

Homeward bound for graduate students?

Foreign students who graduate from U.S. universities may have to leave the country for two years before they can take a job in the United States, if Congress passes proposed revisions to the Immigration and Nationality Act. This quietly introduced change has recently aroused strong opposition from the American Council on Education, representing 10 other university-related groups, and many high-technology companies and trade associations. They predict that the change would have far-reaching adverse effects on university engineering faculties and in areas like the semiconductor industry.

Rep. Romano L. Mazzoli (D-Ky.) and Sen. Alan K. Simpson (R-Wyo.) introduced almost identical versions of the immigration reform bill in the House and Senate in March. Last week, the Senate Judiciary Committee marked up the bill in preparation for bringing it to the Senate floor, while the House Judiciary Committee expects to consider it early in June. Both sponsors hope the bill will become law before the end of the session.

One controversial provision in the bill is a two-year, home-country residency requirement for all foreign students after graduation. At present, this applies only to holders of J visas, who are students on exchange programs or sent by their governments. Most foreign students hold visas allowing them to stay in the United States as long as they are studying, but they may not work. If they have a job offer after graduation, they can apply for permanent resident status. Many remain in the United States until this change occurs.

Sheldon E. Steinbach, general counsel for the American Council on Education, says, "A blanket requirement would be short-sighted and would add considerably to critical labor shortages in high-technology areas vital to the U.S. economy."

Engineering is particularly affected because in 1980, four out of every ten graduate engineering students came from foreign countries, and half of all engineering doctorates earned in the United States were awarded to foreign students, according to the National Science Foundation. About 51,000 (out of a total of 249,000) full-time graduate engineering and science students are foreign.

Richard J. Gowen, manpower task force chairman for the Institute of Electrical and Electronics Engineers, argues that exceptions should be made for students "graduating in the top 10 percent of similarly qualified graduates." Reflecting a concern that foreign engineers are likely to accept lower wages, which "tend to depress salary standards and employment opportunities, especially for the older, experienced U.S. engineers," Gowen also asks that exceptional foreign students be paid at least 75 percent of what a U.S. citizen would be paid in the same job.

Electronics industry spokesmen note that high-technology companies depend on hiring newly qualified engineers and scientists in many fields to fill positions for which U.S. citizens are not available. Defense industries take up a large number of U.S. citizens who graduate.

Although the home-country residency requirement has escaped unscathed so far in the House version of the bill, Sen. Edward M. Kennedy (D-Mass.) proposes to amend the bill in the Senate Judiciary Committee so that the requirement is waived for "students with exceptional merit and ability." It will at least allow an escape valve, says an aide.

Steinbach, in letters to the committee and subcommittee chairmen involved, objects to another section of the bill. This provision narrows the criteria for exceptional ability so that a degree or diploma is no longer sufficient evidence. Steinbach says this would constrain recruitment of able faculty and students to help fill the

more than 1,600 faculty vacancies in engineering schools. The American Council on Education estimates that between 10 and 20 percent of engineering professors are foreign born.

Irwin Feerst, founder of the Committee of Concerned Electrical Engineers, favors the two-year, home-country residency requirement. He presented his views at a Senate hearing on immigration policy in December. The cost of training foreign students is high, he says. He argues that no shortage of engineers would exist in certain fields if salaries were higher, and fewer faculty would be needed in engineering schools if fewer foreign students attended U.S. universities.

Richard Berendzen, president of American University in Washington, D.C., says, "This bill was introduced as a protectionist measure to try to shore up job opportunities and salary scales for Americans in the short term. I think that in the short term, and certainly in the long term, it won't do either, and it will end up harming all of American industry, science and education."
—*I. Peterson*

PCBs: Rewriting the regulations

A once-popular group of industrial materials called PCBs — chemicals that played a key role in the campaign to enact the Toxic Substances Control Act (TSCA) — is the subject of a recently proposed regulation rewrite.

In 1976, Congress passed the TSCA to provide the U.S. Environmental Protection Agency with the authority to deal with certain chemicals that could not be totally regulated under the existing acts that only control direct discharges into air and water. Under their broad TSCA umbrella, Congress provided a special section that prohibited the future manufacture, processing, distribution and use of PCBs, or polychlorinated biphenyls, unless they are in a "totally enclosed" system.

PCBs — oily or waxy chlorinated hydrocarbons that were manufactured in the United States from 1929 to 1977 — have a variety of applications, including use as a cooling liquid in certain electrical equipment. While PCBs have been shown to be carcinogenic in animal studies, their precise effects on human health are unclear (see p. 361). In any event, when EPA set out to implement the congressional ban on these chemicals, it included certain exemptions. First, it exempted the manufacture, processing and so on of PCBs in concentrations less than 50 parts per million (ppm). In addition, the agency classified intact electrical transformers (except those used in railroads), capacitors and electromagnets as "totally enclosed" — thereby allowing PCBs in such to be used for the life of the existing equipment.

However, on Oct. 30, 1980, the U.S. Court of Appeals for the District of Columbia Circuit — responding to a petition filed by the

Environmental Defense Fund — ruled that EPA would have to gather more information and then rewrite the "50 ppm" and the "totally enclosed" sections of its regulation.

Recently EPA issued its new proposal for the "totally enclosed" section of the PCBs ban law. (The rewrite of the other section is expected within the next two weeks.) This time, the agency proposes a 10-year phase-out of the large PCB-containing capacitors used by electric utilities and other industries. If such capacitors were allowed to remain in service until they failed, "there would be substantial costs associated with cleanup of spills and leaks," agency officials reported in the April 22 FEDERAL REGISTER.

However, a similar cost-benefit analysis of transformers did not yield the same conclusion: EPA proposes to authorize the use of existing PCB-containing transformers "indefinitely." (The average lifetime of a transformer is 30 to 40 years.) "The costs associated with an accelerated phase-out or requirement to retrofill [drain and refill with a non-PCB-containing fluid] . . . transformers are not reasonable when compared to the potential reduction in release of PCBs that they would achieve," EPA reported. In addition, the agency proposes quarterly inspections for leaks of transformers and capacitors. It also proposes to authorize the continued use of PCB-containing electromagnets.

Attorney Jacqueline Warren — who supervised the EDF suit and now is with the Natural Resources Defense Council — applauded the capacitor decision but had hoped for a similar proposal for transformers.
—*L. Garmon*