

# AMERICAN ENGINEER<sup>TM</sup>

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## President's Activity Report

AEA has been quite active over the past two months or so. Among these activities are two sets of comments to proposed Department of Labor regulations (immigration & P.L. 101-583); written testimony to the Subcommittee on Investigations for the House Armed Services Committee concerning the Department of Defense's overseas procurement policies (see "AEA Testifies" in this issue); a letter of protest to the Department of Labor over a specific labor certification request, and efforts to "create" jobs for our unemployed defense and computer engineers.

Each of these efforts has been a major task. In addition to simply writing the material it has been necessary to research the material and to coordinate with other groups on some of the efforts. Several of these efforts were at the same time.

### P.L. 101-583

The Department of Labor requested public comment on P.L. 101-583, as it relates to overtime pay for professionals in the computer industry. AEA argued this piece of legislation is both prejudicial and repressive. The people affected were given no opportunity for input into the process, and almost certainly efforts will be made to broaden the application of the law.

We pointed out that with the exception of the industry people sponsoring the bill, we had not read of a single positive comment on the legislation. In addition, those of us who must work away from home under the conditions set forth under the law will not be able to afford to maintain two households as required under IRS regulations in order to deduct expenses.

Our recommendation to the Department of Labor was to hold public hearings on P.L. 101-583 and to forward the results of those hearings to the appropriate Congressional Committees or Subcommittees with an eye towards repealing P.L. 101-583. I'm sure we will be hearing more on this later.

### COMMENTS ON THE 1990 IMMIGRATION BILL

The following items relate to specific details in the 1990 immigration legislation, on which the Department of Labor requested comments.

- Require all layoffs to be reported to the Department of Labor. These should be reported by occupation and by discipline. All

persons, contract, consultant or direct should be reported.

- Require employers seeking labor certification to state whether they have had layoffs within the past year. Could workers be called back?
- Contact contract engineering firms as part of the certification process.
- Contact the American Engineering Association for engineering workers not represented by collective bargaining, for comments on availability, etc.
- Suggested DOL establish a modem-accessed data base in lieu of the required advertising currently required. Application forms could be included.
- On nonimmigrant engineers the prevailing wage should be determined using the salaries of contract engineers and consultants. (Currently uses direct wages.)
- Foreign workers should not be permitted to work part time. Many firms hire part time workers to keep from offering benefits. This would also create many jobs.
- An alien worker should not be permitted to hold more than one job at a time. This would also "create" jobs for citizens.
- Only corporations with a "fixed" base in this country should be eligible to file for labor certifications.
- Foreign corporations should never be able to import foreign workers except as employees of their corporation. They should not be rented, loaned or allowed to work, contract or consult for any other corporation or division of the importing corporation. Responsibility must lie with the employing corporation.

### JOBS PROGRAMS

While it is premature to say much about our efforts to create or secure jobs for unemployed engineers, we do want to let you know there are efforts underway. Two different approaches are currently underway that could employ many unemployed engineers from most engineering disciplines. Most of the jobs would be temporary but would be welcome by all of us. These efforts are ongoing and will command a lot of attention in the coming weeks and months.

*Billy E. Reed, AEA President*

*P.O. Box 820473, Fort Worth, TX 76182-0473*

## Meeting Notice

### Foreign Competition For Developing Technology

The American Engineering Association and the North Jersey Section of the Institute of Electrical and Electronics Engineers are sponsoring this meeting to discuss "Foreign Competition For Developing Technology." Our guest speaker will be Bernard J. O'Connor, recently retired as President and General Manager of Allied-Signal Aerospace, Bendix Guidance Systems Division in Teterboro, N.J.

This presentation and following discussion will explore the loss of U.S. engineering jobs and opportunities to develop U.S. technology to foreign competition. Is the competition real or are we giving it away? Are U.S. companies and engineers bidding against a stacked deck? Are other U.S. companies also affected? Are U.S. politicians part of the problem or part of the solution? What are the short and long term affects? Can we make a difference?

Mr. O'Connor will discuss an actual case history of a New Jersey Aerospace company that, by losing a contract to a foreign bidder, lost an opportunity to develop an existing technology and enhance

our U.S. engineering capabilities.

Bernard J. O'Connor received his BSEE degree from MIT and a Masters in Electrical Engineering from Yale. Mr. O'Connor has been with the Bendix Corporation for 43 years. He served as Chief Engineer and is largely responsible for the development, growth and technology base of the Guidance Systems Division.

This meeting is for all members of the engineering community that are concerned about the loss of engineering jobs and U.S. engineering capabilities to foreign corporations.

Members and non-members are welcome.

**Time:** 7:30 PM, Wednesday, July 17, 1991.

**Place:** ITT Auditorium, 500 Washington Avenue, Nutley, N.J.

**Further Information:**

Robert Sinusas (201) 228-3941; Ray Sears, Jr. (201) 386-2259; Richard Tax (201) 664-0803.

## AEA-IEEE

July 17th will be the first time that the American Engineering Association and the Institute of Electrical and Electronics Engineers will hold a joint meeting. The subject of the meeting is "Foreign Competition for Developing Technology" (on Page 1 of this issue). We shall discuss an actual case history of a New Jersey Aerospace company that, by losing a contract to a foreign bidder, lost an opportunity to develop an existing technology and enhance our U.S. engineering capabilities. Of course, members of both societies are encouraged to attend.

Why an AEA/IEEE meeting? The subject is of great concern to the engineering members of both groups. Since I am very active in both societies and believe we will derive more support and visibility with participation from both groups, I decided to pursue this as a joint venture from its concept. Members of both societies are concerned about the subject of losing engineering jobs and opportunities to develop our technology base.

The purpose of the meeting is to address the issue, uncover the facts, inform members and those present at the meeting and give visibility to the subject. I have personally spoken with editors of a few trade publications and invited them to attend. They will have members of their staff present and they, in turn, will inform their readers. I have also met or spoken with people at our local congressional offices and they are interested in our case. Our readers should also spread the word and express their concern by calling and writing their representatives.

Although this is a joint meeting between AEA and IEEE, let there be no misunderstanding; AEA and IEEE are not kissing cousins and there is no relationship between the two. There are presently subjects and issues that members of AEA and IEEE are in complete disagreement. Funding of the National Science Foundation is one of the prime examples. IEEE is presently lobbying congress and seeking to increase funding for NSF. I, and others in IEEE, believe NSF funding should be reduced and preferably cut completely. NSF can no longer be relied upon as a credible source of information on which to base government decisions and legislation. I believe AEA will aggressively pursue NSF budget cuts and make an example of NSF's shortcomings.

AEA has gained a lot of support from IEEE members that are displeased with IEEE's performance in the professional area. I have found some IEEE members and committees to be the source of the problem. I and others are opposed to spending IEEE members' money for college recruiting material but, it is still being done. We also oppose using IEEE staff and funds to lobby for increased funding for the NSF. NSF has been at the forefront in the generation of Engineering Shortage Propaganda (ESP). This deceives young students and contributes to the over production of engineering degrees and results in unfulfilled career promises to our new graduates. ESP also influences immigration and justifies sending engineering work offshore to foreign corporations. ESP has also been used in the past to justify increased funding for NSF.

I doubt that IEEE will ever cease from contributing to an over supply of engineering degrees and that precludes ever having an engineering manpower balance. Therefore, AEA members will always be at odds with IEEE.

Richard F. Tax, AEA Vice President  
P.O. Box 2012, River Vale, NJ 07675

## Editor's Column

Some of our readers wish to know why AEA exists. They don't ask directly, but that is the gist of their inquiry. In order to know why AEA exists, one has only to look at the state of engineering careers. Engineers are hired and fired like so many waiters or ditch diggers. Some readers tell us they have to take jobs as pizza truck drivers or security guards, in order to survive financially after a layoff. Others have to sell their homes and remove their kids from college.

Engineers are subject to salary compression. That is the differential between starting salary and final salaries grows smaller and smaller. During the 1950's, it was 4:1. Now it's 2:1. This suggests that industry does not value more than a few years of engineering

experience, which leads me to the next point. As Robert Rivers so sagely observed in his column in this month's issue ("Wanted, Engineers with Three to Five Year's Experience"), there are pressures to eliminate older engineers from the ranks of working engineers, because corporate bean counters view them as having a poor cost-benefit ratio.

Our readers constantly tell us that they're treated as non-professionals. They say they receive one year of engineering work in five or ten years of career time, so they lose their edge and are driven to unemployability through no fault of their own. And if they change jobs continually to get challenging work, they're tagged as "job-hoppers." It becomes harder to obtain new work after five jobs in ten years.

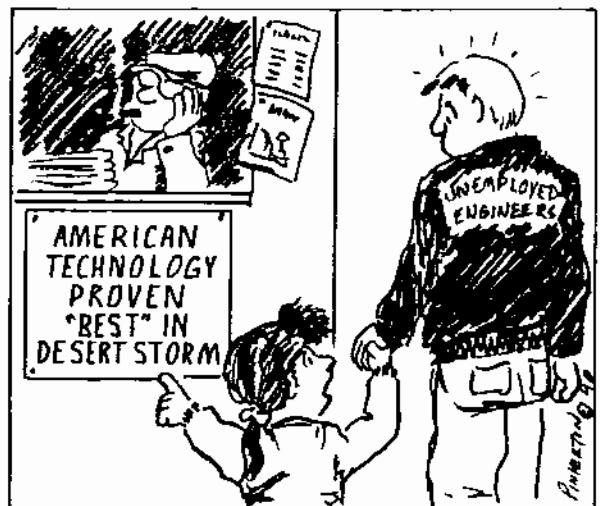
I've seen figures to indicate that 88% of all engineers never make it to line management (not temporary program management) nor to the ranks of the self-employed consultants or owners of businesses. With close to 2 million engineers in the U.S., could American industry accommodate more than 12% or about 200,000 managers or consultants? And could it accommodate ten thousand more entrepreneurs?

But one reader wrote me that our publication sounds like a bunch of malcontents. He says the good engineers survive and bounce back from adversity. I know this is statistically improbable, because engineering colleges graduated 66,000 in 1990, and there are about 1.8 million engineers in the U.S. With this entry rate, the entire population of U.S. engineers would be displaced in 27 years. But an engineering career should last 43 years. So no matter how talented and diligent an engineer is, the figures work against his career.

I also know by personal experience that good engineers don't necessarily bounce back. I know of talented PhDs who were laid off during a recession and could never reenter the profession, because they were "overqualified." However let's assume for the sake of discussion that it is true. In that case, prospective engineers should be warned that if they're not in the top 25% (of engineers, not students), they will not make it to retirement. If only good engineers make it, then no one but good engineers should enter the profession. How many of our readers are in the top 25% of their colleagues? The rest should look for other professions. Or don't enter the profession altogether.

AEA exists, because a small group of engineers bust their buns to make it exist, and because our members need it to exist. Other professions have their professional societies that truly pursue their interests. Lawyers have the ABA; doctors have the AMA, dentists have the ADA. But engineers have the AIAA, AICHE, ASME, IEEE, etc., which they tell us do little or nothing for their careers. That's why they joined AEA. AEA exists to enhance the professional careers of its members, whose careers need enhancement.

Robert Bruce, AEA Editor



DADDY, IF YOU HELPED DESIGN  
THAT STUFF, WHY DID THEY  
LAY YOU OFF?

# AEA Testifies

The following written testimony was given to the Investigations Subcommittee of the U.S. House Committee on Armed Services in April.

## Statement of the American Engineering Association to the Investigations Subcommittee, U.S. House Committee on Armed Services

### ENGINEERING JOB MARKET

The reduction in the defense budget over the last five years or so has taken a disproportionate toll in the engineering community. Cancellation of the Navy A-12 program alone displaced thousands of engineers. Many of these reductions have not affected the subcontractors yet. Thousands more technically trained people will be forced into the civilian job market from reductions in the various military services.

Many of the manufacturers of the weapons systems which made Desert Storm such a success have had massive layoffs due to the budget reductions. General Dynamics of Ft. Worth, Texas, makers of the F-16 and F-111; Raytheon Corp. of Andover, Massachusetts maker of the Patriot missile and McDonnell/Douglas maker of the F-15 and F-18 fighters to name just a few. All have laid off many engineers.

The engineering job market has nearly disappeared. Many of us fortunate enough to remain employed have had to take jobs far from home and family at vastly reduced salaries. Many others have not been so fortunate. As in the late 1960's and early 1970's thousands of engineers will leave the profession never to return, thus wasting tens of thousands of years of training and hundreds of thousands or millions of years of experience.

Unemployed defense engineers will find themselves "over qualified" or any of a hundred other buzzwords from the imagination of the human resource managers. Despite the success of Desert Storm, commercial companies do not want to hire unemployed defense engineers.

Last year's immigration legislation will triple the number of potential engineering entries into this country while S-44, this year's version, will reduce the qualifications for entry. What are these people going to do? Are citizen engineers intended to go unemployed while we become more dependent on foreign labor at home? Why?

Other anti-engineer legislation such as Section 1706 of the 1986 Tax Reform Act and the recently enacted P.L. 101-583 have taken their toll as well.

### OVERSEAS PROCUREMENT

Billions of defense dollars are spent annually overseas by the federal government. I understand for each billion dollars of overseas procurement, some 25,000 jobs are lost. Many of these jobs are engineering jobs; our membership desperately needs these jobs. I also understand nearly a billion dollars in federal R&D funds goes offshore each year. Virtually all of these jobs are engineering jobs. To put this in perspective, in a high-tech industry such as aerospace, every fifth or sixth job is an engineering position. This ratio is much higher in development programs such as the Navy A-12.

Some will argue many of the defense related products are only available from overseas sources. I would say we should never be dependent on any country for anything that COULD be manufactured here, we may have to defend them. I remember such "friends" as Iran, Iraq, etc., etc.

Others will say we no longer have the capability to produce these products here. If these items are critical to our national security (either military or economic) we should develop the capability to produce those items in this country.

Still others imply it is cheaper to purchase these products overseas than to produce them here. I don't believe that; it may be more profitable for the contractors buying components or systems from overseas, but not cheaper. If you include the lost taxes, unemployment benefits, social services etc. in the overseas costs, I believe we are more than competitive.

### TECHNOLOGY TRANSFER

Much of our competitive problems are traceable to the transfer of American technology to various other countries through Memorandum of Understanding and the blanket waivers of the various "Buy American Acts."

Page 3 - July, 1991 - "American Engineer"

In addition, American corporations often establish offshore manufacturing operation to "serve the area or region" more efficiently. However, almost without exception, those products are then imported back into this country. Just as predictably, we have layoffs at that company's domestic facilities. Since we no longer have a domestic production facility operating here, the technology is needed overseas. It matters little whether it is ball bearings, machine tools or bowling balls, once the capability is lost we can never reestablish that industry to the level it was before.

Another axiom is that we can not compete with our own technology overseas at their labor rates. We cannot afford to continue to develop new technologies and allow them to be given or licensed to our competitors.

### OVERSEAS MANUFACTURING

There was a time when it was desirable to subsidize certain other countries through the transfer of U.S. technology and overseas purchases by our government. Certainly the "Japanese Miracle" as well as Germany's "Phoenix" like rise from the ashes of World War II are due in large part to these policies. I do not believe it is any longer in our best interest to follow these types of policies.

Wealth is created by taking materials and processing them until a useful product is created. In other words adding value. Adding value is a relatively labor intensive operation. Services on the other hand provides little in the way of "value added" and therefore create little true wealth.

There are those who would have us believe it is to our benefit to rid the nation of our smokestack industry because we are to become a service oriented society. I do not believe a service oriented society can survive, certainly not at the standard of living we are accustomed to.

When we send our manufacturing overseas we send the only thing that creates our nation's wealth. The very act of sending our manufacturing overseas dooms our technological capabilities. Technology and manufacturing cannot be separated for any lengthy time. They must go hand-in-hand. If we send our manufacturing and the technology follows, what is left?

### SUMMARY

The largest R&D operation in the world is IBM's facility in Japan. IBM recently announced it was laying off some 10,000 here in this country. GE has laid off hundreds of thousands in the recent past, yet are using Asian Indian programmers and speaking of savings of thirty six percent to sixty four percent over their U.S. labor rates. The last statement in the attached article states "In addition, opportunities in the engineering area present similar potential and will be reviewed during 1991." These corporate giants don't give a damn about their employees or the nation.

It is beyond my understanding to find the Department of Defense has essentially the same attitude. What do they expect to gain? More weapons of questionable quality for the same price?

There was an article or perhaps a book several years ago titled "The Hollow Corporation." I believe we are nearing a "hollow country." A country which is only a shell of it's former self. This is not a legacy I want to leave my grandchildren.

### RECOMMENDATIONS

1. The immediate passage of HR-1438 the Industrial Defense Act of 1991.
2. Require all DOD related research and development and engineering be done in this country by citizens.
3. Establish development programs to give us the capability to produce domestically those items only available from overseas. These programs should give preference to unemployed defense engineers. It is far better to "give" this valuable national resource a job than unemployment "benefits."
4. Tighten the restrictions on the transfer of technology to include items critical to our economic well-being.

Billy E. Reed

## Editorial

There's a new game in town. It's called "Straight Time for Overtime." Three players take part. A familiar comparison would be Three Card Monte. A slight of hand deception surreptitiously played on busy street corners of our larger cities, using three ordinary playing cards. This street-savvy form of amusement also needs three participants: The dealer, the shill and the sucker. It involves money. It is illegal.

In this new version the players are supplanted, in matching order, by: The client, the job shop and the Job Shopper. It too involves money. It too, for the most part, is illegal.

A quick glance at the line up of participants shouldn't overload anyone's cranial circuits to conclude, in either case, which of the three is assigned the role of loser/victim.

The recently enacted Section 2 of Public Law 101-583 is the culprit that is responsible for the shadowy appearance of this new diversion. It changes a long established benchmark. A standard established in 1938 and known as the Fair Labor Standards Act. A part of which states unequivocally that hourly workers will be paid no less than time and one half for any hours worked beyond forty in any given week. Until now, it was unalterable. No one could either take away or give away their right to premium pay for overtime. Not by signed contract. Not by anything or anyone.

P.L. 101-583 put a crease in that once formidable act. It singled out those whose skills are adaptable to the computer field. Certain Program Analysts, Programmers and Software Engineers are now exempt from premium pay for overtime, if they fit the requirements as defined by this enactment.

These requirements are clearly stated and leave little room for debate or any meandering misinterpretations. Disciplines outside those defined remain untouched. For them, time and one half is still, by law, an inalienable right.

But, clarity of intent is not so easily perceived by those whose avarice surpasses reason. Disorientated by their addiction to picking the pockets of others, to enrich their own profits, they quickly reassemble the obvious.

The game begins:

The client company, the dealer, starts it. It informs its vendors, the job shops, that from now on there will be no time and one half paid to any of their contractors assigned to its facilities. This is either by design; by a self-serving misreading of the law, or a total disregard for it.

The shop, the shill, desperate to stem sliding revenues because of the bad times that abound, agrees. Again, either by design; unattended ignorance, or the sheer lack of basic intelligence.

The Shopper, the sucker—the loser/victim—supposedly offers little resistance, and quickly falls in line. His or her reasons are: either

ignorance of the rights provided under the law; a cringing subservience to whatever is handed them, or a desperate need to be chosen for the assignment.

This, at least, is how the game is envisioned by those who manipulate the cards.

Reality, if pursued, invites a different scenario:

The client considering itself free from any visible accusations emerging from government sources, because it is not the employer, plays the game to the limit. It is the user. The job shops are the employers. And, according to the law, unless proven otherwise, the employer is culpable for any infraction of established regulations regarding hourly wages paid to their employees. The Shoppers are their responsibility. Not the client's. It puts their heads on the chopping block with the U.S. Department of Labor. This responsibility overrides any pressures exerted by the client company, or any creative guise that might be used to circumvent the long established parameters.

The Shopper is privy to a dual role. He/she either plays the sucker/victim/loser - as per the game plan, or becomes the aggressor and dismantles the whole seedy scheme. All it takes is a phone call.

The U.S. Department of Labor Wage & Hour Division has offices in every state of the Union. One legitimate complaint, by an individual, of any wrongdoing by an employer regarding wages, will set the investigative machinery of this agency in motion. In addressing an individual complaint this agency will also dig further into the accused records to assure that other employees have not been victimized in like fashion. If guilty the employer will not only have to reimburse those he has cheated but may also be assessed costly penalties.

This illegal practice usually initiated by client firms; propped up by some job shops, and too often accepted by too many Shoppers is an ignominious flim-flam that demands immediate attention and action to stop the continuing and shameful erosion of the earning power and prestige of Contract Personnel.

To play the game, by their rules, is to fortify their ability to not only continue their thievery, but, also, to condone it. To be the loser.

As for Section 2 of Public Law 101-583. It must be repealed. It is not only discriminatory, in its present form, but if not tossed out will become a stepping stone to the next travesty to be used against all Engineering Personnel, Contract or otherwise.

*Al D'Nak*

*The above article is a portion of an editorial that appears in The Professional Job Shopper. A monthly newsletter that is published by ALNAK Publishers, Inc., PO Box 465, Plainview, NY 11803. 516/921-3992. Subscription rates are: \$36 for one year and \$24 for 6 months.*

## APPLICATION FORM

AMERICAN ENGINEERING ASSOCIATION  
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Name: \_\_\_\_\_ U.S. Citizen: \_\_\_\_\_ Naturalized: \_\_\_\_\_

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The difference between membership grades is the financial support and dedication to the issues. All members receive a copy of the AEA monthly publication.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

Annual membership begins on receipt of Application

Dues in the American Engineering Association are tax deductible.



## Reader's Voice

We set aside this column in each issue of the "American Engineer" to allow readers to voice an opinion on any professional issue they choose. Letters should be a maximum of 500 words, relevant to a current issue that affects the professional life of an engineer. Articles submitted may be longer. They should be in good taste and not slanderous. Each submission should include the name, address, home and business phone of the writer. Except for short excerpts, we will include the writer's name, city and state in each published item (unless the writer requests anonymity). We reserve the right to edit each submission, as long as we don't change the gist of it, and to publish or not publish it. We assume that authors who send us material have accepted these conditions, unless they instruct us otherwise in writing.

From B.H. Boan, Glendale, CA: - "I've read many articles about the plight of engineers and possible solutions to their problems. For the 28 years that I was in the profession, I never believed the periodic story of the dire shortage of engineers. As your chart indicates, there were very few times when the curve was above 130 from 1960 to today.

(See Deutsch, Shea & Evans High Technology Recruitment Index in R. Tax article "Manpower Fluctuations..." in March '91 issue of AE. The index has to be above 130, before all new graduate engineers are absorbed without displacing engineers already working.)

"Industry in this country is unconcerned about the future of its employees. We are part of the 'throwaway' society. I would not be surprised to see most working engineers employed as low-paying job shoppers in the near future. Today the only way to plan on employment until retirement is to enter government service, teaching or medicine.

"I'd gladly sign up as an AEA member, if I were still in the engineering profession. I was coerced into one of those 'voluntary' early retirement deals at age 60. Perhaps I was one of the lucky ones."

*Editor: I'm sorry to hear about your 'voluntary' retirement. I'm sure you'd be sorry to hear about mine. I edit this AEA newsletter, because I'd like to make it better for my successors in engineering. The past 40 years of apathy is what made engineering into the non-profession that it now is. Just read Robert Rivers' article in this issue. A certain percentage of America's engineers can count on premature retirement. We just don't know which ones. Let me quote Richard Tax's choice saying, "If we always do what we always did we will always get what we always got." Is that how you'd like it to be for future engineers? If not, join AEA. I did.*

From Joan Campbell, Contract engineer, Kirkland, WA: - "The ideals of your organization somewhat coincide with opinions expressed by fellow contractors. The unfortunate thing is that they like to bitch, but no one will try to take any action. By nature, a self-employed contractor or job shopper is a bit independent and a non-joiner...perhaps we can work together...Our ideals seem compatible.

"The main items shoppers complain about is the conduct of the shops we must use as agents and the legal situation that makes it difficult for us to be truly independent contractors and to be truly self-employed. The federal tax situation is extremely unfair to us, who relocate often and don't maintain permanent homes. Also there's no group where contractors can arrange permanent group medical and retirement plans.

"I've had 43 years of great times in the profession. After combating the prejudice faced as a female, I'm now finding the age factor and the deterioration of professionalism become a problem. I'm 'on the road' again."

*Editor: I assume you refer to 'great times' as professionally rewarding years. If you had to scrounge for health insurance and a retirement plan, the years weren't so financially rewarding. I've read about job shop abuses in Al D'Nak's publication, "The Professional Job Shopper." Al runs a free job-search service for subscribers to his*

*publication. Al's mailing address is elsewhere in this issue. Al is also on our Publications Committee, and I'm referring your letter to him. He coordinates AEA activity related to contract engineering. AEA can not manufacture a job and benefits for you or me. What we hope to do is alter the career climate, so that technical professionals get a fair shake. That includes directs and shoppers. When you hear fellow engineers complain but do nothing, please hand them a copy of our newsletter and ask them to join AEA. There are other ways we could work together. Would you like to participate in an AEA committee on shoppers? Write and let me know.*

From William Gary, P.E., Houston, TX: - "I received the unsolicited April issue of "American Engineer." Please remove me from your mailing list. The flavor of your publication offends me. It reminds me of what I have often read throughout a long career in engineering—malcontents airing their perceived grievances against the IEEE (and sister organizations) and big, bad corporate management. Rarely in forty years have I seen solid, competent engineers truly mistreated. Yes, I have seen RIFs, layoffs and the like. I have not been involved as a 'victim' or a manager engaged in such 'victimization.' I have noted, however, that the good engineers always land on their feet, often better off than ever. It is the poor performers who have difficulties.

"I noted yet another attack on 'management' in this issue of your newsletter. My suggestion is that more engineers should become management instead of continually griping at management. Yes, I am familiar with the cries of 'but I just want to be an engineer.' So be it. Engineers contribute to decision-making, but generally without absorbing any of the concomitant business risks of business decisions. If you truly want to make all of the decisions, earn the right to have your name on the door of the establishment. And accept the risks that go with that privilege.

"Far too many of our brethren have long fed at the troughs of industry without making maximum contributions to their industries. We all know them. They exist. True, many of us prefer the technical side of the work to the administrative side. Without the administrative (read business, profit and related words) facets, there is no technical work to be done. Without profit, we are all truly lost. Some of us learned to accommodate the need for a business view even while enjoying the technical aspects of our work. We even became management—and most of us treated our non-management engineers with respect and concern for their well-being. I personally resent your implicit assertion that all management is bad. Am I left to infer that all engineers are good?

"I did not observe exhortation in your publication for engineers to enlarge their contributions to their firms, to improve productivity and the quality of their performance. Working hard is not enough. Engineers are paid to work smart. Your publication displays its affinity to the idiotic cause of the late Irwin Feerst. Feerst earned quite a name for himself—much like the Gilbert brothers, corporate gadflies of annual meetings of stockholders. His record of accomplishment seems to be short—his list of complaints long.

"Hey fellows get off the stump. Find something more constructive to do with your time. We already have enough organizations and junk-mail publications. If you want to truly improve the lot of so-called working engineers, get into the business world and do it by demonstrating your expertise, business acumen and ability to make a profit, to meet a payroll. Your rhetoric is boring."

*Editor: I thank Mr. Gary for his diligence in criticising AEA and its newsletter. I think his disparaging remarks about persons deceased are in poor taste. I also disagree with his point of view, but I'll not undertake a point-by-point rebuttal. However I've written a justification of AEA elsewhere in this issue. It appears our existence is being challenged.*

From John Mizzi, P.E., Poughkeepsie, NY - "I'm proud to become a member of AEA, although I've given up on working for large corporations. I left XXX Co. after 26 years and one heart attack, to reduce stress. Even given the stress and economic uncertainty of my present role as consulting engineer, leaving the corporate world was a good move—I'm still alive.

"The dimensions of unfair treatment I received in parting were not apparent to me until a year after my resignation. I've been unsuccessful in getting through the human shields to get my story to Mr. YYY, Chairman of XXX. I believe he should know my name and case personally, but I don't know if he condones the kind of treatment I received. A direct letter to him ended up in my 'file' at corporate headquarters, without an answer. After trying several other approaches, I attempted to publish a letter as a paid advertisement in the local press. Unfortunately my letter was refused. I'm sure Roger Boisjoly can share my frustration at not having the resources for legal action and not being able to tell the public.

"AEA would do a service to XXX employees by trying to recruit AEA members during the current environment of downsizing 'without layoffs.' I'm sure the XXX slogan, 'respect for the individual,' will not characterize manager/employee interactions that I've seen."

*Editor: We welcome you into AEA. Each case history paints a clearer picture of the engineer's work environment. There is an Employee Benefits Protection Act which is a federal law passed recently, that I believe protects certain benefits against the ravages of age discrimination. This act may also void any agreement you were forced to sign that took away your rights to sue for age discrimination, when you left XXX Company. It sounds like you were "persuaded" to retire early. If that is true, I suggest you write to our expert, Mr. Richard Plummer, who may be able to give you further information about possible age-discrimination. He is at: P.O. Box 326, Valley Forge, PA 19481.*

From CA: - "The first two issues of the Newsletter are refreshing. There finally is a group trying to address professional and economic issues realistically."

From V.O., WA: - "Today I read two items about AEA, the first in 'E.E. Times' which prompted me to write a letter to 7 Senators; the second in 'ACE News,' which gave me your address. Keep up the good work!"

From N.L., NJ: - "My compliments on your last newsletter. It was excellent and to the point."

From R.G., TX: - "We have a large group of shoppers who are outraged at Public Law 101-583 and really want to do something about it. We've started a petition about 101-583 and collected many signatures....Please send any information, membership forms and ideas of further action we can take."

From PA: - "I have heard that the AEA is a new association, which seeks to represent 'real' engineers and their professional concerns. This approach is refreshing."

From T.C., NY: - "I don't know what took me so long to sign up as I was a member of Mr. Feerst's organization for many years."

From WA: - "The effective date for membership should be included on address label—just like *CE Weekly* does." (Ed note: We normally print the EXPIRATION date on the member's mailing label. For logistical reasons, we have not done so with the labels on the "American Engineer." This issue should have that date.)

To L.M., CA: - Thanks for the spelling correction, you are of course correct.

From PA: - "I am a Life Member of IEEE...Retired but wish to be kept up to date...Age 74."

From GA: - "I appreciate what you're trying to do for contract personnel. Please send application for AEA."

From OH: - "Since the advent of the Section 1706 legislation there has developed a growing need for an organization to defend the interests of independent contractors. We have suffered abuses without recourse for too long!"

From TX: - "Enclosed is a check for \$20.00 to help defray costs for your trips. It's very encouraging to know someone gives a damn!"

From NY: - "Keep up the excellent work....The need to restrain the incoming tidal wave of foreign engineers is urgent."

From WI: - "Wish I could be more generous but have just been laid off. Hope this helps."

From AZ: - "I'm not currently a member of AEA but I do support your work. Enclosed is a check....I will soon become a member."

From FL: - "Keep up the good work & God bless you!"

From CA: - "Keep up the battle."

Robert Bruce, AEA Editor

P.O. Box 4493, Great Neck, NY 11023

## Wanted, Engineers With Three To Five Years Experience

Engineering help wanted ads requesting three to five years experience were common until recently. Today, because of laws against outright age discrimination, the ads request a minimum of three years experience. What is the reason for that narrow experience range? One answer is in that range, an engineer has enough experience to do engineering, but still does not command the salary of a more experienced person. The perceived cost-benefit ratio is highest at that time. Clearly the corollary is that after that period, pressure will build up to replace older engineers with those having a higher perceived cost-benefit ratio.

The replacement process starts significantly in the 50-54 age bracket, producing exits from the profession of 4.5% or about 1% per year. In the next age bracket of 55-59, 14% or almost 3% per year are coaxed out of engineering employment. Between ages 60 and 63.3, the remaining first half of the exits occur (31.5% in 4.3 years) or approximately 8% per year for four years. If this were a discussion of physical mortality, it would be very frightening. However such career mortality ought to be equally frightening, and engineers should make adequate preparations.

Consider this as an insurance problem. It would take an annual premium of \$992 per year, starting at age 27 to insure against early career termination as presently experienced by the U.S. engineering population. Such a premium would pay \$50K salaries to those 5 out of every 100 that would be terminated in the 50-54 age bracket and 15 more out of 100 in the 55-59 bracket. Finally a total of half the population would be collecting in the 60-63 year age bracket. All the early retirement benefits thus disbursed would stop at age 63. Benefits for normal retirement are another problem that can be treated separately.

At first glance, engineers would not buy such insurance, because each and every engineer knows that he/she is too valuable to be forced into early retirement. But on second thought, there are uncontrollable factors like defense cutbacks, recessions, reorganizations, restructuring and downsizing, none of which is under the control of the individual. The three-to-five year engineer should go for a \$1500 before-tax raise and invest the net in a growth investment yielding 9% plus 5% for inflation, to cover the risk of premature retirement. If an engineer waits until age 50, it would cost \$99,200 as a single payment to cover the risk. An individual can't self-insure, because the reduced cost of coverage results from spreading the risk over the population.

Since there is such a demand for three to five year engineers, these people should realize the nature of the market and demand pay levels commensurate with the demand. Three to five year engineers should demand top pay rather than the 17% increase they're given at their fourth year. Working engineers should demand that their pay reach 62% above the starting salaries in their fourth year and then level off. The extra compensation should be directed toward covering the high probability of early retirement.

There would be ancillary benefits to the profession. One such benefit would be reappraisal by employers of the value of three to five year engineers. These younger engineers are viewed as more pliable and more accepting of assignments that older, more experienced engineers know are impossible within the given constraints, or perhaps shouldn't be done at all. Fewer older engineers would experience early retirement because of the new cost-benefit ratio. Employers could then rationalize keeping older engineers, both economically, and because project assignments would result in fewer dead-end paths to completion. Everyone would be happy; younger engineers would get what they are assumed to be worth, and insure a higher probability of being employed at retirement time. Older engineers would have more secure engineering careers.

Robert A. Rivers, P.O. Box 129, Union NH 03887

## Losing Our Industrial Base

Since the early to mid 1970's the flight of U.S. industry offshore has constantly accelerated and has reached an alarming rate. We are told the United States will become a "service economy," that we are no longer to be a manufacturing economy.

Our nation's wealth is created by taking materials and turning them into marketable products, i.e. adding value. This process of adding value is known as manufacturing. Manufacturing and technology are inseparable. If we lose our manufacturing base we must also lose our technological base.

What is causing this loss of our manufacturing base? Why doesn't the government do something to stop it? What is this nation to be in another twenty or fifty years?

We are constantly being reminded of the "new world order." What does "new world order" mean? Does it have anything to do with our loss of industry? What role does the government play in all of this? I hope I am not the only person asking these questions.

Let's examine some facts. Perhaps they are associated with the problem; perhaps they are not. I will let you draw your own conclusions.

### UNIDO

UNIDO is the acronym for the United Nations Industrial Development Organization. In 1966 UNIDO was established as an autonomous organization within the United Nations. Nine years later, in 1975, the United Nations endorsed a recommendation that UNIDO become a specialized agency within the U.N. with its own constitution and budget. Negotiations were started in 1976 and concluded on April 8, 1979 when the constitution was adopted by consensus at a U.N. Conference on the Establishment of UNIDO.

The United States signed the document January 17, 1980 and it was sent to the Senate for advice and consent on October 15, 1981. I believe these dates are important to understanding other, seemingly disconnected events.

Much can be learned from Executive Report 97-69 which is the report accompanying Treaty Document 97-19, the Constitution of the United Nations Industrial Development Organization. The following excerpts are from the report.

According to Executive Report 97-69, UNIDO's "Activities range from sending many short term consultants for a few weeks to deal with highly technical problems, to sponsoring workshops and training programs for technicians and managers, to long term contracts to establish a factory or training or research facility. Use of U.S. consultants is quite common."

"On the other hand, UNIDO's record in hosting large international conferences which endorse concepts contained in the New International Economic Order has been at odds with longstanding U.S. policy. At the second quadrennial conference (UNIDO II) in Lima, Peru, in 1975, a Lima Declaration and Plan of Action for Industrial Development and Cooperation was adopted over the objections of the United States. Four years later, UNIDO III endorsed a New Delhi Declaration and Plan of Action, again over U.S. objections."

"The thrust of these political documents is that industrial country governments should work toward a goal of ensuring that 25 percent of the world's industrial plant is located in the developing world by the year 2000. (The current percentage is about 11 percent.) The documents imply that not only should developed countries provide aid to help meet these goals, but also adopt trade and internal industrial policies which insure that the goal will be reached, **EVEN IF IT MEANS SHUTTING DOWN THEIR OWN INDUSTRIES WHICH ARE IDENTIFIED AS MORE SUITABLY LOCATED IN THE THIRD WORLD.**" (*Emphasis added.*)

Quoting from the Preamble of the Constitution of the United Nations Industrial Development Organization: "Bearing in mind the broad objectives in the resolution adopted by the sixth special session of the General Assembly of the United Nations on the establishment of a New International Economic Order, in the UNIDO Second General Conference's Lima Declaration and Plan of Action for Industrial Development and Cooperation, and in the resolution of the seventh special session of the General Assembly of the United Nations on Development and International Economic Cooperation,

declaring that: It is necessary to establish a just and equitable economic and social order to be achieved through the elimination of economic inequalities, the establishment of rational and equitable international relations, implementation of dynamic social and economic changes and the encouragement of necessary structural changes in the development of the world economy."

From the "Text of Resolution of Ratification" portion of the Executive Report 97-69: (1) "(1) As used in Article 1 of the Constitution the phrase "new international economic order"

(A) is an evolving concept with no fixed meaning;

(B) reflects the continuing goal of members of the United Nations to find new or more effective ways of handling international economic relations and is subject to interpretation by all such members; and

(C) is not legally defined by the Constitution or by any resolution of the sixth or seventh special session of the General Assembly or the United Nations or by the Lima Declaration and Plan of Action of the United Nations Industrial Development Organization.

(2) The entry into force of the Constitution with respect to the United States of America does not abrogate or rescind any reservation made by the United States of America to any resolution, declaration, or plan of action referred to in the Constitution."

Why would we agree to "an evolving concept with no fixed meaning?" Could this be the genesis of our loss of manufacturing capability? Certainly the dates tend to coincide at least with our awareness of the beginnings of these problems. Is this simply our way of helping some of the poorer nations or is there something else, perhaps something more sinister?

We will look at other federal policies and laws which seem to have a bearing on this article at a later date.

*Billy E. Reed,*

## A 10-Second Commercial

The next time an associate of yours complains about the profession, hand him/her your copy of the AMERICAN ENGINEER. Say "Please read this publication and copy whatever you wish to use. Pass this on to your next associate who complains about the profession."

## Attention Members Of Congress

The American Engineering Association would like to invite the members of the U.S. Senate and the U.S. House of Representatives to voice their opinions on current issues related to the engineering profession, in our monthly publication, the "American Engineer." The "American Engineer" will be mailed to several thousand readers each month, in every state and one territory, plus the District of Columbia, and to all Members of Congress.

This will be YOUR FORUM to start or continue a dialogue with the American engineering community. We hope you will use it, and we want the "American Engineer" to be the most important and credible publication of the engineering community on professional issues. Typical issues of interest are Industrial Base, Immigration, Defense, Employment, Pensions, Insurance, Intellectual Property Rights and Taxes. Any other issue that affects the professional life of the working engineer is also of interest.

We will make every effort to publish your article of 1,200 words or less in the first available issue after receipt, and WITHOUT EDITING. Articles will be run on a "first in, first out" basis, unless critical legislation necessitates changing the schedule. AEA will make that determination. If Congress shows enough interest, we can expand this section of "American Engineer" to include more than one Congressional column in each issue.

If you are interested in what the engineering community thinks or in influencing them, this is a good way to go. You may even pick up support for your own projects in Congress.

To submit an article, simply mail to: Robert Bruce, AEA Editor, P.O. Box 4493, Great Neck, NY 11023.

## Reach Out

AEA would like to reach people in all engineering disciplines. We would also like to obtain the names and addresses of the publications and editors that serve the many engineering disciplines. To do this, we need the help of our membership. This is an opportunity for you to participate.

Please, clip and mail the masthead with the mailing address and editor's name of your favorite engineering or technical publication to AEA. Eventually, we will be able to reach them and keep them and their readers up to date on AEA events.

Reach Out to your congress, senate, other representatives and the news media. Your "American Engineer" is our way of reaching you with facts, articles and information concerning engineering issues. You can copy these articles and send them to your representatives and the news media to support your concerns.

Reach Out to an associate and encourage them to join and support the AEA. If you're the bashful type, just place your "American Engineer" or a copy in their mail to be read at their convenience. You can also Reach Out to an associate in another department, company, division or state by mailing them your copy of AE. We encourage you to copy AE for a friend or associate in the hope that they will also support our efforts.

Reach Out to the active volunteers that are making this publication possible. Tell them what you like or what you dislike. Provide them with questions, answers and information or just a hand written note of appreciation. Believe me when I tell you that it is important to let your volunteers know that you care.

Reach Out to the following:

Roger Boisjoly PE, 3047 E. Menlo St., Mesa, AZ 85213  
(602) 641-0887\* - *Ethics & Legislation re: Whistle Blowers Act, Improvements*

Robert Bruce, P.O. Box 4493, Great Neck, NY 11023 - *"American Engineer" publication and related issues*

John Denzler, 42 Maple St., Auburndale, MA 02116 (617) 244-

4417\* - *Immigration Issues & related Legislation; Importation of foreign students/engineers*

Al D'Nak, P.O. Box 465, Plainview, NY 11803 - *Contract Engineering, Legislation Section 1706, P.L. 101-583, Free O.T.*

Richard Plummer, P.O. Box 326, Valley Forge, PA 19481 - *Discrimination/Issues/Legislation*

Bill Reed, Pres, AEA, P.O. Box 820473, Fort. Worth, TX 76182-0473 (214) 264-6428\* - *Industrial Base, Import/Export Jobs Technology Transfer*

Robert Rivers, AIRCOM, P.O. Box 129, Union, NH 03887 - *Manpower Issues & Legislation; Employment - Underutilization; Engineer Shortage Propaganda (ESP)*

Richard Tax, V.P. AEA, P.O. Box 2012, River Vale, NJ 07675 (201) 664-0803 - *Issues, General & further information*

\* Please use your nickel; our budget is small.

## AEA Legal Defense Fund

The AEA Legal Defense Fund is to provide finances to litigate selected cases, where engineers have been professionally harmed. This fund will provide for the defense of engineers and related occupations or to file litigation related to foreign imports, whether people, goods or services; discrimination; terms of employment; pensions; patent rights; and tax issues which are detrimental to engineers and related occupations.

Since the above issues are crucial to advancing the professional standing of engineers, we ask you not to forget the Fund. We need your help in the form of contributions in any amount. You could be the next person who needs help. The funds will only be used for cases that the Board of Directors believe will have broad benefit to the engineering community.

To make a contribution, make your check payable to AEA Legal Defense Fund and mail to P.O. Box 820473, Fort Worth, TX 76182-0473. All contributions over \$10.00 will be acknowledged by return mail.

## Goal-50,000 Members in 1991

Did you introduce AEA to an associate this month?

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