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ABSTRACT

The Defense Department--the nation's largest employer--has announced that it is planning a 20 percent reduction in its work force. The transition is expected to go more smoothly than initially assumed. Because of education and training received in the service, most newly released service personnel should be competitive in the civilian job market. Young men and women who would have joined the military, the so-called "newly qualified," are expected to find jobs in the civilian sector, but with few of the training or education opportunities they would have received if they had been able to join the military. The people most affected by the reduction may be those whom the newly unqualified will displace on the job ladder--those with even less education and few job skills. Resources available to help those newly released from the armed services make the transition to the civilian sector might be made more effective through better ties between higher education and military education and greater use of tools for documenting skills and job competencies acquired in the military. Private industry could benefit by adopting the military's attitude and emphasizing the value of education and training in the workplace. Even at times of major adjustments, employees are better able to cope in the labor market if their last employer had well-integrated training and education programs. Planning for the adjustment is likely to be the most important element in easing the transition for affected workers and their communities. (YLB)

A Report on The Conference On the Role of Education In Restructuring Defense And Other Industries

The conference, held in Washington, D.C., on May 16, 1991, was sponsored by the Office of Educational Research and Improvement and the Office of Vocational and Adult Education in the U.S. Department of Education. The Education Resources Institute (TERI), a nonprofit educational services organization based in Boston, Massachusetts, contributed to the conference and sponsored the production of this publication.

Cover photo: Eric Schulzinger/Lockheed

Summary

In 1990 the Defense Department — the nation's largest employer — announced that it was planning a 20 percent reduction in its work force. Over the next four years, some 400,000 people who would have entered or continued their service in the armed forces will instead be looking for jobs in the civilian sector.

How easily will this employer manage this transition? How well will the employees affected by the transition do in the labor market?

In May 1991 the Office of Educational Research and Improvement convened a conference to examine the role of education in the workplace. The following are the highlights of that conference.

- Overall, the transition is expected to go more smoothly than many had initially assumed.

- Because of the education and training they received during their stint in the service, most newly released service personnel should be competitive in the civilian job market.

- Young men and women who would have joined the military had the drawdown not occurred, the so-called "newly unqualified," are expected to find jobs in the civilian sector, but with few of the training and education opportunities they would have received if they had been able to join the military.

- The people most affected by the drawdown may be those whom the newly unqualified will displace on the job ladder — those with even less education and few, if any, job skills.

All of this leads to one indisputable conclusion: Even at times of major adjustments, employees are better able to cope in the labor market if their last employer had well-integrated training and education programs.

The Defense Department is one of a handful of employers in the United States that integrate training and education with work. The benefits of this integration are evident in the military's ability to quickly merge new technology into its operations. The success of Operation Desert Storm depended not only on high-tech weaponry, but also on the skills and training of the men and women who operated it.

Similarly, the competitiveness of American industry may depend not only on the development of new technologies and new products, but also on the ability of its work force to use these developments productively. The value of the military experience to civilian employers is its integration of education and training into the culture of work. Not only does that integration increase the productivity of the employees while they are on the job, but it gives them a better chance to find new jobs if the industry should undergo a restructuring.

Nevzer G. Stacey

Education's Role In the Workplace: *The Military Experience*

Four years from now the Department of Defense is expected to be four-fifths of its current size — a substantial reduction made possible by the collapse of the Iron Curtain. During that period approximately 400,000 people who would have entered or continued their service in the military will instead be seeking employment in the civilian labor market. Another quarter of a million civilian workers in the Defense Department will also be released.

How successful will these people be in moving from the armed forces to the civilian sector? Does their military experience set them apart from other job-seekers? Are minorities, as some fear, likely to be disproportionately affected by the cuts? Will those youth who would have entered the military be able to find adequate substitutes? What public policies should be adopted to ensure a smooth adjustment? In particular, can education policy at any level play a part in easing the transition?

These were the questions that the Education Department's Office of Educational Research and Improvement set out to explore shortly after the drawdown was announced in 1990. Experts from public, private, and nonprofit research organizations looked at who would be affected by the downsizing, the educational resources available to individuals moving from the military to the civilian sector, and the role that education and training can play in such transitions.

Their findings, reported at a national conference held in May 1991, led to one heartening conclusion. Overall, the transition is expected to go more smoothly than many had initially assumed. The reason: Most former service members should be well prepared to enter the civilian work force relatively easily — primarily because of the education and training they have already received during their stint in the service.

The Defense Department is not only the nation's largest employer, but also its top provider of job training and education benefits. People leaving the military even after only a few years are likely to have ac-

quired knowledge and skills that will make them competitive in the civilian labor market. As veterans, many of them also are eligible for benefits that can be used to further their education and career training.

This is good news and illustrates one of the important benefits of continuing education and training in the workplace.

Still, the transition will not be easy. It begins as part of an industry-wide restructuring. Thousands of civilian defense workers and communities dependent on nearby military bases and defense manufacturing also will be affected by the defense drawdown. Some regions and some categories of workers are likely to find the adjustment more difficult than others. Some workers will be underutilized in their new jobs.

Furthermore, the military force reduction represents lost opportunity as well as lost jobs. A substantial reduction in force means a concomitant reduction in the number of people who benefit from that training and education. The Defense Department estimates that because of the drawdown, the services will recruit several thousand fewer young adults over the next four years. Many of these would-be recruits seek to join the military expressly for the education and training benefits they can obtain. What now are their likely employment, education, and training prospects?

Beyond these immediate questions lies a broader issue about the role of education for other industries undergoing restructuring. The Defense Department is one of a handful of employers in the United States that integrate training and education with work. Does the importance the military attaches to educating and training its troops hold any lessons for civilian workplaces? Can the military model help us figure out how to use education and training to create the flexibility in the workplace needed to make American industry competitive in the twenty-first century?

Who Is Affected—
—The Newly Released

Perhaps as many as half of the 400,000 cuts in active duty personnel are expected to come from men and women currently serving in the military. Limits on first term reenlistments, tighter reenlistment criteria at other levels, and forced retirement of personnel with

twenty years or more of service were expected to account for most of the reduction, although the proportions of each had not been determined at the time of the conference.

Because blacks enter the military at higher rates than whites, there has been great concern that they are likely to be more affected by the drawdown than whites. About 1.7 percent of the black population aged 18 through 24 entered the military in 1989; just under 1 percent of the white population of that age did. In fiscal 1990, 20 percent of all male recruits and 29 percent of all female recruits were black; compared with 14 percent in the civilian youth population. About 7 percent of the recruits in fiscal 1990 were Hispanic, compared with 12 percent in the civilian youth population.

Blacks also reenlist at higher rates. In fiscal 1990, 64.5 percent of blacks eligible to sign up for a second term reenlisted, compared with 46.9 percent of the eligible whites. Among career personnel, 90.6 percent of the eligible blacks reenlisted, compared with 81.2 percent of the eligible whites. As of September 30, 1989, 23 percent of the men and 34 percent of the women — new recruits and career personnel in the armed forces — were black.

There is also concern that blacks will be disproportionately affected because the Army is scheduled to absorb a heavier proportion of the drawdown than the other services. Nearly one-third of all enlistees in the Army are black.

Although blacks in the military have achieved the same or higher education levels than other ethnic groups, including whites, they are still more likely than whites to serve in unskilled jobs. The same proportions of white and black enlisted personnel (10 percent) hold communications and intelligence jobs. But 11.7 percent of all white enlisted personnel and only 5.4 percent of all black enlisted personnel are assigned to high-tech jobs involving electronic equipment repair.

In contrast, 23.4 percent of all blacks but only 12.7 percent of all whites are assigned to relatively low-tech functional support and administrative jobs. If occupational category is used as a determinant for reducing active personnel, and if, as seems reasonable, the military is more disposed to release clerical and service workers than highly trained high-tech workers, blacks and other minorities could sustain a disproportionate share of the reductions. That disparity, however, is not expected to be great.

And the Newly Unqualified

Where blacks and other minorities are likely to be most affected is in the number of young adults who would have joined the military had the drawdown not occurred and who now will be unable to do so because of higher enlistment requirements. The services currently select at least 90 percent of their recruits from those who scored in the top three categories of the Armed Forces Qualification Test (AFQT), the test used to measure basic mathematics and verbal aptitude of all applicants. As the number of new recruits declines, the services are expected to be even more selective. Blacks, clustered disproportionately in the lower categories, are therefore likely to be disproportionately affected by tighter eligibility standards.

Indeed, by one estimate, roughly two-fifths of the so-called "newly unqualified" are expected to be black, nearly triple their proportion in the civilian youth population. About 8 percent of the newly unqualified are expected to be Hispanic and other racial and ethnic minorities.

The majority of the newly unqualified will be 18-19 years old, and seven out of eight will be male; in the civilian population of the same age, slightly more than half are female. About half of all the newly unqualified will come from the South, and within that region nearly two-thirds of the newly unqualified are expected to be members of a racial or ethnic minority.

With entry into the military blocked, what are these newly unqualified likely to do? Some surely will turn to postsecondary education, apprenticeships, or vocational schooling. Many of them, lacking either the financial wherewithal or the inclination to pursue further schooling, are likely to enter the job market, most of them for the first time.

Assuming their occupational aptitudes are similar to those of recruits accepted before the drawdown, newly unqualified males are likely to be competitive with other civilians in mechanical occupations; however, the demand for mechanical skills is decreasing. Newly unqualified females should be competitive in secretarial jobs, an advantage today because of the increasing demand for skilled office workers. Both men and women will have less administrative and electronic aptitude than their civilian counterparts.

However, the fact that most of the newly unqualified are high school graduates (97 percent, compared with 82 percent in the civilian population) may make them attractive to prospective employers and

offset their occupational deficits somewhat. Still, the jobs the newly unqualified are most apt to find will offer few of the training and education opportunities these young adults would have received had they been able to join the military.

The people most affected by the drawdown may be those whom the newly unqualified displace on the job ladder — those with even less education and few, if any, job skills. Many of these are likely to be teenagers or young adults who have dropped out of high school and who are already on the margins of American society.

Effects on Job Opportunities

The picture is much brighter for the newly released who take with them the training and education benefits they received while in the military.

For many the training will have been extensive. After a few weeks of boot camp, recruits are given school training in particular military occupational skills. This training can last from one month to more than a year, depending on how specialized the occupation is. Recruits are then assigned to units for on-the-job training, where they acquire about half of their skill proficiency. This training is reinforced throughout their career and can be supplemented with courses on advanced equipment, supervision, and other subjects.

Service members are also encouraged to continue their education while on active duty through tuition assistance for study at accredited postsecondary institutions. *(Education opportunities for those who stay in the military, box, p. 11)* The services also assist personnel enrolled in nontraditional education programs to obtain college credit for service school courses and training Service members who sign up for veterans benefits may use those benefits either while they are still in the service or once they leave to help pay tuition and support at colleges or certified training schools.

In fiscal 1989, service members used tuition assistance to enroll in 513,397 undergraduate and 55,460 graduate courses. Some 100,000 credit examinations were administered, and military personnel earned some 400,000 semester hours of credit that may be transferable to college programs.

Many service members leaving the military will directly enter the civilian labor market. Many of them will be well prepared. At least

one-fourth to one-half of all military skills have direct civilian counterparts; some researchers put that percentage even higher. As one conference participant noted, "Even for those skills where no civilian counterparts exist, completion of military training can have a 'credentialing' effect and provide evidence of characteristics desirable to civilian employees."

Other newly released service members may opt to combine school with work or to go to school full-time. Veterans benefits can be used for vocational and technical education, college study, work-study, on-the-job training, and correspondence courses, although most benefits are used at two- and four-year schools. Data collected in the 1980s showed that veterans concentrated their studies on construction, engineering technologies, and mechanical repair.

In 1990, 204,000 active and reserve service personnel and veterans used education benefits to help pay for schooling. Although fewer than 25,000 of these were active-duty personnel using benefits under the Montgomery GI Bill, more than 1 million service members — about three-fourths of the total — had already signed up to participate in the program. How many veterans will take advantage of their benefits is unknown, although the Department of Veterans Affairs estimates that 400,000 vets could be using their benefits by 1995.

The services clearly see veterans benefits as an essential recruitment tool, and the high rate of sign-up indicates that service members generally expect to use those benefits. (Service members receive benefits of $10,800 in exchange for a $1,200 contribution and three-year enlistment. With enhancements, known as "kickers," some veterans are eligible for as much as $25,000 in educational benefits.) But just how much benefit do these programs give their users? Do veterans benefits really increase veterans' earnings in the civilian labor market?

A study completed in 1976 found that eventually earnings of veterans who used their benefits were 10 percent higher than they otherwise would have been. More recently, a study presented at the conference estimated that the use of education benefits by veterans who served in the Vietnam War and in the first five years of the all-volunteer army raised overall earnings for veterans by about 6 percent on average.

Virtually all of that earnings gain, however, accrued to veterans who used their benefits for college and graduate studies. The earnings premium for this group was 9 percent, according to the study, while veterans who used their benefits for other types of training experienced no

earnings gain. These findings are consistent with other well-documented studies that show significant earnings gains only for those veterans who complete college and/or graduate degrees.

Education Opportunities For Those Who Stay in the Service

Since the military announced its personnel drawdown, most public attention has focused on the plight of those who will be released from the services and those who will not be able to join. But educational opportunities could change — and change substantially — for those who remain in the armed forces.

The Department of Defense does not intend to lessen the educational benefits it provides its armed forces. After all, said Christopher Jehn, assistant secretary of defense for force management and personnel, "education provides the base for training." To sustain the quality of the troops, recruitment efforts are likely to have to emphasize the military's education opportunities even more than they do now. Education may become an ever more important determinant in promotions.

Tighter overall budgets, however, threaten the funding currently devoted to voluntary education programs. Tuition assistance, which qualified enlisted men and women use to take courses that may or may not be directly related to their military occupation, is particularly vulnerable. If funding for this program is cut, not only are fewer people likely to benefit from it, but the services may restrict its use to courses directly related to their training needs.

"There is real danger that as monies get shorter, education will be subordinated to training...," one educator said. "The strongest argument against this development is that it will not prepare military personnel for life outside the military."

Capitalizing on Available Resources

A wide variety of resources are available to help those newly released from the armed services make the transition to the civilian sector. The services have long offered pre-separation services that include counseling on available educational assistance, college selection, and transfer of academic credit. The services also provide assistance with job searches, relocation, and financial planning. To further aid active-duty and civilian personnel and spouses affected by the drawdown, the Defense Department has established additional job referral assistance and a system to review individual career, vocational training, and higher education opportunities and to prepare a profile verifying an individual's military occupation and training. The departments of Veterans Affairs and Labor have also established special programs to help newly released personnel with their search for jobs and appropriate schooling.

While there seems to be little need for new federal programs to help newly released service members, conference participants identified several ways that existing programs might be made more effective:

• Better ties, for example, should be developed between the higher education and military education communities so that military training and education courses are more readily transferable to postsecondary schools. Wider use of the principles of credit acceptance and course equivalencies developed by the association known as Servicemembers Opportunity Colleges could be useful in this regard.

• Support for two-year postsecondary institutions should be strengthened. Such a step would benefit veterans enrolled in these schools as well as blacks and Hispanics, who enroll in two-year schools in disproportionate numbers. Because of the high correlation between future earnings and years of school completed, incentives should be established to encourage students in these schools to work toward transfer to four-year institutions.

• Greater use might also be made of tools for documenting skills and evaluating job competencies acquired in the military. The National Occupational Competency Testing Institute, for example, has sixty test centers scattered across the nation that use nationally standardized tests to evaluate and certify occupational competency. The test results can be used as a credential in job-seeking, as a means to determine whether additional training is necessary, even to acquire college credit. Other organizations also have developed techniques to measure job

competencies and to train managers and other employees to develop the specific competencies required for specific jobs.

• Programs that aid the transition to postsecondary education for high schools students may be one way to assist the newly unqualified — and at least some of the people they are likely to displace on the job ladder. The pre-college TRIO programs (Upward Bound, Talent Search, and Educational Opportunity Centers) have shown demonstrated success at attracting and preparing disadvantaged youth for postsecondary education. Funding for these programs could be increased and a broader array of organizations, such as community-based institutions, involved in their operation.

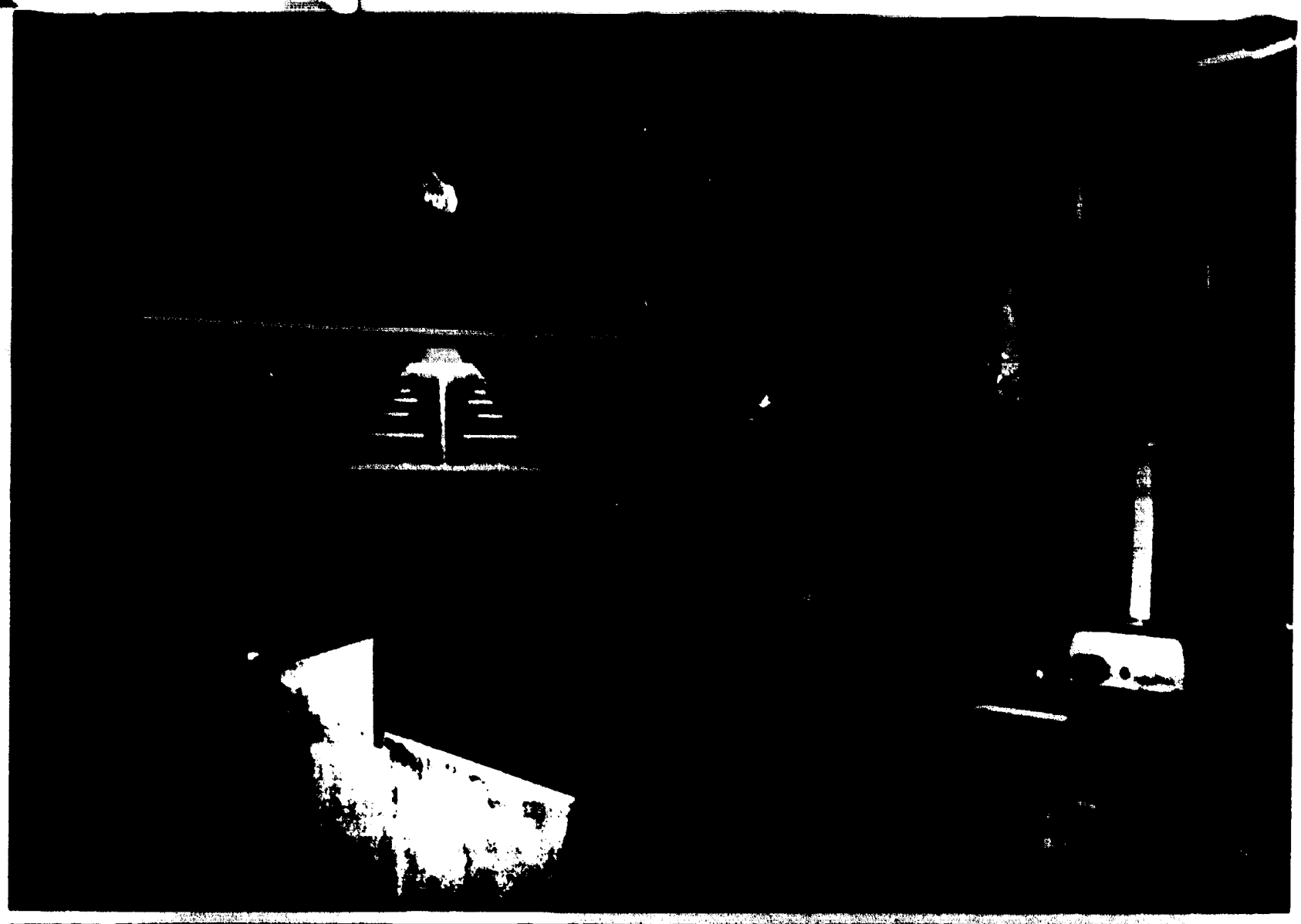
• The newly unqualified and other high school students who do not aspire to higher education could be directed toward existing programs such as the Jobs Corps and the Job Training Partnership Program. Businesses could be encouraged to work with high schools, colleges, community service organizations, and the military to establish apprenticeship programs that begin immediately after high school graduation and end with a job. Continuing education and on-the-job training should be crucial components of such apprenticeships.

Lessons from the Military Experience

Specific military education and training programs may not be particularly applicable to private industry. But private industry — and American society — could benefit enormously by adopting the military's attitude on the value of education and training in the workplace.

The importance of education and training is emphasized and supported in every aspect of military life. Education and training are considered in making initial job assignments and in promotions. All military personnel, including officers, are encouraged to pursue further education. The services set clear goals about their objectives and about the education and training needed to reach them. Furthermore, the military's education and training programs are ongoing commitments; they are not set up only on an ad hoc or crisis basis.

The benefits of this thorough absorption of education and training in the military workplace are evident in the military's ability to quickly integrate new technology into its operations. The success of Operation Desert Storm depended not only on the high-tech weaponry used but also on the skill and training of the men and women who operated it.



True, the military did not have much choice. If it wanted to be able to mount finely tuned operations, as it did in Operation Desert Storm, it had to recruit qualified people and then train them to operate sophisticated weaponry, computer and communications systems, airplanes, tanks, and a myriad of other equipment.

But the military experience confirms what researchers have long known: The more education one has, the more education one seeks. Well-trained workers are more productive than poorly trained workers and better able to adapt to innovations in the workplace. Better educated workers earn more money over their lifetimes than less educated workers, and in periods of economic adjustment and industry restructuring, better educated workers find new jobs faster.

And what works for the military may work for American industry. The continued competitiveness of American industry in international markets depends in no small measure on how workplaces in America are organized and how fully human resources are integrated into day-to-day operations. A projected decline in the number of new entrants to the labor force, an increase in the number of relatively low-skilled among those workers who do enter the labor force, and a demand for more high-tech workers all point to the need for companies to rethink workplace organization and the role of education in that organization. High performance workplaces that give companies increased flexibility to respond to new technologies and to develop new products also require ongoing training and retraining programs for both workers and managers.

For business executives, educators, and public policy makers, the question is how to encourage not only businesses, but all of society, to recognize the value of continuing education and training and to build them into the culture of work.

A Lockheed cockpit simulator, top

The combat information center on the U.S. Navy aircraft carrier USS Eisenhower, bottom

U.S. Department of Defense photos

Restructuring in the Defense Industry: The Importance of Planning

The current defense drawdown is the fourth the country has experienced within the last fifty years, and its effect on civilian defense workers is likely to be as different in its particulars as the first three were from each other. Nonetheless, experience from the first three drawdowns indicates that planning for the adjustment is likely to be the most important element in easing the transition for affected workers and their communities.

Convertibility

The ability — or inability — of the defense industry to convert to civilian production has had a significant impact on the smoothness of the drawdowns. Before World War II the military depended on converted civilian producers for its war supplies; the defense industry barely existed. When the fighting was over, those companies returned to their regular civilian production lines.

That experience was not to be repeated. As defense production grew more specialized, the capability to convert to civilian production eroded. Manufacturers of sophisticated defense equipment such as ships, guided missiles, tanks, and ammunition have few markets in the civilian sector and cannot easily turn to production of civilian goods. Moreover, some workers in those defense industries acquire specialized skills that are not readily transferable. In earlier downturns, the inability to convert to civilian production hurt not only the defense companies and their workers but the surrounding communities.

To smooth future military adjustments, government and industry have recently begun to explore ways to better integrate defense and civilian production, either through designing products, such as airplane parts or microelectronic items that can be used in both sectors or by designing manufacturing processes that can be used to produce both military and civilian products. As three conference participants noted, however, for these integration efforts to be successful, they must be designed into the initial selection of equipment

and processes, management procedures, and worker training programs. Attempts to introduce integration once the production line is operating are costly, time-consuming, and extremely difficult.

Assistance Programs

Federal, state, and local assistance programs have been indispensable in easing the transition for displaced workers, their families, and the communities in which they live. Assistance falls into two broad categories — job placement and training programs for displaced workers, and programs to help local communities expand their economies. A key to the success of these programs has been early notification of plant closures. Such notification not only allows workers more time to find new jobs or job training, but it allows the community and government agencies at all levels to prepare for the adjustment.

Defense companies themselves have shown an increasing concern for the plight of their laid-off workers by stepping up the assistance they provide. One recent survey found that 90 percent of 104 large U.S. companies provided placement services to laid-off workers; two-thirds offered early retirement, alternative company employment, or extended health benefits; and one-third offered retraining opportunities.

These programs work. Forced to close one plant with 2,000 workers, GTE set up an aggressive placement program. With the program's help, 1,700 workers had found new jobs a month before the plant closed.

Conference Attendees

Nevzer G. Stacey, Project Director

- Joann Adams, Hay Systems, Inc.
- Clifford Adelman, Office of Research, Office of Educational Research and Improvement, Department of Education
- Clinton Lee Anderson, Servicemembers Opportunity Colleges
- Joshua D. Angrist, Harvard University
- Burt S. Barnow, LEWIN/ICF

Ann Benjamin, Office of Educational Research and Improvement, Department of Education

Charles Benson, National Center for Research in Vocational Education

Ambrose Bittner, Employment and Training Administration, Department of Labor

- David Boesel, Office of Research, Office of Educational Research and Improvement, Department of Education
- Michael Carmichael, Office of Personnel Management

James E. Carter, Board of Cooperative Educational Services, New Hartford, New York

- Amy Beth Chasanov, LEWIN/ICF

Joseph E. Clayton, The Education Resources Institute

- Karl Croosey, U.S. Sprint/United Telecommunications, Inc.

Christopher T. Cross, Business Roundtable

Col. Kevin M. Doyle, Transition Assistance, U.S. Marine Corps

- Mark J. Eitelberg, Naval Postgraduate School

Beatrice J. Farr, U.S. Army Research Institute for the Behavioral and Social Sciences

- Richard Fernandez, Congressional Budget Office, U.S. Congress

Paul Gade, U.S. Army Research Institute for the Behavioral and Social Sciences

Paul R. Geib, Jr., Office of Vocational and Adult Education, Department of Education

Alice Gerb, Educational Testing Service

Kristin Gilbert, Education and Labor Committee, U.S. House of Representatives

Kitty Gillman, Office of Technology Assessment, U.S. Congress

Jeffrey L. Gilmore, Office of Educational Research and Improvement, Department of Education

- Milton Goldberg, Office of Research, Office of Educational Research and Improvement, Department of Education

Robert Goldich, Congressional Research Service, Library of Congress

Irving Greenberg, Logistics Management Institute

- David Grissmer, RAND Corporation
- Holly Hexter, American Association of State Colleges and Universities

Douglas Holl, Department of Labor

- Michael A. Hopp, Martin Marietta Corporation
- James Hosek, RAND Corporation

Colin Hunter, Education Service, U.S. Air Force

David P.C. Keltner, Assistant Deputy for Continuing Education, Department of the Army

Steve Kime, Servicemembers Opportunity Colleges

Peter Kostiuk, Council of Economic Advisers

Anita Lancaster, Office of the Assistant Secretary of Defense for Force Management and Personnel

- Janice H. Laurence, Human Resources Research Organization
- Lois Lembo, TASC (The Analytic Sciences Corporation)

Jeff Lewis, Office of Technology Assessment, U.S. Congress

- Roger Little, Naval Academy

Robert Lockman, Defense Manpower Data Center

- Meredith Ludwig, American Association of State Colleges and Universities

Robert Lyke, Congressional Research Service, Library of Congress

Ann S. Meltzer, Pelavin Associates, Inc.

Marshall Meyer, The Wharton School, University of Pennsylvania

James McKenney, American Association of Community and Junior Colleges

Harvey Ollis, National Occupational Information Coordinating Committee

•Paul Osterman, Sloan School of Management, MIT

Thomas D. Parker, The Education Resources Institute

Joan Paschal, Council for Advance and Support of Education

•Judith Philipson, TASC

Stefani Schneiderman, Office of Educational Research and Improvement, Department of Education

Steve Sellman, Office of the Assistant Secretary of Defense for Force Management and Personnel

•Joyce L. Shields, Hay Systems, Inc.

H. Wallace Sinaiko, Manpower Research and Advisory Services, Smithsonian Institution

David A. Smith, Human Resource Analysis

Elizabeth Brient Smith, Center for Occupational Research and Development

Joe Snodgrass, Office of Rep. Mavroules, U.S. Congress

•Nevzer G. Stacey, Office of Research, Office of Educational Research and Improvement, Department of Education

Laura Stapleton, American Association of State Colleges and Universities

Barry Stern, Office of Vocational and Adult Education, Department of Education

David Stevens, University of Maryland

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Juri Toomepuu, U.S. Army Recruiting Command

James Van Fleet

•Scott D.Whitener, National Occupational Competency Testing Institute

Gregg Wiggins, Public Affairs, Department of Education

Joyce Winterton, National Council on Vocational Education, Department of Education

Dennis R. Wyant, Vocational Rehabilitation Service, Department of Veterans Affairs

Robert Zemsky, Institute for Research on Higher Education, University of Pennsylvania

• *Paper presenters or commenters*

Papers presented at the conference on education's role in the restructuring of defense and other industries will soon be available in a single volume from the Office of Educational Research and Improvement in the U.S. Department of Education.

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