Matloff

DAVIS, Calif.

Readers of recent reports about a shortage of computer programmers would be baffled if they also knew that Microsoft hires only 2 percent of its applicants for software positions. Even among those applicants whom Microsoft invites to its headquarters for interviews, according to David Pritchard, the director of recruiting, the company makes offers to only one in four. You don't have to be a "techie" to find that such a low ratio, typical for the industry, contradicts the claims of a software labor shortage. If companies were that desperate, they simply could not be so picky.

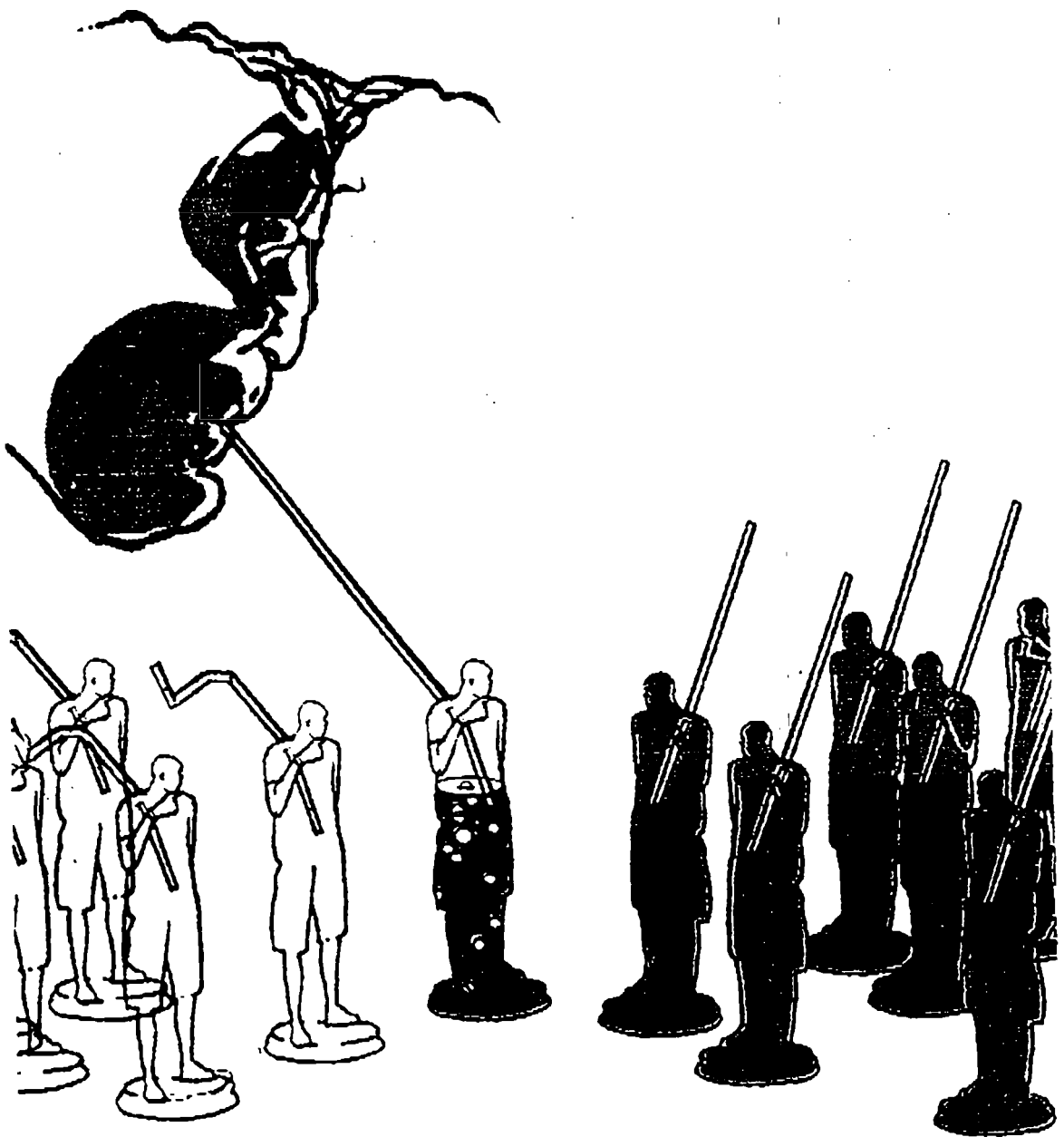
The real story here is more profound: the rampant age discrimination in the industry. High-tech companies save money by shunning most midcareer programmers and focusing their hiring on new or recent college graduates, who are cheaper and work lots of overtime.

As a result, careers in the programming field tend to be short-lived. According to a survey conducted by the National Science Foundation and the Census Bureau, six years after finishing college, 57 percent of computer science graduates are working as programmers; at 15 years the figure drops to 34 percent, and at 20 years — when most are still only in their early 40's — it is down to 19 percent. In contrast, the figures for civil engineering are 61 percent, 52 percent and 52 percent. As one industry executive stated a few years ago at a stockholders' meeting when asked about corporate downsizing, "The half-life of an engineer, software or hardware, is only a few years."

Those claiming a software labor shortage point to low unemployment rates, but such data have little relevance. A programmer who becomes, say, an insurance agent after failing to find programming work counts in the statistics as an employed insurance seller, not an unemployed software worker.

Nor do salary trends indicate a shortage. The average increase in wages for programmers in the past year was only 7 percent — and that figure is skewed upward by the lucky few with hot new software skills who command higher pay.

Employers justify shunting aside midcareer programmers on the ground that they lack skills in the latest software languages. Yet even if a programmer takes a course in, say, the new Java language, employers will still tend not to hire him or her for a Java project. "Taking a course is just not going to work for a senior



Ivan Banyu

Age discrimination in the computer industry.

person, given his salary," said Maryann Rousseau, an employment agent. Why hire a retrained but more expensive 40-year-old when a cheaper new graduate is available?

And the skills issue is a red herring; any competent programmer, if given a chance to learn on the job, can become productive in a new software technology within a few weeks.

Nevertheless, the Information Technology Association of America,

an industry trade group, is asking the Federal Government for funding to increase the number of students enrolled as computer science majors. The trade group also wants an increased quota of temporary work visas for foreign programmers, in spite of a Labor Department finding that abuse in the program, like paying foreign workers lower salaries, is rampant. From 1990 to 1996, employer applications for visas for foreign programmers increased by 300 percent, even though software jobs increased by only 40 percent in this period.

College computer science enrollments, exploded by 40 percent year. But once word gets out that the half-life of a techie is only a few years, how many will see it as the fast track to money and success? □

Norman Matloff is a professor of computer science at the University of California at Davis.

Wage Offers to New College Graduates, 1989-96

	<u>Annual Salary (\$1996)</u>		
<u>Major</u>	<u>1989</u>	<u>1996</u>	<u>Percent Change</u>
Computers:			
Computer Science	\$ 36,263	\$ 35,222	-2.9%
Computer Programming	\$ 35,829	\$ 32,546	-9.2%
Computer Engineer	\$ 38,268	\$ 37,529	-1.9%

Source: EPI analysis of National Association of Colleges and Employers' salary surveys.

AFL-CIO

Post articles on D.C. and MD training programs
to assist them to upgrade skills.

Training not just for dislocated workers.

We need to address a fundamental problem w/in the industry.

30-40% of Microsoft employees are temporary.
No Rights; pensions; health plans.

This only works when there are a lot of
people looking for work.

⊗ Recent article in Computerworld
re: how the H1B program works overseas.

Not harder to train than import H1B.

Sometime 24 hr. turnaround.

Industry says: (1) no time to train

(2) their projects are so short-term,
they do not want to invest
in workers.

⊗ Charge for visa into a training program.

Reforms eliminate marginal usage of H1B.



analysts
programmers
engineers



fine Dictionary of Occupational Titles.

Would play along w/ IT industry is a limited way
Taking up a lot of people.

~~Went~~ Slow-down of Defeat

Productivity is increasing tremendously

(industry may double again in next
BIS projects 10 years).

Good change that will meet demand in next
decade w/out heroics.

Tighten uses of H1B - ~~new~~

Any increase should have a short timespa
(3-year sunset)

Targeted for IT industry

They suggest keep 65 w/ standards

(@ Kennedy (+))

others

Warner bill

Commission ~~at~~ ~~to~~ ~~by~~

to explore work-force analysis

include industry, academics,
labour

* Tom Malone @ MIT (paper)

what is the new social contract ?

TOPIC	CURRENT LAW	ABRAHAM BILL	KENNEDY BILL
PROGRAM REFORM ISSUES			
recruitment			additional attestation element that employers has taken timely, significant and effective steps to recruit and retain sufficient U.S. workers. Good faith effort using procedures that meet industry-wide standards. does not apply if alien qualifies for EB-1 preference.
compensation of H-1B's	higher of prevailing or actual wage paid to similarly-employed U.S. workers	1) takes our reg language (656-40) and puts it into legislation 2) defines "substantially comparable jobs" of prevailing wage universe as taking into account size, profit or nonprofit classification, start-up or mature business operations, the specific industry, public or private sector, status as an academic institution, or other defining characteristics which the employer can demonstrate result in a distinct wage scale from the industry at large. 3) defines "similarly employed" as having substantially comparable jobs in the occupational category in the area of intended employment; requires separate average rates of wage taking into account such factors as years of experience, academic degree, educational institution attended, grade point average, publications or other distinctions, personal traits deemed essential to job performance, specialized training or skills, competitive market factors, or any other factors typically considered by employers within the industry. 4) allows employers to determine prevailing wage using any survey where they have maintained a copy of the survey information. NET RESULT would be abolishing government prevailing wage surveys and accepting any industry claim of prevailing wage, making it impossible to enforce the prevailing wage requirement.	higher of prevailing or actual wage level (including wages, benefits and all other compensation).
no layoff			attestation that employer has not, within 6 months, and will not, for 90 days after filing, or 90 days before and after visa petition, laid off or otherwise displaced a U.S. worker.
Enforcement -- reason for action	complaint-driven	1) strike in 212(n)(2)(C) "a failure to meet" through "an application--" and insert "a willful failure to meet a condition in paragraph (1) or a willful misrepresentation of a material fact in an application. 2) on a case-by-case basis, Secretary of Labor may subject employer to random inspections for a period of up to five years beginning on finding of willful failure to meet a condition (as above) or misrepresentation of material fact in an application. NET RESULT is that initiated enforcement would be limited to employers already found to have committed major violations.	1) complaint or upon initiation by Secretary 2) failure to cooperate in conduct of investigation or intimidated, discharged or otherwise discriminated against [whistleblower]

Expedited reviews and decisions		Atty General shall provide process for reviewing and acting upon H-1B petitions within 30 days after date completed petition filed.	
Determinations on labor conditions attestations	Secretary of Labor	Attorney General, who transmits copy to Secretary of Labor.	no change
CMP's & their use	not to exceed \$1,000 per violation	not to exceed \$5,000 per violation	not to exceed \$10,000 per violation. penalties to be used for loan program.
subpoena authority			Secretary may issue subpoenas requiring attendance and testimony of witnesses or production of records, books, papers or documents in connection with investigation or hearing.
CAP ISSUES			
cap on numbers of H-1B's	65,000 per fiscal year	for FY 1998: two times the number of aliens issued visas or otherwise provided nonimmigrant status between 10/1/97 and 3/31/98. for FY 1999: number determined for FY 1998 minus 10,000, plus unused H-2B visas (to a max of 25,000) from FY 1998. for FY 2000 and thereafter: number determined for FY 1998, minus 10,000, plus unused H-2B's (to a max of 25,000) from previous FY. For transition period, if petition filed during FY 1998 but granted in FY 1999, visa will be counted against FY 1998 ceiling unless that would exceed cap for year, in which case counted against FY 1999 cap. NET RESULT is an expected permanent increase in the cap to 90,000 in FY 1998, and to 115,000 in FY 1999 and beyond, taking into account the 10,000 visas under the new H-1C category.	Sec 2: 90,000 for each of fiscal years 1998, 1999, and 2000; 80,000 in FY 2001; 65,000 in FY 2002 or thereafter.
health care professionals	included in H-1B numbers	additional category (H-1C) with a cap of 10,000 is established as of FY 1999.	not more than 5,000 of H-1B's for health care workers (??? wrong cite in version we have)
H-2B numbers	66,000 per fiscal year	66,000 per fiscal year. Beginning in FY 1999, unused visas from this category (to a maximum of 25,000) from the previous fiscal year are made available for H-1B's.	reduced by amount of increase of H-1B over 65,000: Thus, 41,000 in each of FY 1998, 1999, and 2000; 51,000 in FY 2001; and 66,000 in FY 2002 or thereafter.
Study/Report	n/a	AG annually must submit to Congress: A) quarterly reports on the numbers of aliens who were provided H-1B's during the previous quarter and who were subject to the numerical ceiling; B) annual reports on the occupations and compensation of aliens provided nonimmigrant status under H-1B during the previous FY.	Sec 3: GAO will conduct study assessing labor market needs for workers with high technology skills and extent to which job openings requiring such workers are likely to be unfilled in each of FY 2001 - 2006. Due October 1, 2000.

TRAINING ISSUES			
Training of IT workers	n/a	Secretary of Education shall make allotments to States to enable States to pay not more than 50% of amount of grants awarded to low-income students in the U.S. for attendance on a full-time basis at institution of higher education in a program of study leading to an associate, baccalaureate or graduate degree in mathematics, computer science, or engineering. Secretary of Labor shall: A) establish or improve an on-line data bank that facilitates: I) job searches by individuals seeking employment in technology; and b) the matching of individuals possessing technology credentials with employment in the field of technology; B) provide training in information technology to unemployed individuals who are seeking employment.	loan program to enable individuals to obtain training necessary for employment in high tech industries. Loans not over \$10,000 per person. Repayment due in no more than 4 years after completion of training.
Qualification of individuals for training			a) sufficient education or experience to enable them to qualify for hi-tech industries with limited additional training b) of working age and work-authorized
Assessment of training program			courses certified by Labor Secretary as appropriate to obtain employment in high-tech industries. Secretary shall establish other criteria she deems appropriate to certify courses, industries, and individuals that qualify for provisions of section.
Appropriation & Fees -- Amount and Purpose		increase higher education act by \$50 million for student grants detailed above; for DOL for FY 1999 and each of four succeeding fiscal years -- \$8 million for data bank and \$10 million for training unemployed for technology industry.	1) appropriation of \$50 million for FY 1999 and thereafter to carry out provisions of section 2) user fees of no more than \$500 per application, to be used to administer program, endow loan program, and to fund (to maximum of \$5million) enforcement activities in connection with program.
MISCELLANEOUS PROVISIONS			
employment-based immigrants		1) E-B immigrants (1st - 4th preference) not subject to per country limitation if additional E-B visas available. 2) Any H-1 at date of enactment who is beneficiary of a filed E-B petition under 1st, 2nd or 3rd preference, who would otherwise be subject to per country limitation, may apply for and be granted extension of H-1 status until application for adjustment has been processed and decided upon.	
academic honoraria		visitors (for business or pleasure, such as tourists) can accept academic honoraria.	

Draft March 16, 1998

Major Initiatives to Educate and Train U.S. Workers for Job Openings In High-Tech Occupations

I. Short-Term Administration Initiatives

Expanding industry involvement in school-to-work -- The Department of Education and Department of Labor will provide up to \$6 million in grants to industry groups that expand private sector involvement in school-to-work.

Continuing the national dialogue -- The Department of Commerce, in cooperation with the Department of Labor, will convene four town-hall meetings in 1998 for the purpose of discussing information technology workforce needs, identifying best practices, and showcasing successful models of training and educating workers for IT jobs.

Improving the Organization of the Labor Market -- The Department of Labor is providing \$8 million to integrate the America's Job Bank (AJB) and America's Talent Bank (ATB), accessible on the internet, to enable employers and workers to list and access both employer-posted job openings and worker-posted resumes in one integrated system.

Upgrading the skills of the existing workforce -- The Department of Labor is undertaking the following initiatives focused on educating and training workers for jobs requiring high-tech and information technology skills:

- *Technology Demonstration Project* -- A \$6 million DOL grant program to establish innovative partnerships between the local workforce development system, employers, labor organizations, training and educational providers and others, as appropriate, to train dislocated workers for jobs requiring high-tech skills.
- *Information Technology Training in Washington D.C. Metropolitan Area* -- A DOL grant of up to \$17.5 million to: (1) foster partnerships between the local workforce development systems in the Washington D.C. metropolitan area, information technology employers, labor organizations, educational and training providers and other appropriate institutions; and (2) to train up to 2,500 workers in the Washington D.C. area in information technology skills.

II. New Government/Industry Partnerships

Expanded Industry Participation in Workforce Development Initiatives -- Employers facing skills shortages, particularly information technology firms, would agree to expanded participation in relevant workforce development initiatives, such as School-to-Work and America's Job Bank.

- *School-to-Work* -- Major employers would make firm commitments to: (1) serve on the National Employer Leadership Council; (2) sponsor and help design local school-to-work programs, including Tech Prep programs, in conjunction with the relevant school-to-work partnerships; (3) provide mentors needed to make these local school-to-work programs effective, either through telementoring or through adopt-a-school; and (4) hire students who successfully graduate from such programs. In this regard, major employers would be challenged to replicate successful models undertaken by individual IT companies, including:
 - the Hewlett Packard e-mail telementoring program to help students in school, with an emphasis on math and science;
 - the Novell partnership with high schools that allows high school grads to get a Certified Network Engineer certificate in addition to a high school diploma; and
 - the Cisco program to set up learning academies in high schools located in empowerment zones.
- *America's Job Bank* -- Major IT employers would commit, like IBM currently does, to post all of their job openings on America's Job Bank. In return, DOL could commit to putting a "hot button" on the AJB for major IT occupations.

New Industry Initiatives -- Major IT employers could be challenged to undertake new initiatives including:

- *Partnerships with HBCUs* -- IT companies could make one or more HBCUs a center of excellence in IT, by helping them develop a better IT infrastructure, upgrade the skills of their computer science faculty, and providing additional scholarships for those who pursue computer science careers.
- *IT Training on the WEB* -- IT companies could work together to make training in IT skills more readily available on the Internet.

III. Long-term Initiatives

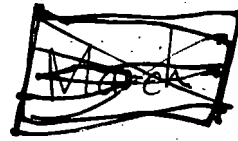
Regional Skills Partnerships -- A new program could be established through legislation to address skill shortages through Regional Skills Partnerships. Building on the Washington D.C. IT training project and the Technology Demonstration project, currently being designed, this new program would provide federal grants to regional consortia of stakeholders in the State and local workforce development systems to establish regional planning mechanisms focused on regional skills needs, industry training consortia, or a combination of the two.

- *Critical Skills Needs* -- The objective would be to: (1) identify local, State and regional skills shortages and assess the extent to which U.S. workers are being educated or trained in the needed skills; (2) establish innovative partnerships among stakeholders in the workforce development system -- State and local-elected officials, employers, labor organizations, training providers, community colleges and 4-year colleges -- explicitly focused on skill shortage areas; and (3) develop and implement strategies to better focus existing training and education programs on these skill shortages, including the development of new training programs.
- *Industry Training Consortia* -- The objective would be to integrate and/or develop regional and local training and employment resources, and apply them to meet the current and future skills needs of regional employers in specific industries or for occupations common to a region.

Grants to establish these Regional Skills Partnerships, whether focused on critical skills needs, industry training consortia, or both, would be awarded through an open merit-based competition to proposing entities best qualified and positioned to achieve these objectives. To the extent that the grants are used to establish industry training consortia, matching funds from State and local government and/or private industry would be required. Funding for these grants might require a total of \$50 million per year to ensure an adequate nationwide response to critical skills needs.

④ Commerce
Corporate GI Bill

H1B



No mark-up^{scheduled} in the Senate
House not yet introduced bills.
Pressure to move

IT wants to solve their short-term problem by May.
Sen. Feinstein
still have an expectation that she will cosponsor
the bill.

BUT
Sen Kennedy is ready to fight on this. (told Sean Herman)
Feels he has Dems. w/ him at the moment.

High-tech industry has hired some conservative
lobbyists.
(Grover Norquist)

John Sweeney
will not be calling

Karen
Tramantano

IEEE
(+)
Occup Phys

Employment

Jaye →

Lawyer's Committee

Gilda →

Left
middle of January

Peter →

Private firm
Palo Alto

Brian →

Robin Ferraro
campaign

Abraham

Permanent increase to ~ 105,000 (90,000 ~~A~~)

25,000
from H2A

Reduces penalties

only for willful violations.

No penalties for non-willful violati-

DOL → w/random audit
authority (inspecting) for willful violations.
BUT no resources for this.

Effectively repeals prevailing wage provision of law
- determined by the employer
- particular to each person
- non-administerable

impossible
to administer

Effectively repeals per country based limitations
Do we have a problem w/that(?)

to employment-
based
immigrants.

Transfers responsibility for the
adjudication ^{from} DOL to ~~the states~~
INS.

\$50 million for SSIG program

out of Ed Dpt.

Fed Govt. provides funds for states
to create means-tested scholarships
for low income

matching

\$8 million for DOL to create internet based
100 matching

No real reforms
going in opposite direction

Creates H1C

take health care workers out of H1B
put them in a new category

w/ Cap of ~~5~~ 10,000

Kennedy

- ① Includes 2 of Admin. reforms
2 new attestation elements
 - ① test of labor market
(tried to recruit U.S. workers)
 - ② no lay-offs
- ② Includes
benefits & other compensation into determining
prevailing wage
- ③ Substantial addit. emp. power to Sec. of Labor
 - a. init. threat w/ ad. complaint
 - b. penalties for employer coercion
 - c. increases penalties
 - d. subpoena authority
- ④ Temp. increase in cap.
back to current in 2002

Limits # for Health Care workers to 5,000
offset H2B

unskilled; temporary; non-ag
workers
labour cert requirement

not

⑤ Creates new loan program
\$10K/person
for training in programs
Certified in DOL

\$50,000 million approp for this +
penalties assesses
⊕ \$500/application fee
only for new

[Consistent w/ Admin. bill from 1996]

⊗ training program is new
open to new educ./training bill.

Labor could be brought around to accept it.
Unions (Kennedy)

Stronger training

① package we can announce that
we can do w/out new legislation.

② Super Pell for IT (?)

③ Hot button on job bank

TIMS
except on
Mandarin

tie to
skill shortage
in IT

Where we are weak is asking ~~the industry what~~
~~they want~~ telling the industry what we need
them to do (training/education).

2:30
today -
skill-shortage
mtg.

What can we do to make
the Labor market respond
more quickly to the IT shortages.

(1)
Challenge to companies to do more.

Labor/Commerce/Edu.
committed

Peter → Robust alternative strategies
Kennedy needs a something

Reforms (1) medium and long term strategy.

Need to go after industry

Lot of support on Dem. side for not doing
anything.

We should work something out w/ Kennedy.

We should try to get

a unified Dem. position.
(particularly Feinstein and herit)

Get a good Kennedy bill and shop it.

We have
conceded
a
shortage

Do we want to

agree to a temp. increase in the
debate (b/c of temporary shortage), but
w/our principles.

Clear signal that Abraham does not meet our
principles!

Time frame (?)

Could bring this to ~~the~~ ~~market~~
mark-up @ any time

Horse?

Need Dingle to buy-in.

~~Do we want~~

Admin/Kennedy effort (??)
(include Michael)

Peter
agrees.

H1B

March 17, 1998

40-50% of H1Bs end up in the permanent program

U.S. workers
Reforms before ^{any} increase in the cap



Labor spoke w/ Kennedy's staff today (Meyers)
Event this week to announce principles of
(Press conf. to look in Feinstein) Their bill

Comp. Moran

3 bills

put in a training bill (modeled on PPI approach)

- ① permits permanent admission of IT professionals - Schedule A

Kennedy thinks that his approach is consistent w/ the Administration

- ② Regional skills alliances

want us to comment favorably on their bill

Hatch: schedule a mark-up after the recess

Smith: may put in a bill similar to Abraham's

Dier has introduced Abraham's bill in the House. Smith's bill will matter.

Mel Watt staff want a briefing on H1B
Reach out to House Dems

~~Abraham~~

Unclear whether there are serious efforts on Abraham's part to negotiate w/ Kennedy.

Will H1B be self-contained? or attached to H2A?

Abraham wants to treat it as a solo.

Organized Labor?

CWA has a resolution on H1Bs.

Options

① Be w/ Kennedy with his proposal (w/ influence)

② Say nothing (on sidelines)

③ To the left of Kennedy.
We don't talk about caps until we have reforms & training.
(agreement)

Align ourselves w/ Kennedy

Train U.S. workers

Reform H1B

Temporary increase (sunset)

This is a short term and

long term problem.

Needs a st/lt solution

Underlying training & H1B changes

Can live w/ temp. increase as part of a package

Add point about how H1Bs be come permanent

① Make sure we understand what is in Kennedy.
Is something missing that we think is important
(by 3yr.)

② Ceci's effort:

what do we want them to commit to

① Do we want a bolder education (NSF)

③ Someone needs to write up

our statement: end ^{short A} every bill

praising approach

DO [Seth] ~~Seth~~

(get clearance)

Need to make sure that Daley
and Herman
are conf. with

Scientists
Academics

Hawaway & rule

Hal Ponder
 Assistant to the President for
 Public Policy & Government Relations



Department for Professional Employees, AFL-CIO
 815 16th Street, N.W., Washington, D.C. 20006

Tel: (202) 638-0320 FAX: (202) 628-4379

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business **SPECIAL REPORT**

TECH WORKER SHORTAGE

Nobody will beat our prices on certified loose diamonds

RELATED ITEMS

From The Post
"Workplace as playground" is the prevailing concept in local tech company office design.

Compare local job trends with the current Silicon Valley scramble.

A local summit last spring sought solutions to the tech worker gap.

Opinion
Richard J. Ernst of the Northern Virginia Regional Partnership discusses the shortage.

On
washingtonpost.com
To get an idea of the big picture of the local job market, manipulate our database of local job ads.

On the Web
CDSI offers tech internships to University of Maryland students.

Mario Morino's Potomac KnowledgeWay has launched a Work Force Enhancement Program.

Pencom offers an interactive salary survey for technology jobs.

Cultivating a New Crop of Workers

Second of two parts

By Peter Behr
Washington Post Staff Writer
Mon., Dec. 1, 1997; Page A01

Robert Weiland figures that every new programmer he hires who can handle powerful database software is worth at least \$100,000 a year in extra revenue to his company, Tracor Systems Engineering, a Rockville defense contractor.

But these days, such technicians are hard to find in the Washington area — so great is the demand for up-to-the-minute computer and networking skills. And they're especially scarce in Southern Maryland, where Weiland manages Tracor's operations at the Patuxent River Naval Air Warfare Center.

So, like embattled military commanders who send cooks and truck drivers to the front, Tracor managers have established a training program to create their own database programmers. The trainees — who include a security guard, a secretary, a courier, a warehouse worker and a dozen other nontechnical employees — recently finished a six-month course and most are expected to move into programming or other technical jobs.

Tracor's makeshift squad of programmers is just one example of the extraordinary measures Washington area technology companies are taking to cope with widespread shortages of computer and networking technicians — a job crunch that threatens to curb the region's growth.

OUTPACING OTHER SALARIES

The salaries of workers in the information technology field are rising much faster than that of other workers in general.

1995 1996

SALARIES IN THOUSANDS OF DOLLARS

	Percent change:
Operating systems/ software architect/ consultant	\$71.5 19.7%
Network control supervisor	\$47.7 17.6%
Operating systems/ software programmer/ analyst manager	\$78.7 17.2%
Customer support technical associate	\$37.7 16.2%
Customer service supervisor	\$46.8 15.4%
Customer support technician (intermediate)	\$35.6 14.6%
Software developer programmer/analyst (lead/specialist)	\$58.2 14.3%
Application programmer/ analysis manager	\$71.7 12.9%
Software developer architect	\$69.4 12.0%

SOURCE: William M. Mercer

THE WASHINGTON POST

THE SERIES

- Read the first part of this series.
- Questions and answers about careers in high technology.
- In Silicon Valley, companies take a creative approach to recruiting.

A majority of the Washington region's estimated 2,500 technology companies face Tracor's dilemma, according to employer surveys. And these companies have some stark choices:

They can train their own workers — as Tracor did — and take the risk of seeing them jump ship to another company with their newly acquired skills.

They can try to buy the skills they need by hiring away each other's employees or competing for the limited supply of new graduates, luring them with \$10,000 signing bonuses and stock options. As a cheaper alternative, they can also try to recruit foreign tech workers.

They can try to expand the local supply of tech workers by cooperating with local universities, community colleges and high schools.

Like many Washington companies, they can resign themselves to the worker shortage, leaving millions of dollars in unfilled contracts and unsold services on the table.

Shopping the Job Fairs

As the tech worker shortage intensified a year ago, the first reaction of many companies was to raid a competitor's work force. "We're stealing from each other," complained April Young, executive director of the Potomac Knowledge Project, a Reston nonprofit group that supports tech entrepreneurs.

Almost every month in the past year, employers have gathered at suburban hotels for technology job fairs that attract hundreds of workers. But they've found that most of the workers are already employed and are shopping for better jobs and more pay, fair organizers say.

Sharon Barshow, a technical recruiting manager for Ajilon, an information technology firm with offices in Towson, Md., spent \$4,200 to attend a two-day job fair in Vienna, Va., last winter. Her catch after more than 100 interviews was a single new recruit. "If I hire one person at a fair, it's successful. If it's two, it's great," she said.

DynCorp, which provides computer services to federal agencies, is one of many firms forced to pay salary premiums to get workers. "I'm never caught up," said Bettie J. Kennedy, DynCorp's vice president of human resources. When she can't find new employees to fill database programming vacancies at \$40 an hour to start, she's forced to pay \$70 an hour to hire technicians from temporary employment agencies. "If they're a warm body and can do the job, we'll take them," she said.

The result often has been a costly, zero-sum game where one

company's new hire is another company's fresh vacancy. "Companies are raiding each other. People are jumping from one job to another," Weiland said.

But as the labor scarcity deepens and signing bonuses escalate, many companies are coming to a different conclusion: The costs of training and educational investments are a bargain, compared with the bidding war in the job market.

"We've got to grow our own," said William A. Craig, a vice president of Merchant's Inc., which is struggling to find skilled technicians to run computers used for automotive diagnoses.

In on the Ground Floor

The growth process starts at the beginning of the tech worker pipeline, with efforts to increase the number of students graduating with technical specialties.

Some area companies, weary of competing for a limited number of college graduates, are putting money directly into college programs to give themselves first crack. For example, each of two dozen telecommunications companies contributes \$25,000 annually to Virginia Tech's highly-rated Bradley Department of Electrical and Computer Engineering in Blacksburg.

For their money, the companies have a say in what the students are taught and the research they do, said Virginia Tech professor Jeffrey H. Reed. "We're very much industry-driven here," he said. "One of the ways we've been able to endure the financial cutbacks [by the state] was relying on industries to give us direct financial support. We try to tune our classes to industry needs."

But this sort of direct university-corporate partnership is still relatively rare, according to Patrick F. Valentine of American University, who surveyed 100 major area technology companies on the issue this year. "Washington area companies are significantly less connected to universities than are companies nationally," Valentine said. "We're falling behind."

And some of the brightest graduates of local programs go elsewhere. At Virginia Tech, for example, many of the corporate sponsors are from outside the region — and as a result, only about one-third of the program's graduates remain here.

"They're getting big offers from companies in Texas and California" that support the program, Reed said. "Somehow, we need to retain these people in Virginia."

A beneficiary of the Blacksburg program — and an example of the

brain drain — is Brian Fox, 31, who completed his master's degree at Tech last summer. He enjoyed the atmosphere at Blacksburg, with "industry people ... coming through the labs once a week." But after receiving several good local job offers, he took a position in communications engineering in Colorado.

In response, some companies are reaching further back into the educational pipeline, trying to form ties to promising college undergraduates and even high school students.

This summer Computer Data Systems Inc., a Rockville computer systems firm, rolled out the red carpet for five area college students it hopes to recruit. CDSI provided them with \$15-an-hour wages, three paid vacation days, high-level instruction in new software skills, tuition assistance for the final year of college and the promise of permanent jobs after graduation.

"Most of my classmates are thinking about: 'What do I do next?' " said one of the interns, University of Maryland senior Shannon Saltzman. For Saltzman and the others, the question instead will be: Which of a long list of employment or graduate school offers do I take next year?

CDSI officials acknowledge that their generosity is a calculated gamble that they can hold onto these interns after graduation.

Neurosystems Inc. in Bethesda moved even further down the employment food chain. This summer the Internet services firm hired John Boursiquot, a Bethesda-Chevy Chase High School junior, to work on an important computer training project.

Chief executive Edward K. Robertson said he'll offer Boursiquot and other top high school students tuition help for college — and a guaranteed job later — as long as they complete college with good grades.

Several Northern Virginia tech companies have a similar arrangement with Chantilly Academy, a science and engineering program at Chantilly High School.

College Ranks Thinning

Local technology companies realize that even a rapid acceleration of college graduates is unlikely to meet the area's growing tech-worker needs. And that means the companies must look for innovative ways to supply the local tech boom with human capital.

"If you're going to hire out of college, you're going to come out way short," said Bruce Hamilton, Tracor's president and chairman of the Maryland High Technology Council. "The numbers aren't there today. It's woefully inadequate."

Some figures illustrate the shortfall: If every 1996 graduate from the computer and engineering programs at 15 Virginia universities — bachelor's, master's and doctoral degrees included — had gone to work in Northern Virginia, they would have made up only one-fourth of that area's estimated technology worker shortage.

The shortage has prompted new proposals from leading Maryland colleges to double the number of computer-related graduates over five years. Virginia business and education leaders are proposing an even more ambitious plan: to triple their state's tech graduates over the same period.

But industry leaders have also concluded that adult training opportunities must be dramatically increased, both for older technology workers with out-of-date skills and for workers with aptitude for technology but no formal training.

A new center for technology worker development is about to open at Northern Virginia Community College, supported by a \$2.4 million state grant. It will help adult workers determine the training they need to enter or advance in technology careers.

"We're at full employment in this region," said Ray Pelletier, executive director of the Northern Virginia Technology Council, an industry group. "So the issue is, how do we help people who are underemployed make the transition" into technology careers through training?

The training option must overcome widespread misgivings among employers who believe it doesn't pay off in the long run.

A recent survey of 700 Maryland technical and nontechnical firms found that more than 70 percent of employers provided training for 10 percent or more of their workers. But only one-quarter of the companies provided training to more than 75 percent of their employees annually.

"Some employers are very pro-training, others are only worried about their profits," said Patrick Devlin, a professor at Montgomery College who teaches auto repair technicians. "They won't pay people to be trained. If they need somebody, they'll steal them" by offering higher pay.

"The vast majority of high-tech firms worry that if they spend money on training or education the employees may leave," said Joseph Willmore, president of the Metro D.C. chapter of the American Society for Training and Development. "Too many organizations conclude — incorrectly — that from a long-range perspective, it isn't

worth it."

That resistance will erode when more employers face the reality of the skills shortage, predict experts like Pelletier.

Ciena Corp. in Linthicum needed skilled workers to meet surging demand for its state-of-the-art devices that multiply the capacity of fiber optic telecommunications lines. It developed training programs that allowed Ciena to quadruple its payroll to more than 500 people this year.

To achieve its goals, Ciena has hired hundreds of Marylanders like Desiree Morris, Rhoda Klump and John Reyes, who had no experience in fiber optics assembly, and trained them on the job.

The trainees are a diverse group: Morris is a retired Air Force civilian employee, Klump is a former cable assembler, and Reyes had been an air-conditioning technician. They are learning the ropes with the help of Ciena's own software instruction programs that provide step-by-step guidance, visible on computer terminals above the workers' stations.

"I've been through a lot of training," said Morris, 34, "but nothing like this."

Technology industry leaders hope to persuade more companies that their self-interest requires them not only to train current workers but also to offer prospective recruits financial help to take training courses at local colleges and technical schools. In return, the employees would agree to remain with the company for an agreed-upon period of time.

The Northern Virginia Technology Council intends to launch such a program in January, if it gets enough support from employers. "Companies are ready to do it," said NVTC's government affairs manager, Doug Koelemay. "They want to see the details of the proposal."

Looking to Other Countries

For many Washington area companies, the comparison of training costs versus recruiting costs is only part of the hiring equation.

Another option is recruiting foreign technology workers, who often can be hired for less than their American counterparts, according to analysts like David Autor, who is researching demands for skilled workers at Harvard University's Kennedy School of Government.

"You can hire here or you can hire in India," Autor said. If wages are

bid up too high in this country, the search for foreign alternatives will increase, he said. "It's very hard to get around the economics of these things."

Good data on the hiring of foreign technology workers in the Washington region don't exist, but nationally, 144,000 workers in "specialty" categories — primarily skilled technicians — immigrated to the United States in fiscal 1996. They accounted for about half the nation's overall increase in technology jobs last year, according to data from the Immigration and Naturalization Service and the American Electronics Association.

The appeal of well-trained but less expensive foreign workers has kept Reston technology executive John J. McDonnell Jr. on a steady shuttle between Northern Virginia and Ireland.

McDonnell heads fast-growing Transaction Network Services Inc., which handles electronic credit, calling card and check validations. He has set up a version of his Reston operation outside Dublin, taking advantage of a government-paid bonus for every Irish worker he hires. "The talent is there, every bit as good" as in the United States, he said.

"When I drive around the suburbs of Dublin, it's like the Beltway," he said, because so many other U.S. information technology and telecommunications firms have set up shop there.

Proxicom Inc., a developer of Internet-based business and consulting services in Reston, is "as aggressive as it can be" in recruiting foreign workers, said founder and chief executive Raul J. Fernandez. "As the son of a first-generation immigrant [his father is Cuban-born] I feel strongly about that."

But Proxicom also is trying to manufacture its own American-born technicians, hiring some whose technology skills are rusty and some who arrive with no tech skills at all.

One recent Proxicom hire, Rich Aurora, was a 1984 computer science graduate from Virginia Tech. He had specialized in large mainframe computer operations, moving up into supervisory roles at a Washington area financial services firm.

But Aurora's mainframe background, shared by thousands of Washington area tech veterans, is a turnoff to many new high tech firms, according to Proxicom Vice President Karl Lewis.

"Their methodology of thinking is fundamentally different from what we do," he said. "There's a generational split." But Proxicom was willing to see whether Aurora could adapt to the new Internet-based models of computing.

Another new hire this year, Kelly Boyer, had no technology experience. Hired at Proxicom as an administrative assistant, Boyer pestered supervisors for the chance to learn how to design Internet Web pages. With Proxicom's encouragement, she got training both on and off the job, Lewis said.

Proxicom then paired up the two. Boyer had a freshly minted exposure to Web-based programming but didn't understand much about how business works, Lewis said. But Aurora did, and that made them an effective team.

Much more such experimentation will be needed in the years ahead to sustain the Washington area technology boom, according to executives and educators. If local companies can't find qualified workers at reasonable salaries in this market, they'll move operations or expand somewhere else.

"We're just on the bow wave of change," said Tracor's Hamilton. "Society is just beginning to see that this technology explosion will permeate every part of our lives in the future."

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Employers Use Training To Recruit Top IT Talent

BY CLAUDE J. BAUER

A recent study conducted by the High Technology Council of Maryland (HTC) revealed that Maryland technology firms now place a premium on training and continuing education as a way to attract and retain employees.

"Human resources (HR) people are looking for ways to put continuing education and training into benefits packages," said HTC president Dyan Brasington from HTC's Rockville, Md. offices. "Workers are demanding this as a benefit."

According to industry experts, the HTC study mirrors a national trend where training is now regarded as a key employee benefit, ranked in importance with health insurance, paid vacations, and other perks. Figures compiled by the Alexandria, Va.-based American Society for Training and Development reveal that the high tech industry now leads all others in per employee spending for training.

Diane Tunick, senior analyst for the Stamford, Conn.-based Gartner Group, has recently seen, "a greater emphasis on the need for training" in high tech firms, and notes that some firms are even setting up training escrow funds for individual employees as a "retaining tool."

BARGAINING CHIP

In today's tight job market, with qualified information technology (IT) workers hard to come by, companies are using the lure of training in hot technologies as a way to keep IT staff from jumping ship, experts say. Job applicants are also using technology training as a bargaining chip in benefits negotiations. "Some of the more savvy candidates are asking for it in writing," Tunick said.



Dyan Brasington
President
High Technology Council
of Maryland

The HTC study, which looked at tuition reimbursement and training programs in 280 Maryland high tech companies, discovered that more than 80 percent of technology companies encourage their employees to take scientific, technical, or managerial courses, and that 87 percent of those companies provide tuition reimbursement for their employees. What's more, 67 percent of the companies surveyed provide flex or release time to their workers to take classes.

The HTC study also found that IT and telecommunications companies are encouraging their employees to pursue vendor-specific training, such as Microsoft's Certified Systems Engineer (MCSE), Cisco System's network engineering curriculum, and Novell's Certified Novell Engineer (CNE) certificate. In addition, they want employees to learn popular programming languages such as Java, Perl, and C++. Systems integrators are encouraging their workers to take classes in computer science, technical management, statistical analysis, and

team effectiveness, while biotechnology firms are concentrating on microbiology, immunology, and chemistry.

DRIVING FORCES

Howard Rubin, chairman of the department of computer science for New York's Hunter College and research fellow for the Stamford, Conn.-based research firm The Meta Group, believes the importance of training among high tech firms results from the "massive, fast forward" nature of the IT industry, which demands that workers keep up with an unending stream of new technologies.

And just last month, a study of 1,500 U.S. high tech firms by the Arlington, Va.-based Information Technology Association of America (ITAA), found 88 percent of companies surveyed cited "retraining existing staff" as one of two major solutions for resolving IT staffing problems.

Companies can also use education and training as "non direct compensatory benefits," to help reduce employee turnover, said Rubin, noting that turnover in U.S. IT firms currently runs about 11 percent.

Kathy Walsh, a Washington, D.C.-based policy advisor to IBM's general manager of worldwide education, says companies shouldn't count on antiquated notions such as company loyalty to keep workers on board. "If [workers] find any way to upgrade their skills, they'll leave," she said. Another "critical" component for retaining high tech employees is providing workers with opportunities to use new skills in interesting projects, Walsh said. "It's not necessarily money and perks" that keep workers happy, she noted.

Ron Alston, general manager of services for the Cupertino, Calif.-based Career Action Center,

agrees. Alston runs a nonprofit group that, "helps organizations succeed by helping people find fulfillment in their work." Alston says many of the center's clients are high tech firms, such as IBM, Hewlett Packard, and Sun Microsystems.

WHO PAYS?

While most would agree that technical training and continuing education are beneficial, in many companies, the budgets for training and college tuition reimbursement are handled by different organizations. College tuition reimbursement is often administered by the HR department, while money for technical training is typically incorporated into annual departmental budgets. In addition, some companies will reimburse workers for traditional college courses, but not IT certificate courses, such as the CNE. However, the Tucson, Ariz.-based company DRA Software Training Inc. recently launched an initiative called the Information Technology College Accreditation Program (ITCAP), which provides a workaround for the reimbursement dilemma.

ITCAP arranges full college credit for Microsoft and Novell certification courses, such as the MCSE and CNE, by channeling them through Tucson's Pima Community College. ITCAP president Charlene Peters points out that the credits can then be transferred to other colleges and universities. She also adds that ITCAP centers must be authorized Microsoft or Novell training centers to qualify for the program.

There are now 75 ITCAP centers around the country, including CGI Systems Inc. and ICI Systems Inc. in Washington, D.C. According to George Sedlacko, ICI Systems sales manager, ITCAP has enabled many students to take technical certification courses under college tuition reimbursement programs. He urges workers to investigate their reimbursement options when it comes to technical training. "Most people aren't aware of their company's [reimbursement] policy," he said.

"Getting college credit for these courses allows them to qualify," he said.

Workers also can obtain college credit for IT certification courses, as well as formal coursework offered in the workplace, through the American Council on Education (ACE) College Credit Recommendation Service. Under this program, ACE dispatches a panel of university faculty members to evaluate courses offered by business, industry, and trade schools. If they pass muster, ACE recommends that colleges and universities issue credit for the courses. Hundreds of major corporations, including high tech firms and technical training organizations, now offer ACE-evaluated courses. According to John Kiem, national director of product development for the Alexandria, Va.-based Computer Learning Center (CLC), about 90 percent of the curriculum offered by CLC has been evaluated for the ACE program, including Microsoft and Novell certification courses, as well as classes in Unix, Oracle, and C++ programming.

TRAINING FOR NEW GRADS

While many high tech firms are bolstering their educa-

tion and training benefits to attract and keep experienced workers, others are using the promise of technology training as a way to recruit new IT workers. "Some organizations are very aggressive in recruiting early on in college careers," Tunick observed.

In the Washington, D.C. area, for example, American University (AU) recently launched a program to recruit liberal arts majors into high tech companies by providing them with training in hot technologies. Patrick Valentine, AU's director of corporate and government education and training, is currently negotiating with five major high tech employers in the Washington region to provide them with trained students that have skills in specific areas. "If a company says, 'We need 10 Microsoft Certified Systems Engineers, we can do that,'" Valentine said.

The companies that take part in the program pay for the training. According to Valentine, AU targets "top liberal arts majors" for the program and trains them in specific technologies immediately after they graduate. Besides working as a successful recruiting tool, Valentine says the program is one way to help solve the current shortage of IT workers. ■



In addition to using training benefits to attract and keep experienced IT professionals, companies are starting to use technology training to enlarge the IT talent pool.

Lawmakers Push to Fill Tech Jobs

Virginians Could Get Low-Cost Training

By Mike Allen

Washington Post Staff Writer

RICHMOND—Thousands of Northern Virginia high school graduates would receive low-cost training for unfilled jobs with local technology companies under a program that is headed toward approval by the state legislature.

The legislation, eagerly sought by the high-tech industry, would turn the state's community college system into a new pipeline to the land of chips and circuits.

As the computer industry has boomed in Fairfax and Loudoun counties and Virginia officials have bragged about a "Silicon Dominion," the companies have found themselves way short of qualified workers. Industry officials estimate that they have 19,000 unfilled jobs and that about half of those are technical positions requiring a two-year college degree or less.

Measures moving through the legislature would address that problem by providing community colleges with millions of dollars to tailor courses—mostly non-degree classes—to specific industries and even individual companies.

The benefits would be spread to other parts of the state, but it is the technology companies in Northern Virginia that are the legislation's prime proponents. And increasingly, computer and information companies are where the new jobs are. A study last year by the Bureau of Business Research at the College of William and Mary found that the state's high-tech industry accounted for 63 percent of the growth in the gross state product from 1991 to 1996.

The new program would allow a community college to provide the skills needed for a low-level technology job in just a few weeks or months. Local high-tech companies, which now must pay to recruit and train workers or send jobs elsewhere, would have a steady supply of home-grown employees.

"We said, the community college system is what's already there," said Michael A. Daniels, chairman of the 800-company Northern Virginia Technology Council. "Let's get them in on the front end, in a partnership with industry."

Under a bill that has passed the House of Delegates and that lawmakers

See HIGH-TECH, B10, Col. 4

Low-Cost Training for High-Tech Jobs Touted in Va.

HIGH-TECH, From B1

ers expect will pass the Senate, community colleges would be allowed to receive state funding for non-degree courses, including training in specific computer networks and programming languages. The subsidized classes would cost students significantly less than similar courses now provided by private trainers, according to industry executives and community-college officials.

The bill, sponsored by Del. Alan A. Diamonstein (D-Newport News), also enables companies to donate equipment to classes designed to help their own businesses.

In a companion move, the legislature is considering several amendments to the state budget that would give community colleges money to begin offering such courses immediately.

Advocates of the program said they expect that many of those taking the classes will not be pursuing a college degree.

"A lot of people can move into high-paying jobs with relatively low levels of academic achievement," said Del. John H. "Jack" Rust Jr. (R-Fairfax). "A high school degree, plus some of this training, could get you into a \$30,000- or \$40,000-a-year job."

While the new program amounts to a state subsidy of technology companies, Rust said it is necessary if Northern Virginia's spectacular job growth is to continue.

"The companies will find these workers," Rust said. "But we want it to be here instead of in Austin or Jakarta."

The average salary of the 19,000 vacant high-tech jobs in the region is \$47,190, according to a study re-

leased in May by the Northern Virginia Technology Council. The council, founded in 1991, estimated that 112,000 additional workers would be needed over the next five years.

In light of those figures, Joy S. Graham, the assistant chancellor of the Virginia Community College

"A high school degree, plus some of this training, could get you into a \$30,000- or \$40,000-a-year job."

—Del. John H. "Jack" Rust Jr.

System, said she expects strong demand for the new courses.

Graham said the community colleges have requested \$9 million for the first year of the training, but the final amount awaits horse-trading as legislators pass a state budget before adjourning next month.

Graham said the exact number of students who could be trained has not been determined, but she said it would be many thousands.

Many of the vacant jobs involve technical support, which requires the knowledge to install or fix a database or computer program. Other jobs include the maintenance of computer networks, which requires knowledge of how equipment is linked.

"It's a system, like knowing how

phones plug together, or how a car works," said Doug Koelemay, government-affairs manager for the Northern Virginia Technology Council.

Of course, four-year colleges don't want to be lost in all the excitement about the new mission of community colleges. George Mason University, in Fairfax County, for instance, is seeking funding to produce more computer science and engineering graduates.

"The community college has a role, but the problem is much bigger than that," said Alan G. Merten, George Mason's president. "We've created a bumper sticker, 'The Workforce Problem,' and the solution and the problem are very complex."

The community-college initiative is a demonstration of the growing clout of Northern Virginia technology companies, which this winter have deployed their most sophisticated lobbying effort ever.

Throughout this session of the General Assembly, top technology executives have held a Friday conference call to track the progress of their agenda. On Thursday, they boarded a bus in Herndon and rode down to Richmond, where they feted legislators at the Bull and Bear Club, on the 23rd story of a high-rise overlooking the James River.

Daniels, the technology group's chairman, tapped his glass to bring the crowd to attention.

"The future of Virginia is technology," he boasted, the lights of the capital city twinkling behind him. "So the future is with us, working with the citizens and all of our political leaders."

Throughout the room, the noshing pots set aside their ham biscuits to applaud.

Foreign investments

The U.S. tales of three foreign national computer professionals

Rajiv Shukla

Country of origin: India

First came to the U.S.: In 1993, to attend graduate school at the State University of New York in Albany.

Education: Master's in computer science.

Current employment: Member of the technical staff at GTE Laboratories in Waltham, Mass. He works on World Wide Web-based systems management software to be used by other GTE business units.

H-1B visa experience: Noneventful. Shukla was hired by a small California software company while still on his student visa. That entitled him to a one-year "technical training" extension. He was hired by Bellcore, which sponsored his H-1B application and processed all the paperwork. After two years at Bellcore, Shukla moved to GTE, which handled the legal and bureaucratic paperwork of reapplying for an H-1B visa. All of this was "very easy, no trouble at all," he says.

Time remaining on H-1B visa: Three years.

Long-term goals: Earn doctorate in computer science.

Plans to stay in the U.S.: Unclear. "Work would be better here, but there are reasons to go back, primarily personal," Shukla says.

Border war

Advice: "You can make an amazing amount of money these days working in the technology field, but I'm more concerned with making sure my life is heading in the right direction."

Ingo Pakleppa

Country of origin: Germany

First came to the U.S.: In 1977, as a high school exchange student. He lived with an American family in Bellevue, Wash., and attended high school for a year. Pakleppa decided he wanted to return to the U.S.

Education: Diplomingenieur der Elektrotechnik (equivalent of a master's degree in electrical engineering).

Current employment: Senior software consultant at Eagle Creek Systems, Inc. in San Diego. He develops custom Windows and Web applications for clients.

H-1B visa experience: Difficult. It took Pakleppa more than two years of interviewing to persuade a U.S. company to hire him. Management subsequently decided it "didn't want to go through the hassle" of the paperwork, he says. But the manager who hired him left soon after to form a start-up and brought Pakleppa with him. Officially, the manager was Pakleppa's "sponsor," but Pakleppa did all the H-1B work — badly. It took three tries before his application was accepted. With the current cap, "it takes much longer, even if you do everything right," he says.

Time remaining on H-1B visa: It expired last year, but he was granted an extension while waiting for his green card (also sponsored by Eagle Creek) to come through.

Long-term goals: To continue working at Eagle Creek and be co-owner of a business some day.

Plans to stay in the U.S.: Definitely.

Advice: "Hire a good lawyer. You can do it on your own, but you'll waste time," Pakleppa says. "Also, be careful. There are a lot of bad lawyers giving bad advice out there."

Rakesh Kandar

Country of origin: India

First came to the U.S.: In 1985, to attend graduate school at the New Jersey Institute of Technology.

Education: Master's in computer engineering.

Current employment: President of Boston-based DB Concepts, Inc., an international recruitment firm that specializes in placing database professionals.

H-1B visa experience: "Quite simple," Kandar says. He converted his student visa to an H-1B while working at a small consulting firm

Border war

that specializes in Informix Software, Inc. database design. That company also eventually sponsored him for his green card.

Time remaining on H-1B visa: Not applicable; Kandar now has his green card.

Long-term goals: Continued success and growth of DB Concepts.

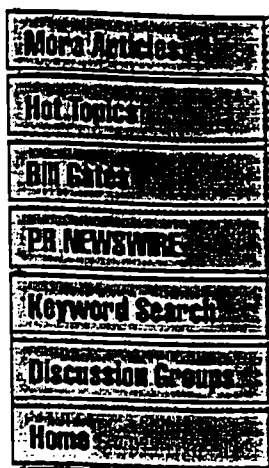
Plans to stay in the U.S.: Of course.

Advice: "Good technologists are in such demand right now that they come over with very high ambitions. Most have a laundry list of the things they want from an employer, and typically they have more than one offer in their hand. More critical is timing: If you want to change employers, make sure you time your H-1B application so that your new one comes through before you give notice. Otherwise, you might end up in limbo. If you are trying to get a green card, the financial stability of the sponsoring company is critical because you must stay with that company until your green card comes through. This can take from two to five years. If your company goes bankrupt, you have to begin the process all over again."

LaPlante is a freelance writer in Woodside, Calif. "I.T. Careers" 3/9/98

Photo: Charles Barclay Reeves

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PR NEWSWIRE

Older Programmers See a Hiring 'Firewall'

By ILANA DEBARE AND TOM ABATE

c.1998 San Francisco Chronicle [3/10/98]

SAN FRANCISCO -- Don't talk to Paul Peterson about a shortage of high-tech workers. Peterson, a University of California at Berkeley engineering graduate with 14 years of programming experience, has been job-hunting for more than two years. He's sent out 300 resumes but received only five interviews. The one actual high-tech job he landed was a temporary three-month stint on a help desk.

So now Peterson, who once designed a computer model to run an entire oil refinery, manages a Radio Shack store to pay his rent.

"A shortage of technical people? What I see is a tremendous fire wall of resistance to even interviewing older programmers," said the 46-year-old Peterson.

Silicon Valley officials have focused national attention on the high-tech labor market in recent weeks _ complaining that America is not producing enough skilled computer professionals, and lobbying for more temporary work visas for foreign engineers.

Certainly the labor market is tight. Unemployment among computer scientists and programmers has dipped below 2 percent.

But Peterson's story and those of other unemployed programmers suggest that there's more going on in America's high-tech labor market than a simple shortage of computer experts.

Critics say other factors behind high-tech's hiring crunch include:

- Subtle age bias against older workers like Peterson.
- Rigid hiring practices that eliminate some potentially good workers.
- An industry that changes rapidly, but has no organized strategy for retraining its longtime workers.
- Workers who don't take the initiative themselves in getting the new skills they need.

“High-tech companies want the right person with the right skills, who can go from 0 to 60 miles per hour in 0 seconds flat,” said Chris Benner of Working Partnerships, a nonprofit group affiliated with the South Bay Labor Council in San Jose.

“They all want young people right out of college who will give their lives to whatever project they're working on, putting in 70 or 80 hours week,” he said. “But this raises big questions for older people. If they don't make a fortune in their first 10 or 15 years, where do they go?”

LABOR SHORTAGE

During the past two weeks, high-tech industry leaders have told Congress that they face a potentially devastating labor shortage.

They've asked lawmakers to raise or eliminate the cap on temporary work visas, which currently allows 65,000 workers into the United States each year.

T.J. Rodgers, chief executive of Cypress Semiconductor in San Jose, said his firm's situation is typical.

“We currently have 17 projects that aren't launched because I don't have the engineers to run them,” Rodgers said.

He said this engineering shortage limits overall job growth because every engineer he puts to work creates five additional jobs in manufacturing, sales and administration.

“I'm not trying to say the sky is falling,” Rodgers said. “But there will be fewer native-born Americans employed one or two years from now if we do not raise the number of skilled engineers we can bring into the country.”

All sides in this debate agree on one thing. The number of skilled computer jobs in America is growing by leaps and bounds — from 1.5 million in 1996 to an estimated 2.6 million in 2006.

There's also no dispute that companies are fighting each other tooth and nail to get the people they want.

“Most applicants get two, three or four job offers,” said Roger King, a recruiter with TechSearch in Sausalito. “Some applicants don't even last a week (before they're hired by someone else).”

The problem isn't a scarcity of candidates.

Yahoo, which adds several technical people a month, gets hundreds of resumes a week. Cisco Systems, with 700 job openings worldwide, gets 2,500 resumes a week.

Managers say their problem is finding qualified candidates — people

with cutting-edge skills in the latest technology.

"We get thousands of resumes a week, and most of the people are just not qualified," said Kenneth Alvares, vice president for human resources at Sun Microsystems. "I'd say just 2 percent of the jobs we fill are filled from resumes. Most of the jobs in our company are filled by referrals from other employees."

Companies say they can't take time to train prospective employees because technology moves too fast.

"Our product shelf life is less than a year," said Alvares. "We need people in some jobs who are the epitome of the state of the art."

TOO SELECTIVE?

However, critics say that companies are sometimes too selective.

Norman Matloff, a computer science professor at the University of California at Davis, slams the computer industry for refusing to hire older programmers who just need to add a new skill or two.

Some longtime programmers agree. "Around Christmas, I applied for job that had a list of 15 requirements," said Bob Searles, 55, a San Jose expert in computer-assisted design technology who has attended six job fairs and mailed out 500 resumes since being laid off last September.

"I passed 13 of the requirements very favorably. There were just two I didn't have, but I understood exactly what they were looking for. I could have gotten up to speed in a month."

Matloff claims that high-tech firms refuse to hire older programmers because they cost more than foreign workers or recent college graduates — a charge that high-tech executives deny.

CLAIMS OF BIAS

Other critics say the industry has a cultural bias against older workers, which in the young atmosphere of Silicon Valley can mean anyone over 40.

"Startups aren't interested in older people, partly because of the skills but also because they're thinking, 'This is some old guy who is set in his ways and won't think out of the box,'" said C.D. Rowsell, 47, a longtime programmer and project manager who currently is looking for work.

Bill McClaren, 51, believes that he ran into age discrimination during an interview last summer.

"As soon as the interviewer saw me and realized I wasn't 25 or 30, I saw this look on his face," said McClaren, an Oakland resident who has completed a 90-day class with the Bay Area Video Coalition aimed at

retraining older workers for high-tech jobs. "It said, 'You can't work for me. You're too old to be at the cutting edge.'"

Meanwhile, David Gilliss, 51, says he gets a better response from potential employers when he masks his age.

"I have better luck when I only put jobs from 1980 onward on my resume," said Gilliss, an unemployed high-tech manufacturing manager from Sunnyvale. "Before I started doing that, one guy even looked at my resume and said, 'Boy, you've had a lot of jobs.'"

High-tech industry officials deny any bias against older workers. They say any roadblocks lie with the skills and attitudes of older job seekers.

"It doesn't have to do with age. It has to do with the skill set," said Jim Colby, regional human resources director for Sony Electronics in San Jose. "If you're in your 30s and you have a skill set from the 1970s that you haven't upgraded, you'll be in as much trouble as if you were in your 60s or 70s."

Some company officials acknowledge that there are problems with the hiring procedures of many Silicon Valley firms.

Recruiters sometimes don't understand technology or the actual skills needed for tech jobs.

Software programs sort resumes by searching for key buzzwords — ignoring the possibility that a C++ programmer could easily learn Java

"The biggest mistake is made when people read resumes and they screen people out rather than screening people in," said Ken Perluss, technical recruiter for Yahoo. "And the screening (software) programs really help them do that."

OLDER SUCCESSES

Of course, some older people do land high-tech jobs, and their experience provides lessons to others who might want to try.

Dan Jones was pushing 50 two summers ago when he put 15 years of mainframe computing behind him and worked his way into San Francisco's youthful Multimedia Gulch. He recalled his first job interview.

"It was an intimidating experience," Jones said. "I walked up the stair saw that room full of twentysomethings, and turned around and walked out."

But he eventually landed a consulting job that ultimately led to his current position as a vice president at Novo/Ironlight, an Internet advertising agency in San Francisco.

"I'm afraid too often people my age want to get by on skills they learned 15 years ago," Jones said. "That doesn't work. You have to keep the skills updated."

INDUSTRY'S ROLE

The standard mantra in high-tech circles is that it's up to individuals to keep their skills current.

But some observers suggest companies should play a bigger role in retraining older workers _ as a way to ease the hiring crunch without importing thousands of extra foreign programmers.

"I support temporary work visas to bring in the really top people, but not the kinds of people who could be trained in nine to 12 months," said Robert Lerman, an economist at American University and researcher at the Urban Institute in Washington, D.C.

Some high-tech leaders concede the industry hasn't made an organized effort to retrain older workers or develop a workforce with the skills they need.

Harris Miller, president of the Information Technology Association of America, compared high-tech to the National Football League.

"The NFL relies on the colleges and universities to fill their ranks, and our industry has been like that," he said.

Miller said that today's hiring crunch is making firms think about new ways to develop talent. For example, the Massachusetts Software Council has had a 93 percent success rate at retraining 40- to 60-year-olds for software industry jobs.

But such efforts are only in the formative stages.

In the meantime, companies continue battling to hire workers with cutting-edge skills _ while less-desirable workers struggle just to get interviewed.

"I've gone so far as to offer to work for free to get up to speed," said Peterson, the engineer working at Radio Shack. "There hasn't even been interest in that."

Gilliss, the manufacturing manager, observed, "Everything you read in the news says the economy is great and unemployment is 3 percent.

"Well, it's 100 percent in my house."

(The San Francisco Chronicle Web site is at <http://www.sfgate.com>.)

SOURCE:

CONTACT:

DATE: Tuesday, March 10, 1998 TIME: 9:56:00 EST

Thousands of Visas Later ...
Worker Program Under Fire
by

Robert Gebeloff

Copyright: The Record, March 23, 1995

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When Larry Richards facetiously applied to bring 30 foreign computer programmers into the United States---and pay them \$5 an hour---the U.S. Labor Department bureaucracy gave him a rubber-stamp OK.

To Richards, a lobbyist trying to reform U.S. immigration law, it was a perfect example of what wrong with the government's H1-B visa program, a system intended to prevent companies from bringing in groups of low-paid foreign workers to compete with American laborers.

Technically, the approval of the application was in compliance with the program, but it was obviously against the spirit of H1-B. The approval also showed that, in a massive bureaucracy, just about any application can get approved.

"The problem is that there is so little with the H1-B program that is illegal," says Richards, a former International Business Machines Corp. worker from Texas who quit to form the Software Professionals' Political Action Committee. "And there is no checking going on at all, either."

The H1-B program, created by Congress in 1990 to establish a mechanism for companies to hire foreigners for jobs in which there was a shortage of U.S. citizens, reached new heights of popularity in 1994.

Although the INS grants only 65,000 visas annually under the program, the Labor Department certified application from domestic companies to import about 270,000 foreign workers last year.

That is about what the Labor Department had certified in 1992 and 1993 combined.

Under the program, companies that want to bring in "highly skilled" foreign workers for up to five years must apply to the Labor Department, listing the number of workers, their occupations, and the wages.

If the Labor Dept. certifies the application, the company can then apply to the INS for the visas.

But as Richards' case illustrates, the federal government uses the honor system to enforce key components of the program.

One main provision of the H1-B law is that companies pay immigrant workers at least the prevailing wage for the occupation - and most computer programmers make at least \$20 an hour, not \$5.

A controversy over this issue erupted in North Jersey last year when the American International Group, a large insurance company, eliminated 130 computer-programming jobs in Livingston and transferred them to H-1B workers at its North Carolina data center.

Employees told The Record the immigrant workers would make about half what AIG paid them. And although the insurer wouldn't comment on the situation, the Labor Dept. confirmed that it is investigating Syntel Inc. of Michigan, the company AIG hired to provide the foreign workers.

H-1B supporters, however, argue that the vast majority of H-1B workers enter the United States within the full spirit of the law. The domestic labor pool does not supply enough qualified employees in occupations such as foreign-language teaching and engineering.

"What H-1B did was strengthen and add protections for workers," says Elissa McGovern, a policy analyst for the Washington-based American Immigration Lawyers Association. "It ensured that these immigrant jobs weren't going to harm U.S. workers."

What about the 130 programmers who lost their jobs at AIG?

Although not aware of all the details in the AIG case, McGovern says one possible justification is semantics. The law says companies cannot use H-1B to "adversely affect" domestic workers. But critics could argue that this protection does not apply to domestic workers after they get laid off because, technically, they no longer qualify as workers once they become unemployed.

"There is an argument that because they are laid off, they aren't adversely affected," she says. "Are workers 'U.S. workers' anymore after they've been laid off?"

All of this is being scrutinized this year by the U.S. Commission on Immigration Reform, which has been holding periodic hearings on H-1B. The commission, headed by former U.S. Rep. Barbara Jordan, may recommend changes to Congress later this year.

Meanwhile, new regulations imposed by the Labor Department give the agency more power to initiate investigations of H-1B abuse. Yet even these new powers may be nipped in the bud by a movement in Congress to impose a moratorium on all agency regulations imposed since last fall's election.

H1B Qs

- (1) Decision
- (2) statement
- (3) Q & A

Reform Qs

- (1) Letter to Rogers
- (2) Supplemental doc by INS?
- (3) Packet deadline?

Sally's H1B mtg.

(1) Where do we want to be?

Is Kennedy holding fast?

Does today's news affect where Kennedy is.

Peter:

Dems think report argues against raising the cap.

Kennedy: (Meyers) going forward
Cover to be tougher

Ask Feinstein for what more to do to
go tougher.

How to tougher?

Study first? and then raise the cap temporarily?

Still Wed. for Kennedy.

Press conference (principles that he & Feinstein
agreed to).

Maybe not firm legislation.

Morella hearing this week.

(in House)

House Dems. against Kennedy bill
as of Friday?

⊛ Where do we want to be on Wed (?)

Peter - if we come out w/ a position (not silence)
we have more control.

Pres. vision: National Labor / Nat. Industry
partnership
for training

⊛ April 2nd mark-up of Abraham's bill

Supportive or Endorse

⊛ Emphasizing
our principles

We endorse
Kennedy's bill.

⊛ Make principles
clear.
Consistent w/
Kennedy approach.

Regional
Alliances

expand
to
include
unions

➔ Meat on training bones.

must coordinate w/ Labor
and what Pres said to
AFL folks in Las Vegas

[Karen Trammantano]

work it w/ Kitty

Pres. had one-on-ones
w/ 7 union Presidents

Cook better the
training / partnership
stuff

Have a working proposal

Peter: There isn't a Rep. on the Hill that will support the training programs.

should our statement
be tougher

strong
(1) linkage

(2) no more than 90K

Industry's major objective is the reforms

H1B
3/23/98

Call Peter
later

Maria: investor visas

Labor met w/ Ken, Fern, Daschle staff

F is back & forth

not sure if she wants to conspense w/ Ken.

Nenns about "worker protection" rhetoric
(likes law enforcement)

Denis to call Feinstein

Labor doing a fact sheet w/

~~They may want~~

Abraham is reaching out to swing votes

Maria talked to immigration lobby

They don't know what their swing vote is.

Jerry called Daschle

No personal read yet.

~~Ken instinct~~

~~Keep Dems. together~~

Top ten users = job shops

Copy of
top 10
H1B users
from Seth

Fundamental difference:

We think you should like U.S. working
first; industry doesn't.

Feinstein: spitting back industry's arguments

Kennedy: TH
Mark-up: April 2nd

AFL

Feinstein: concerned w/ H1B reforms

Labor to give them paper on reforms

④ training that incorporates
Labor piece.

AFL: contacted by K folks - not to oppose raising the cap

→ [concerned about raising the cap]
[trying to sort this out.]

This is a workforce issue.

This highlights need to improve training

⊗ SK - This is our opp. to reform H1B

→ Regional Alliances

Pt. that Pres. raised last week was "intriguing"
similar to well to work from last yr.

AFL
add unions
to Industrial
Educ.
Consortium

Labor to get into mix — a pretraining force
that includes
industry and labor.

They are interested in this

(AFL)

AFL large info powers not software development
contacts
are
with

AFL - larger # of jobs are w/ high volume employees who need ~~computer design~~ and automated industry.

School-based initiative w/ incumbent employee upgrade.

Large joint training initiative would make sense, even w/out a shortage.

National?

WtW like coalition or consortium, that includes Labor and Business (partnership) & education actors.

on additional to regional

Kitty's gut -

POTUS Feels strongly about this issue.

He is looking for us to have a big idea re:
training U.S. workers
(+) re-training

Here's where we are ——— But let's do the work.

AFL - unless a serious, large-scale training initiative, can't see them endorsing raising the cap.

w/a big incumbent piece

SK - ~~are~~ how do they rank reforms?

AFL - they don't know yet

they support reforms; but ~~are~~ don't know if they would support reforms w/out training (that includes raising the cap).

VP has committed to some kind of conference on life-long learning

NEC

CP - How large is large-scale training?

AFL - 250K jobs over a decade

Something that is commensurate with

SK - we need to get this effort mobilized.

AFL - Some in their constituency may react No to the POTUS statement.

Can we agree on a set of principles?

TALKING POINTS

more Q & A

AFL

American workers
upgrade skills

(AFL) - reforms have equal standing w/ training in eyes of affiliates

GAO report calls into question to proof of the shortage

(Labor) - Think of a growing demand for skilled workers, not a shortage of workers.

Opportunity, not a problem.

SK - Share statement w/ AFL

If they have a formal statement, useful for us to have.

~~Meeting~~

Concrete plan about

① how we need to do this

② who do we need to bring to the table

KH → Morty ^{Barr} is willing to take the lead

Important that the POTUS leads this.

Pres.'s working group on

SK - Session next week @ staff level

AFL give us names of folks to invite

(union) - those who would be susceptible

Msg. re: challenges of new econ. and how best to prepare our workforce

Memo: We heard you
to POTUS ~~what~~ Here's what we propose to do.
We need to meet before then to flesh that out.

AFL → Reference to broader vision on TH.

→ Do we need more juice than staff level.

Start w/ Barr, Jan^{sa}nowski w/ the POTUS.

Who should be @ the table

We could send a memo to POTUS about how we want to proceed.

AFL — contact, Triumph union Pres., to staff
but to flesh out idea; identify companies

[KT] — What form does this thing eventually take (?)

Eli Segal model (?) (WTW)

[SK] — Next week we meet w/ AFL folks
to flesh out what we can do.

Building on Skills Alliances?

Sally
to
convene

Arguments Against an Increase in the H-1B Cap

DRAFT 1/28/98

- Commerce Secretary Daley has already announced an Administration policy opposing an increase in the H-1B cap.
- The Administration has already proposed reforms for the H-1B program that, if implemented, could increase the visas available to meet labor shortages without increasing the cap.
- The Administration's proposals include a reduction in the allowable duration of stay from 6 to 3 years. (This could result in a 50% reduction in the total number of H-1B workers that could work in the U.S. at any one time)
- Immigration should be the last—not the first—public policy response to labor shortages.
- The magnitude of the labor shortage in the information technology industry is still subject to dispute. Wage growth in these occupations is simply not consistent with significant worker shortages.
- Current law already allows up to 390,000 H-1B's to work in the U.S. at any one time (65,000 new H-1B's per year for up to 6 years).
- Nonimmigrants are inherently more vulnerable/exploitable in the workplace.
- Increasing the H-1B cap will result in increased immigration in a variety of occupations—not just information technology
- Increasing the H-1B cap will provide greater opportunity and occurrence of visa fraud.

The \$250 application fee placed on employers does not appear to violate our obligations under the General Agreement for Trade in Services (GATS). The only exception to this would be if the \$250 cost ~~would prove, as a practical matter, to create such a disincentive to that~~ ~~it participation that it would effectively prevent the United States from meeting its treaty obligations to permit 65,000 persons to enter annually under our H-b1.~~ (For example, although a \$250 fee would be unlikely to create such a disincentive, one could imagine that a much higher fee could create such an effective impairment.)

The Bill, however, raises two other legal issues under GATS that would require attention. First, the 5,000 person cap in the health care professions adds a new limitation that is not consistent with our commitment under the WHO General Agreement on Trade in Services that permits up to 65,000 persons to enter annually without limitation as to the type of occupation. Second, there are some technical wage comparability and worker non-displacement issues raised in Section 6(b) and Section 7 of the Bill that need to be corrected. A mark-up effectuating those changes is attached.. }

Jeff Frieberg - Dpt Counsel USTR
Peter Collins - USTR



NSF Award Abstract - #9602373

Maricopa Advanced Technology Education Center

NSF Org DUE
Latest Amendment Date January 2, 1998
Award Number 9602373
Award Instr. Continuing Grant
Prgm Manager Duncan E. McBride
DUE DIVISION OF UNDERGRADUATE EDUCATION
EHR DIRECT FOR EDUCATION AND HUMAN RESOURCES
Start Date September 1, 1996
Expires August 31, 1999 (Estimated)
Expected Total Amt. \$2,704,046 (Estimated)
Investigator Alfredo G de los Santos delossantos@maricopa.edu
Cathleen A Barton
Thomas W Lorig
Sponsor Maricopa County CC Distric
2411 W 14th St
Tempe, AZ 852816941 602/731-8111
NSF Program 7412 ADVANCED TECH EDUCATION PROG
Fld Applctn 0000099 Other Applications NEC

Abstract

Maricopa Advanced Technology Education Center The Maricopa Advanced Technology Education Center(MATEC) will be operated by the Maricopa County Community College District (90,000 students), the nation's second largest community college system, in partnership with ten semiconductor manufacturing/supporting industries, including giants like Intel, Motorola, SGS-Thompson, and Microchip Technology; two Tech Prep consortiums with 13 secondary school districts (60,000 students); Arizona State University, the nation's largest public university (43,000 students); three other Community College Districts (Arizona/Oregon); and Albuquerque Technical-Vocational Institute. Primary objectives are 1) to create new curricular systems/materials which reduce the gap between what is taught and learned in schools and what is needed by technicians in semiconductor manufacturing/related supporting industries; 2) to provide technical support, instructional support, and access to resources that faculty/trainers who are preparing students for careers as technicians need to ensure continuing relevance to workplace needs; 3)to increase the number of students, especially women and minorities, who prepare for and become employed as technicians in the semiconductor manufacturing/supportive industries. Targeted programs are Semiconductor Manufacturing/Processing Technology, Circuit Design Technology, and Facilities Maintenance Technology. MATEC's three components are: Curriculum/Materials Development, Staff Development/Support, and Workforce Development Support. Examples of strategies are Computer-Based Instructional Design System, Continuous Quality Curriculum System, Multimedia "Virtual" Materials, Electronic Resource Center/Form, On-line Q/A, Faculty Internships, Scholarships, and Workshops/Seminars for a national audience. Outcome evaluation uses gap reduction model

with measurement instrument to be developed by American College Testing based on specific job profiles of skill levels necessary in workplace.

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The National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230, USA
Tel: 703-306-1234 ~ TDD: 703-306-0090

Advanced Technological Education (ATE)

Closing Date for Preliminary Proposals: April 15, 1998

Closing Date for Formal Proposals: October 15, 1998

Contact: 703-306-1668

A. Purpose

Ensuring internationally competitive industrial and other business enterprises, protection of the environment, effective development and use of new technologies, and other high technology activities requires well-educated science and engineering technicians. It has become increasingly apparent that the quality of this high-technology workforce depends on strong and innovative science, technology, engineering, and mathematics education at associate degree granting institutions. Such education should creatively serve first-time students, returning students, and workers seeking new career opportunities or new skills in a changing economy. To be effective, technological education programs require partnerships among two- and four-year colleges, universities, secondary schools, business, government, and industry. The Advanced Technological Education (ATE) program promotes improvement in technician education delivered at the undergraduate and secondary school levels. The program expects all projects to include major involvement of two-year colleges. Focused on both national and regional levels, it supports curriculum development and program improvement for technicians being educated for the high performance workplace of advanced technologies. Curriculum development encompasses the design and implementation of new curricula, courses, laboratories, and instructional materials. Program improvement encompasses faculty and teacher development, student academic support, and formal cooperative arrangements among institutions and other partners. ATE centers and projects result in major improvements in advanced technological education, serve as models for other institutions, assure that students acquire strong backgrounds in mathematics and science, and yield nationally-usable educational products. All projects must have a vision for technician education which is used to guide project development.

The program is managed jointly by the Division of Undergraduate Education (DUE) and the Division of Elementary, Secondary, and Informal Education (ESIE).

B. Eligibility

Requirements under the program are as follows:

Eligible Programs. For purposes of this program, technician education is generally considered to be the occupation-driven education of persons who will use complex technologies. ATE programs focus on strategic advanced-technology fields and offer education and/or work experiences that are based on scientific, mathematical, and engineering principles. ATE-supported fields in engineering technology include, but are not limited to, aeronautical, architectural, biomedical, chemical, civil, communications, computer, electrical and electronic, industrial, manufacturing, materials, mechanical, marine, nuclear, systems, and telecommunications. In the area of science technology, supported fields include, but are not limited to, agriculture, biotechnology, chemical, environmental, hazardous waste, marine science, and optics. Technicians in these fields enhance productivity in manufacturing, telecommunications, information management, transportation, and other commercial activities important to national economic and security interests. Students enrolled in ATE programs at two-year colleges typically earn an associate degree in engineering technology or science technology qualifying them for employment or transfer to a four-year institution.

ATE will support development of science, mathematics, engineering and technology courses in both core and advanced technology areas. The disciplinary emphasis is predicated on the expectation that all ATE programs have a strong core of courses in science and mathematics to serve as prerequisites and co-requisites for specialized technology courses. ATE will also support development of advanced science and engineering technology courses that assume students have mastered such skills and principles. Course development is expected to be a cooperative effort among faculty and appropriate industry staff (e.g., technicians, research staff) in mathematics, science, engineering, and technical fields.

Eligible Institutions. Proposals are invited from two-year colleges, other associate degree granting institutions, two-year college systems, and consortia of two-year colleges. In addition, proposals are

institutions, two-year college systems, and consortia of two-year colleges. In addition, proposals are welcomed from consortia of other appropriate organizations and institutions (e.g., four-year colleges and universities, secondary schools, professional societies, and educational research and development groups) that include two-year colleges in leadership roles. Proposals from a formal consortium should be submitted by the consortium; proposals from an informal consortium should be submitted by one member of the consortium.

Eligible Costs. ATE will support new design or development costs. NSF funds may not be used to support expenditures that would normally be undertaken in the absence of an award.

C. ATE Program Tracks

- 1) Projects which focus on one or more aspects of advanced technological education, i.e., curriculum or instructional materials development, faculty or teacher preparation and enhancement, technical experiences for students and faculty including internships and cooperative education, or laboratory development;
- 2) up to three new Centers of Excellence in Advanced Technological Education that provide systems-based approaches to technological education (Note: the number and distribution of Centers and projects depends on availability of funds and quality of proposals received); and,
- 3) conferences, workshops, symposia, design and planning projects, studies, and other special projects that will lead to better understanding and promotion of issues in advanced technological education.

Track 1. ATE Projects

Project Development

ATE focuses on improving educational opportunities for potential science and engineering technicians. Centers are expected to be comprehensive in scope. Projects may focus more narrowly on curriculum or instructional materials development, faculty or teacher enhancement, faculty or teacher preparation, technical and research experiences for students and faculty, including internships and cooperative education, or laboratory development. They should, nonetheless, be placed within the context of a more comprehensive program. Because of the nature of technological education programs, where appropriate, projects should build on alliances of associate degree granting institutions with four-year colleges and universities, secondary schools, business, industry, and government. Students and parents must also be made aware of the opportunities and rewards for careers as technicians and the educational requirements necessary to pursue such careers. Projects that cut across the boundaries listed below are especially encouraged.

a. Curriculum and Instructional Materials Projects

ATE supports model projects that demonstrate a vision to improve the quality of courses and curricula in the basic mathematics, science, and engineering core underlying programs in advanced technological education, as well as more specialized science and engineering technology courses. Its activities affect the learning environment, content, and experience of instruction. Technological education is field dependent and driven by applications. There should be a match between occupational requirements and what students are taught. The education component should provide understanding to make the technician more insightful about the work environment and more flexible about receiving additional training which may be job and/or skill related.

ATE seeks projects that envision major changes in technician education and that result in products such as textbooks, laboratory experiments and manuals, software, videos, CD-ROMs, and other educational products. Products are expected to be widely disseminated through publishers, seminars, workshops, electronic networks, and other appropriate means including conference presentations and journal articles. Projects may range from substantial revision of existing materials to creation of entirely new ones; from a few modules at a single instructional level to comprehensive curricula for multiple years; and from a single subject to the integration of several disciplines. Projects must produce major changes and significant improvement beyond the recipient institution and produce materials used nationally. Curriculum projects are especially sought that integrate mathematics, science, and technology; are developed by teams of educators, scientists, and industry participants; and implement the national mathematics, science, and industry standards in a technological context. Curriculum projects that prepare future teachers and faculty for advanced technological programs are also encouraged.

A variety of projects is encouraged. Requests normally range from \$50,000 to \$500,000 per year and for

A variety of projects is encouraged. Requests normally range from \$50,000 to \$500,000 per year and for 1-3 years duration depending on complexity.

b. Teacher and Faculty Development Projects

Faculty and teachers are key elements in advanced technological education. It is critical that they have a sound disciplinary background with knowledge of state-of-the-art developments and techniques in their fields; be intellectually vigorous and excited about their disciplines; employ modern teaching practices; and regard teaching as an important and rewarding activity. To this end, ATE seeks to enhance both the disciplinary capabilities and teaching skills of faculty and teachers, as well as to provide support to maintain their currency and vitality.

Successful projects emphasize content, pedagogy, development and exercise of leadership skills, and opportunities for continuing professional growth. Faculty and teachers also need to be familiar with new instrumentation and the opportunity to evaluate its suitability for instructional use. They need opportunities to synthesize knowledge that cuts across their own and other disciplines. Finally, they also need opportunities to interact intensively with experts in the field and with colleagues who are practicing scientists, technicians, engineers, and mathematicians, both during the course of the project, and in a continuing way after the project.

Typical projects for teacher and faculty enhancement include conferences, seminars, short courses, industrial internships, institutes, workshops, or a series of such activities. Sessions may vary in length from a few days to several weeks. It is expected that activities would usually be conducted in the summer with follow-up activities during the academic year. To effect long-term change, teacher and faculty enhancement projects normally span at least two academic years.

Projects in which two-year college faculty work with four-year college or university faculty and/or secondary school teachers are encouraged, as are those which bring together faculty and teachers from different disciplines.

Instructional materials projects to prepare pre-service teachers and faculty for careers in technological education are also sought. Programs which are collaborations between two-year colleges and four-year colleges and universities are particularly desirable. Involvement of science, mathematics, engineering, technology, and education faculty and secondary school teachers in curriculum design and program implementation is encouraged.

Teacher and faculty preparation and enhancement projects normally range from \$25,000 to \$500,000 per year, with a duration of one-to-three years depending on the complexity and length of the activities, the number of teachers and faculty involved, and the follow-up support provided.

c. Technical Experiences for Students and Faculty

Technical experiences should provide high-potential students and faculty from secondary schools or two-year colleges with a broad perspective of technical fields. They are introduced to an intellectually stimulating environment centered on genuine technical experiences both in the classroom and in a work or community environment. Participants are expected to work in small groups interacting on a regular basis with scientists, engineers, and technicians and with peers who have an interest and curiosity similar to their own. Student-faculty teams are particularly encouraged to participate in technical experiences. Successful projects provide opportunities to formulate problems and questions, design appropriate models, use technological tools, and perform tasks related to their field. In addition, the student-faculty teams are expected to translate the technical experiences and follow-up activities into meaningful classroom experiences that introduce other students to the role of technicians in the workplace.

Technical experiences include, but are not limited to, industrial internships and cooperative experiences. It is expected that the industry partners will provide major support for internships and cooperative activities. Through participation in technical experiences, students and faculty will:

- ☐ gain greater knowledge of, and hands-on exposure to, the applications of science, mathematics, engineering, and technology and become more confident of their ability in technical areas;
- ☐ obtain information about, and develop interest in, careers as science and engineering technicians, and become aware of the academic preparation necessary for such careers; become acquainted

and become aware of the academic preparation necessary for such careers; become acquainted with the environment of two-year colleges as well as business, industry, government laboratories, research organizations, and other academic institutions.

Projects may consist of any combination of activities involving instruction, problem solving, research, design and creation of products. Proposers should provide a balance of classroom, laboratory, industrial, and field experiences. While some activities may be individualized, project activities should stress group interactions that foster collaborations among peers and provide substantive feedback.

Proposals should describe recruitment strategies; criteria for selection of participants; relevance of the planned experiences to curricula or programs; commitments by schools, colleges, or industries to provide resources for implementing project activities; content of sessions about ethics in the workplace and career awareness; and strategies for evaluating the value added to the education of students and faculty.

Technical Experience projects will normally range from \$50,000 to \$250,000 per year with a duration of one to three years. Internships should receive substantial cost sharing.

d. Laboratory Development Projects

Laboratory or field experiences with suitable modern equipment are crucial elements of advanced technological education, especially at the two-year college level. ATE will support projects to develop innovative methods for using laboratory exercises that improve student understanding of basic principles and for using modern instrumentation, new technologies, or applications of instruments that extend the instructional capability of the equipment. ATE also encourages establishment of equipment-sharing through consortia or Centers.

Because ATE focuses on improving the quality of technological education through laboratory improvement, projects based primarily on financial need or replacement of equipment at the same level of capability are not appropriate.

Equipment funds must be matched by non-federal dollars equal to, or greater than, funds requested from NSF. The maximum NSF request for equipment for the life of the project is normally \$100,000 or 10% of the total NSF budget request, whichever is larger.

Track 2. National/Regional Centers of Excellence for Advanced Technological Education

National/Regional Centers of Excellence are comprehensive projects that serve as models and clearinghouses for the benefit of both colleges and secondary schools. A Center must have a well-formulated underlying philosophy; a vision for technological education for the future; and a well-defined plan to reach that vision. Model curricula, instructional materials, and teaching methods will be developed at and through these Centers and then disseminated through publishers, seminars, workshops, publications, electronic networks, and other appropriate means. Centers may vary in size, complexity, disciplinary coverage, and extent of the region served. It is expected that Centers will involve active participation in the educational process by both academia and the private and public sectors served by the educational system. Centers are cooperative efforts among two-year colleges, four-year colleges and universities, secondary schools, industry, business, and government and must involve two-year colleges in leadership roles.

Sources of Support. Center proposals should involve a three-pronged alliance of support from:

- ❑ **NSF**—either for curriculum development (e.g., core courses and laboratories in science, mathematics, engineering, science technology, and engineering technology) or for program improvement (e.g., faculty and teacher development, formal cooperative arrangements among partners);
- ❑ **Proposing educational institution(s) or consortium**—for other laboratory-driven experiences, student services, and other courses such as technical writing to support the programs;
- ❑ **Local business, industry, and government agencies and laboratories**—for apprenticeships, cooperative educational experiences, and internships for students, faculty enhancement, loan of technical professionals to teach, and other modes of active cooperation in the Center.

Project Elements. It is anticipated that the proposal for a Center will include, but not be limited to, most of the following elements:

Curriculum Development

- ☐ curriculum improvement in the basic mathematics, science, and engineering core underlying the proposed program;
- ☐ curriculum improvement in science technology and engineering technology courses with the expectation that students have strong mathematics and science backgrounds;
- ☐ assessment of student learning;
- ☐ a product-oriented approach aimed at producing curricula and educational materials of potential widespread benefit;
- ☐ conference presentations and journal articles in support of project dissemination;
- ☐ coordination among technical specialties and other course areas;
- ☐ student experiences with appropriate equipment;
- ☐ collaboration with secondary schools and technical education professionals in the design of curricula and instructional materials that provide a foundation for technician education;
- ☐ instructional approaches that encourage such activities as student writing, oral presentations, group learning experiences, and long term projects;
- ☐ pedagogical designs that enhance the learning opportunities for persons with disabilities, minorities and women.

Program Improvement

- ☐ preparation and enhancement of college faculty, especially at the two-year level;
- ☐ use of modern instructional technologies in classrooms and laboratories;
- ☐ recruitment, retention, and placement of students, especially those groups underrepresented in careers in science, mathematics, engineering, and technology;
- ☐ improved guidance for students with diverse educational and work experiences entering the programs—both for students entering from high school programs and for those returning with a wide variety of work and educational experiences;
- ☐ alliances with local business, industry, and government including (1) curricula planning, internships, cooperative educational experiences, and apprentice opportunities for students and/or (2) faculty enhancement, exchange, and loan programs;
- ☐ articulation of courses and programs between secondary schools, two-year colleges and four-year colleges and universities;
- ☐ innovative partnerships for design of curricular and instructional materials and for their dissemination through national consortia, associations, and publishers;
- ☐ project evaluation to include, as appropriate, alignment with national standards;
- ☐ professionalization of technician careers, including accreditation, use of voluntary industry standards, and certification;
- ☐ electronic networking of partners for exchange of information and materials;
- ☐ collaborative arrangements with secondary schools; and,
- ☐ awareness of students and their parents about opportunities in technical careers.

Funding and Duration of Centers. National/Regional Centers of Excellence for Advanced Technological Education are expected to be comprehensive projects involving curriculum development and program improvement as described above. NSF anticipates making up to three new awards for Centers annually depending on availability of funds. Awards will be made for up to \$1 million per year for a duration of three-to-five years.

Track 3: Special Projects

ATE expects to support a few special projects such as conferences, symposia, studies, design and planning projects, and other activities that will lead to a better understanding of issues in advanced technological education.

Requests should normally be made at least nine months in advance of the date of the scheduled activity. Individuals or groups wishing to submit such a request should contact an ATE Program Director in DUE

Formal proposals for such activities should include: 1) a summary indicating the objectives of the project; 2) a statement of the need; 3) names and qualifications of key personnel organizing and leading the activity including vitae of Principal Investigators; 4) lists of participants to be invited or other persons to be involved in the project; 5) information on probable dates of workshops or meetings or duration of other type projects; 6) a budget which details the requested NSF contribution and support requested or available from other sources; 7) products to be disseminated; and 8) evaluation of impact of activity. Because proceedings are normally published, requests for support can also include publication costs.

Please refer to *Preparation and Submission of Preliminary and Formal Proposals* and the *Merit Review Criteria* section.

- 04/06/98 12:55:48

U.S. Department of Labor

Employment Standards Administration
Wage and Hour Division
Washington, D.C. 20210**FAX COVER SHEET****OFFICE OF THE ADMINISTRATOR**
WAGE AND HOUR DIVISION**FAX NUMBER (202) 219-4753**
COMMERCIAL (202) 219-8305TO: Ms. Julie Fernandez DPC DATE: 4/8/98FAX NUMBER: _____ PAGES: 3
(include cover sheet)LOCATION: WH - DPCFROM John Grace USDOL

If you do not receive all of the pages please call:

NAME: _____

NUMBER: _____

COMMENTS/INSTRUCTIONS:

As requested - we understand that the attached
are the occupational classifications in the IT
industry for which BLS collects wage data
through the Occupational Employment Statistics (OES)
survey.

John
Grace

Professional Computer Field

D. COMPUTER, MATHEMATICAL, OPERATIONS RESEARCH, AND RELATED OCCUPATIONS

1. COMPUTER SCIENTISTS AND RELATED WORKERS

25102 SYSTEMS ANALYSTS, ELECTRONIC DATA PROCESSING

Analyze business, scientific, and technical problems for application to electronic data processing systems. Exclude persons working primarily as Engineers, Mathematicians, or Scientists.

25103 DATA BASE ADMINISTRATORS

Coordinate physical changes to computer data bases and code, test, and implement the data base applying knowledge of data base management systems. May design logical and physical data bases and coordinate data base development as part of a project team.
[This occupation was added in 1994.]

25104 COMPUTER SUPPORT SPECIALISTS

Provide technical assistance and training to computer system users. Investigate and resolve computer software and hardware problems of users. Answer clients' inquiries in person and via telephone concerning the use of computer hardware and software, including printing, word processing, programming languages, electronic mail, and operating systems.
[This occupation was added in 1994.]

25105 COMPUTER PROGRAMMERS

Convert project specifications and statements of problems and procedures to detailed logical flow charts for coding into computer language. Develop and write computer programs to store, locate, and retrieve specific documents, data, and information.

25108 COMPUTER PROGRAMMER AIDES

Assist Computer Programmers or Systems Analysts by performing computer-related tasks such as entering completed programs for conversion to machine instructions, writing simple programs to retrieve data, and other duties to assist in the processing of data or controlling of industrial processes.

25111 PROGRAMMERS, NUMERICAL TOOL AND PROCESS CONTROL

Develop numerical control tape programs to control machining or processing of parts by automatic machine tools, equipment, or systems.

25199 ALL OTHER COMPUTER SCIENTISTS

All other computer scientists not classified separately above.
[This occupation was added in 1989.]

*Engineers***22127 COMPUTER ENGINEERS**

Analyze data processing requirements to plan EDP system to provide system capabilities required for projected work loads. Plan layout and installation of new system or modification of existing system. May set up and control analog or hybrid computer systems to solve scientific and engineering problems.

[This occupation was added in 1989.]

*Sales & Technical***49005 SALES REPRESENTATIVES, SCIENTIFIC AND RELATED PRODUCTS AND SERVICES, EXCEPT RETAIL**

Sell goods or services requiring scientific or similar knowledge in such areas as biology, engineering, chemistry, and electronics, normally obtained from 2 or 3 years of post secondary education or its equivalent. Sell products such as aircraft, agricultural equipment and supplies, industrial machinery, medical supplies, electronic equipment, chemicals, and precision instruments. Exclude Sales Engineers whose background or equivalent knowledge is equal to a baccalaureate degree in engineerin

September 15, 1998
Administration Package

2. Require a \$500 fee for each nonimmigrant for which an application is filed or renewed. Fee to fund training provided under JTPA Title IV. In addition, a small portion of these revenues should fund the administration of the H-1B visa program, including the cost of enforcement. *[Or, a \$1000 fee for each nonimmigrant for which an application is filed.]*

o.k.

2. Define H-1B-dependent employers as:

- a. For employers with fewer than 51 workers, that at least 20% of their workforce is H-1B; and (Abraham has not agreed to this; they say they have something to accomodate us on this, but we dont' know what it is)
- b. **For employers with more than 50 workers, that at least 12% of their workforce is H-1B.**

Want to exempt those with fewer than 15 employees. Between 15 and 50, want 50% to be threshold for H-1B dependent.

3. The recruitment and no lay-off attestations apply to: (1) H-1B dependent employers; and (2) any employer who, within the previous 5 years, has been found to have willfully violated its obligations under this law.

agreed to

4. **H-1B dependent employers attest they will not place an H-1B worker with another employer, under certain employment circumstances, where the other employer has displaced or intends to displace a U.S. worker (as defined in paragraph (4)) during the period beginning 90 days before and ending 90 days after the date the placement would begin.**

Abraham has not agreed to this.

DOL would have the authority to investigate compliance either: (1) pursuant to a complaint by an aggrieved party; or (2) based on other credible evidence from a source which is likely to have knowledge of an employer's practices, employment conditions, or compliance with the labor condition application indicating possible violations.

Likley not this language, but something like this. Could work something out on this.

8. There must be appropriate sanctions for violations of "whistleblower" protections.

2. 9. 10. to enforcement

Cave (?)
big deal

bottom line: 5.
Keep current
law (a bit
more ?)

9. Close loopholes in the attestations:

provided the criteria
are not applied in a
discriminatory manner.

legitimate, relevant
~~job-related~~ criteria

- OK (7)
- a. Strike the provision that "[n]othing in the [recruitment attestation] shall be construed to prohibit an employer from using selection standards normal or ^{that are} customary to the type of job involved." Sen. Abraham would have a colloquy ^{and} or there would be report language clarifying the intent of the recruitment attestation.

Abraham needs something in the statute to get employers off the hook.
Allowing employers to use reasonably prudent standards.

- b. Clarify that job contractors can be sanctioned for placing an H-1B worker with an employer who subsequently lays off a U.S. worker within the 90 days following placement.

same as #4

- ~~c.~~ Do not exempt H-1B workers with at least a master's degree or the equivalent from calculations of the total number of H-1B employees. [Do not exempt workers who earn at least \$60,000].

- d. Define lay-off based on termination for "cause or voluntary termination," ^{inadequate performance or violation} but exclude cases where there has been an offer of continuing employment. ^{workplace rules,}

They want to add language that says that nothing supercedes the rights of employees covered by collective bargaining agreements. This is to respond to DOL's concern that "cause" is already defined by collective bargaining agreements.

10. Maintain status quo with regard to LCA approval and petition processes.
11. Make more explicit that the definition of U.S. workers would not include H-1B workers for purposes of this bill.
12. Include a provision that prohibits unconscionable contracts (with civil fines).
13. Include a "no benching" requirement that an H-1B nonimmigrant in "non-productive status" for reasons such as training, lack of license, lack of assigned work, or other such reason (not including when the employee is unavailable for work) be paid for a 40 hour week or a prorated portion of a 40 hour week during such time.
14. Increase the annual cap on H-1B visas to 95,000 in FY 1998, 105,000 in FY 1999, and 115,000 in FY 2000. After FY 2000, the visa cap shall return to 65,000.

numbers are still in play

Amend
Special Council

15. Eliminate the 7500 cap on the number of non-physician health care workers admitted under the H-1B program to make the bill consistent with our obligations under the GATS agreement.
16. Three-year debarment for a willful violation plus a \$35,000-\$40,000 fine.
- [17. Also amend the definition of prevailing wage for the H-2B program to include total compensation?????]
18. Recruitment being arbitrated by the INS.

In addition, we would require that the prevailing wage attestation be permanently changed to the following:

Sec. ____ Definitions

Section 212(n) (8 U.S.C. 1182(n)) is amended by inserting after subsection (2) the following new subsection:

"(3) As used in this section --

(A) '*actual wage*' means total compensation, including base pay (whether expressed as an hourly rate or a salary), equity, and health, life, disability, and other insurance plans, and retirement and savings plans provided to regular employees. If the employer offers a benefit plan which enables employees to choose among options, then the employer's plan shall be deemed to be acceptable *provided* the same plan and options are offered to all employees in the occupational classification in which the nonimmigrant is intended to be (or is) employed.

(B) '*prevailing wage*' means total compensation, including the rate of pay as determined based on the best information available as of the time of filing the application (whether expressed as an hourly rate or a salary), equity, and health, life, disability, and other insurance plans, and retirement and savings plans provided to regular employees. If the employer offers a benefit plan which enables employees to choose among options, then the employer's plan shall be deemed to be acceptable *provided* the same plan and options are offered to all employees in the occupational classification in which the nonimmigrant is intended to be (or is) employed."

JFraser

#4

(+)

recruitment atks fat in
must mean something.

H-1B

9/18/98

Refine or walk

INS piece — close to a deal breaker

Recruitment attestation going to INS

Colloquy @ understanding

① DOL alone

that ~~INS~~ INS can use the resources of the government

①

(“appropriate enforcement agency”)

INS working w/ or through the Dpt. of Labor

④

DOL but subject to approval of the Secy INS, w/ DOL sign off

②

DOL, in consultation w/ Commerce (or INS)

③

or DOL jointly w/ Dpt. of Commerce
MOV

specific statement that Commissioner can delegate this authority

AFL still skeptical of the package

Peter: vote situation

giving us 11/15 doesn't seem to be helping w/ moderate Dems. Dems. are hanging w/ us

Close on Watt amendment.

Should we go back to the companies (?) Abraham first.

Peter: get back w/ House Dems.

Julie -

① About 35,500 H-1B applications have been filed w/ start-dates of 10/1/98 or later.

② Of those, about 20,000⁺ initial petitions (which count against the FY99 cap of 65K) have been approved.

③ ~~These~~ This leaves about 15,000 in the pipeline to be adjudicated.

④ If there's a negotiation to cover #'s already in the pipeline, the 35,000 should be considered a ballpark, ~~not~~ "working" number, not a perfect total of workload to date.

September 19, 1998
Status of Negotiations

- bold = agreed
italics = not*
1. Require a \$500 fee for each nonimmigrant for which an application is filed or renewed. Fee to fund training provided under JTPA Title IV (approx. 60%) and a percentage for an NSF scholarship program for minority students (approx. 30%). In addition, a small portion of these revenues would fund the administration of the H-1B visa program, including the cost of enforcement (approx. 10%).

2. Define H-1B-dependent employers as:

- Small business
1 yr. transition*
- a. ~~Employers with fewer than 15 workers;~~ ^{Exempt} Employers with fewer than 15 workers; and *50 worker w/ fewer than (30% of employees) H-1B*
 - b. For employers with ~~more~~ ^{fewer} than 50 workers, that at least ~~15%~~ ^{30%} of their workforce is H-1B, [with a 1 year transition provision that would exempt H-1B workers with at least a master's degree or the equivalent from calculations of the total number of H-1B employees and those who earn at least \$60,000.] *from date of enactment of the bill.*

3. The recruitment and no lay-off attestations apply to: (1) H-1B dependent employers; and (2) any employer who, within the previous 5 years, has been found to have willfully violated its obligations under this law.

4. H-1B dependent employers attest they will not place an H-1B worker with another employer, under certain employment circumstances, where the other employer has displaced or intends to displace a U.S. worker (as defined in paragraph (4)) during the period beginning 90 days before and ending 90 days after the date the placement would begin.

- 6 and 7*
5. DOL would have the authority to investigate compliance either: (1) pursuant to a complaint by an aggrieved party; or (2) If the Secretary receives specific credible information, not derived from a complaint by an aggrieved party but derived from a source which is likely to have knowledge of an employer's practices, employment conditions or compliance with the employer's labor condition application that provides reasonable cause to believe that a willful violation, or pattern or practice of violations, or serious violations affecting multiple employees (or job applicants) may have occurred, the Secretary may conduct an investigation in the same manner as would be authorized under 212(n)(2)(A) if a complaint had been filed provided that the Secretary approves that the basis for proceeding with such investigation has been met.

Sec must personally sign off on invest. pre-investigation notification.
[Abraham would like for any increased enforcement authority to be temporary.]

8. There must be appropriate sanctions for violations of "whistleblower" protections.
9. Close loopholes in the attestations:

- a. **Strike the provision that “[n]othing in the [recruitment attestation] shall be construed to prohibit an employer from using selection standards normal or customary to the type of job involved.” Substitute with “[n]othing in the [recruitment attestation] shall be construed to prohibit an employer from using legitimate criteria relevant to the job that are normal and customary to the type of job involved, provided that the criteria are not applied in a discriminatory manner.” Plus report language that this provision is not intended to subvert the recruitment attestation.** ✓
 - b. **Clarify that job contractors can be sanctioned for placing an H-1B worker with an employer who subsequently lays off a U.S. worker within the 90 days following placement.**
 - c. **Do not exempt H-1B workers with at least a master’s degree or the equivalent from calculations of the total number of H-1B employees; and do not exempt workers who earn at least \$60,000.**
 - d. **~~Define lay-off based on termination for “cause or voluntary termination,” but exclude cases where there has been an offer of continuing employment.~~ Add “Nothing herein is intended to limit an employee’s rights under collective bargaining agreements or other employment contracts limiting the employer’s right to terminate an employee’s employment.”**
- 10. **Maintain status quo with regard to LCA approval and petition processes.**
 - 11. **Make more explicit that the definition of U.S. workers would not include H-1B workers for purposes of this bill.**
 - 12. **Include a provision that prohibits unconscionable contracts (with civil fines).**
 - 13. **Include a “no benching” requirement that an H-1B nonimmigrant in “non-productive status” for reasons such as training, lack of license, lack of assigned work, or other such reason (not including when the employee is unavailable for work) be paid for a 40 hour week or a prorated portion of a 40 hour week during such time.**
 - 14. *Increase the annual cap on H-1B visas to 95,000 in FY 1998, 105,000 in FY 1999, and 115,000 in FY 2000. After FY 2000, the visa cap shall return to 65,000.*
 - 15. **Eliminate the 7500 cap on the number of non-physician health care workers admitted under the H-1B program to make the bill consistent with our obligations under the GATS agreement.**
 - 16. **Amend 212(n)(2)(C) (willful violations) to specify \$5000 penalty and 2 year**

debarment. Amend the new penalty section for willful violations plus layoff to specify \$35,000 penalty and 3 year debarment.

- 17. Permanently broaden the definition of prevailing and actual wages to include other forms of compensation and benefits.**
18. *Transfer administration of the arbitration process to DOL.*

Plus, Abraham's staff has not yet brought up their request dealing with the per country limits in the permanent employment program:

Allow H-1B visa holders whom the employer want to hire permanently and who would be eligible for a permanent employment visa but for being barred by the per country limit to be give by the Attorney General a one-time extension of their visa until the per-country limit would no longer bar them from getting the permanent visa, except that the extension cannot extend beyond Sept. 30, 2001.

We can possibly offer:

✓ *The total of employment-based visas in any fiscal year may not exceed 10 percent (in the case of a single foreign state) or 2 percent (in the case of a dependent area) of the total number of such visas made available under 201(d) in that fiscal year. [We could also make this temporary.]*

Sec. ____ . Definitions

Section 212(n) (8 U.S.C. 1182(n)) is amended by inserting after subsection (2) the following new subsection:

"(3) As used in this section --

(A) '*actual wage*' means total compensation, consisting of all taxable compensation as determined by the U.S. Federal tax code plus the same benefit package provided to regular U.S. employees. If the employer offers a benefit plan which enables employees to choose among options, then the employer's plan shall be deemed to be acceptable *provided* the same plan and options are offered to all employees in the occupational classification in which the nonimmigrant is intended to be (or is) employed.

(B) '*prevailing wage*' means total compensation, consisting of the rate of pay for the occupational classification in the area of employment as determined based on the best information available as of the time of filing the application (whether expressed as an hourly rate or a salary) plus all other forms of taxable compensation (as determined by the U.S. Federal tax code) and the same benefit package provided by to regular U.S. employees. If the employer offers a benefit plan which enables employees to choose among options, then the employer's plan shall be deemed to be acceptable *provided* the same plan and options are offered to all employees in the occupational classification in which the nonimmigrant is intended to be (or is) employed."

Option #1
(for sending to
AFL-CIO)

Sec. ____ . Definitions

Section 212(n) (8 U.S.C. 1182(n)) is amended by inserting after subsection (2) the following new subsection:

"(3) As used in this section --

(A) '*actual wage*' means the base pay (whether expressed as an hourly rate or a salary), plus all benefits and other forms of compensation provided. If the employer offers a benefit plan which enables employees to choose among options, then the employer's plan shall be deemed to be acceptable *provided* the same plan and options are offered to all employees in the occupational classification in which the nonimmigrant is intended to be (or is) employed.

(B) '*prevailing wage*' means the rate of pay as determined based on the best information available as of the time of filing the application (whether expressed as an hourly rate or a salary) , plus all benefits and other forms of compensation provided by the employer. If the employer offers a benefit plan which enables employees to choose among options, then the employer's plan shall be deemed to be acceptable *provided* the same plan and options are offered to all employees in the occupational classification in which the nonimmigrant is intended to be (or is) employed."

Option #2
(for sending to
APL-cio)

Amend 212(n)(1)(A) to read:

Abraham's suggested language
(DOL has some small Δs).

(A) The employer--

Clear.

(i) is offering and will offer during the period of authorized employment to aliens admitted or provided status as a nonimmigrant in section 101(a)(15)(H)(i)(b) wages that are at least--

(I) the actual wage level paid by the employer to all other individuals with similar experience and qualifications for the specific employment in question, or

(II) the prevailing wage level for the occupational classification in the area of employment, whichever is greater, based on the best information available as of the time of filing the application,

whichever is greater, based on the best information available as of the time of filing of the application;

(ii) is offering and will offer during the period of authorized employment to aliens admitted or provided status as a nonimmigrant described in section 101(a)(15)(H)(i)(b) the same benefits (including health, life, disability, and other insurance plans, and retirement and savings plans, bonuses and non-cash compensation such as stock options not based on employee performance, and the opportunity to earn bonuses and non-cash compensation based on employee performance) as those the employer offers to all other individuals with similar experience and qualifications for the specific employment in question, provided that if eligibility for a benefit is based on a criterion such as seniority, the nonimmigrant described in section 101(a)(15)(H)(i)(b) shall be eligible on the same basis; and

(iii) will provide working conditions for such a nonimmigrant that will not adversely affect the working conditions of workers similarly employed.

Amend 212(n)(2)(C) (willful violations) to specify \$5000 penalty and 2 year debarment

Amend our new penalty section for willful violations plus layoff to specify \$35,000 penalty and 3 year debarment.

Amend 212(n)(2)(D) to read as follows:

If the Secretary finds, after notice and opportunity for a hearing, that an employer has not paid wages at the wage level specified under the application and required under paragraph (1), or has not provided benefits as required under paragraph (1), the Secretary shall order the employer to provide for pay such amounts of back pay or provide such benefits as may be

1 back pay
or both or both

required to comply with the requirements of paragraph (1), whether or not a penalty under subparagraph (C) has been imposed.

Payoff Seen As Near In Abraham-White House Visa Talks

By Matthew Morrissey, <I>CongressDaily/A.M.</I>

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Tuesday, Sept. 22, 1998<P>

In their effort to compromise on legislation increasing the number of H-1B visas for highly skilled workers, Sen. Spencer Abraham, R-Mich., and White House aides have taken the idea of additional company "attestations" off the table, sources said Monday. Negotiators, who met again late Monday night, now are looking at ways to give the government more power to investigate abuses of the current H-1B laws and regulations, sources said. An agreement could be announced today.

<P>

Adding to the political dynamics of the issue, President Clinton next weekend plans to attend a fundraiser in California sponsored by prominent Democratic donor John Doerr, principal of a capital investment firm that specializes in high tech businesses. With the administration threatening a veto of the H-1B legislation that is the highest priority for high tech businesses, aides speculated Clinton would like to have the issue wrapped up before he faces high tech company representatives.

<P>

Meanwhile, House Republican leaders, who removed the H-1B visa bill from the floor schedule last week because they did not have the votes locked up, will wait to see what develops this week from the Abraham-White House discussions before trying again. Previous incarnations of the H-1B visa bill required that companies wanting to bring highly skilled foreign workers into the United States attest in writing that they first had tried to hire an American worker, and that the new foreign employee would not replace a laid off American worker.

<P>

Businesses consider such attestations a burdensome paperwork requirement with legal pitfalls.

<P>

When House and Senate leaders tried to "pre-conference" the bill earlier this summer, business groups successfully got Republicans to apply the attestation requirement only to companies with a work force of more than 15 percent H-1B visa holders.

<P>

That definition means most of the largest high tech companies

would escape the attestation requirement.

<P>

But Democrats and the White House said such a definition was unacceptable because they fear American companies, without the attestation requirement, would displace highly skilled American workers with lower paid H-1B workers.

<P>

They wanted the attestation requirement expanded to more companies.

<P>

Unable to agree on the attestation language, negotiations between Abraham and National Economic Council Director Gene Sperling last week moved toward better enforcement of existing wage laws, sources said.

<P>

Supporters of the bill note that current H-1B visa laws already commit companies to pay their foreign workers the "prevailing wage," which makes them less likely to hire a foreign worker for the purpose of saving money.

<P>

Better enforcement of that existing law might be an alternative to writing new attestation requirements, said a source familiar with the negotiations.

<P>

Sperling repeatedly has said in meetings that the administration's main concern is that a few "bad actor" companies will use more H-1B workers to avoid paying higher wages to available American workers.

<P>

So instead of requiring companies to attest in writing for each H-1B worker that they are not displacing an American worker, Sperling wants more power for the Labor Department or another agency to investigate companies potentially abusing the H-1B program.

<P>

While business lobbyists do not like the attestation requirements that Democrats favor, they also are not keen on giving the Labor Department or the Immigration and Naturalization Service more investigatory powers.

<P>

Finding a middle ground in that area is the center of the Abraham-Sperling discussions, sources said. Abraham and Sperling met face-to-face last week, and staff aides worked late two days last week and Monday night.

<P>

"Both sides are trying to be creative," said one source.

Gene / Peter / Ceci
met w/ Ab

Small: 7 HIBs < 25 workers
12 HIBs 25 → 50 workers

transition: ~~the~~

If DOL regs done in < 6 mo.

attestations won't go into effect for another 6 mo.

temp.

~~Perm.~~ enhanced
eng. authority } no way

but
permanent
change
on prevailing
wage

DOL/INS

AG

no way

(Peter is working
on this)

115	145	107.5
FY99	FY2000	FY2001

to AG

(Need to get language from Peter)

Started w/ House SAP

(List of what we think we got
what we got

New small business

(115 115 105)
 FY99 FY2000 2001

New sb #5

#4

• Perm enf.
 • DOL arbitration

transition (?)

⊗

(If 25% H-1B, for first 6 mo. not H-1B dependant) ~~⊗~~
 For 2d six months, not H-1B dependant if progress ⊕
 Credible plan.

give away

get

① Perm enf.

② DOL enf.

	FY98	FY99	FY2000	FY2001	FY2002	
in, then ball	85,000	95,000	105,000	115,000	115,000	190K
our proposal	105,000 95,000 30	105,000 40	115,000 50			120K
		125,000 115,000	115,000 !	105,000	65,000	140K

110

110

105

100

~~~~~

H-1B : where we are

~~language, does~~

→ Abraham's staff said that DOL would have authority to enforce recruitment attestation for not adequately recruit.

How do we clarify this? ( ? )  
Abraham: arbitration only for when an individual employee ~~has~~ claims not hired

✓ Agreement on prevailing wage language

DOL enforcement:

retain Secy <sup>personal</sup> approval (or acting) for investigation.  
30 days to do it.

John O.K. w/ this

→ Employer notification: policy to notify, unless Secy decides it would interfere w/ compliance efforts.

Want investigation authority limited ( ? )

More language guarding against use of directed cases.  
DOL employees can't be providing info; w/ out for info that came across.  
(make sure does not preclude DOL from investigating based on info came across during other investigations.)  
Can't use LCA to trigger an investigation.

• review of program (written)  
• notification  
• Secy personal approval

Their small business exemption:  
w/ transition period

INS administer arbitration system

They want #s to be only issue left btm Abraham & Gene

65,000

<25 — 5 people  
26-50 — 15 people

We want

enhanced  
Permanent enforcement authority  
DOL arbitration; Low #s; Low #s for small business  
~~get small business~~ last year  
(3 yrs.)

They want

Temp enforcement  
**INS** arbitration  
big # last year (115,000)  
high # for small business  
generous transition ~~provis~~ provis

fewer than 15 employees  
exempt

>15, 15%

20 [3]  
~~20~~  
~~15~~  
~~10~~  
~~5~~

~~Patch~~ brought up per-country cap. They aren't bringing it up.

② Permanent enhanced enforcement

③ DOL arbitration

Low #s last year

① #4

small business

<25: 5 H-1B

26-50: 15 H-1B

Do we need a  
smaller  
small business  
Carve-out

90 days before and  
after placement

Temp. enhanced enforcement

INS arbitration

High #s last year

generous transition

small business

09/23/98 WED 18:45 FAX

*Peter Jacoby / Julie***Congressional-White House Agreement on H-1B**

**Increased Access to Skilled Personnel for U.S. Companies and Universities:** H-1B temporary visas will increase from the current cap of 65,000 annually as follows: 1999: 115,000 visas; 2000: 115,000; 2001: 107,500; H-1B numbers go back to current law of 65,000 a year in 2002.

**Training and Education for American Workers and Students:** The bill provides 10,000 scholarships a year for low-income students in math, engineering, and computer science through the National Science Foundation and training for many thousands of Americans through the Jobs Partnership Act. These are funded by a \$500 fee per visa petition, and a \$500 fee for renewal of the visas, which should raise approximately \$75 million a year to fund the scholarships and training in the bill. The money is split 65% for training, 30% for scholarships, and 5% to be divided between administration and enforcement of H-1B visa program.

**Layoff protection for American workers.** The bill provides *three types of layoff protection* for American workers. 1) A company that is H-1B dependent (see below) must attest that it will not layoff an American employee in the same job 90 days before or after the filing of a petition for an H-1B professional. 2) An H-1B dependent company acting as a contractor must attest that it similarly will not place an H-1B professional in *another company* to fill the same job held by a laid off American 90 days before or after the date of placement. 3) If a U.S. employer commits a willful violation and underpays an individual on an H-1B visa and replaces an American worker, that employer will be hit with a 3-year debarment from all employment immigration programs and be slapped with a \$35,000 fine per violation. This 3rd provision applies to all employers, regardless of their level of H-1B usage.

**Recruitment Requirements on Dependent Employers.** H-1B dependent companies must attest they recruit according to industry-wide standards. Moreover, they must attest that the H-1B was as, or more, qualified than any American job applicant. An American not hired can file a complaint with an arbitration panel, which can fine employers found to violate this provision.

**H-1B Dependent Companies:** An employer is defined as H-1B dependent in the legislation and subject to the new recruitment and layoff attestations if its workforce consists of 15% or more H-1B visa holders. There is a provision to help smaller employers and start-ups by defining as "non-dependent" an employer with 25 employees that has no more than 7 H-1Bs and an employer with 26 to 50 employees that has no more than 12 H-1Bs. Employers who are found to have committed willful violations in the prior 5 years will be subject to these new attestations.

**Increased Enforcement & Penalties.** The bill increases by five-fold -- to \$5,000 -- fines for willful violators and of the H-1B program, doubles the debarment period for such violation from one to two years. It gives the Department of Labor authority to initiate "spot" investigations, without a complaint filed, on those found to have committed for willful violations. DOL also will have the authority to investigate suspected willful and serious violations of H-1B visas if it receives specific and credible evidence of such violations and receives the personal sign-off of the Secretary of Labor.

**Administration of H-1B Visas:** The bill requires employers to offer benefits and the opportunity to earn bonuses to H-1B employees who are similarly-employed to U.S. workers if such benefits or the opportunity to earn bonuses are available to the company's U.S. employees. The bill provides for sanctions for violations of new whistleblower protections and contains provisions against unconscionable contracts and against "benching." The division of labor between INS and DOL for processing the Labor Condition Applications (LCAs) will remain as in current law.