

research plans in those countries.

It will take a long time to clear U.S. researchers in the eyes of foreign nationals, says Dr. Glazer. The new foundation could make an important contribution, "but it is essential that the foundation credentials be the mark of an independent researcher."

Dr. Glazer urged the subcommittee to change the section allowing agency contracts. This time the subcommittee took note.

"I have come increasingly to the view that the section has to be eliminated altogether or very strictly circumscribed in some manner" said Senator Fred R. Harris (D-Okla.), author of the legislation.

The original intent, he said, was to use contract money to provide temporary funding—a "halfway house"—for the foundation. Besides the Defense and State Departments, the Department of Health, Education and Welfare, for instance, supports a good chunk of social science research domestically.

"But I am beginning to think we can't afford a halfway house," said Harris. "Direct Congressional appropriations would be far better."

DRAFT

Students Still Deferred

Congressional debate over draft legislation has been long and heated. For a time it seemed that undergraduate and graduate students, as well as persons in "critical" occupations, would lose their exemptions.

Last March President Johnson spoke in favor of the position of his National Advisory Commission on Selective Service: the urgent need in draft reform is for a "fair and equitable system," meaning no deferments.

Secretary of Labor W. Willard Wirtz, whose department kept track of deferrable job categories, says there really is no such thing as a critical occupation in this country as far as the draft is concerned.

But Congress had different ideas. Each House passed draft legislation much less radical than the President's Commission envisioned. And, when a compromise bill emerged from a Senate-House conference, the new version was less radical still.

The new law requires the deferment of any student in college or trade school who is doing well enough not to be thrown out.

The bill says categorically that if you've had one deferment, you can't have another. But then it quickly modifies itself, saying no second deferments "except for graduate study, oc-

cupation or employment necessary to the national health, safety or interest."

This qualification covers a lot of territory, according to dissenting Representative William F. Ryan (D-N.Y.) who predicts scientists and science students will continue to be virtually draft-safe. It's his guess that physics or biology will be safer fields than history or literature.

However, supporters of the compromise legislation say questions of graduate and occupational deferments are meant to be "narrowly constructed and strictly applied" by all draft boards under guidelines set forth by the President.

Signs are that for all the cries for reform, the draft situation will be similar to today's and scientists who have been worrying about graduate students being yanked out of university labs can relax.

An Executive Order on the subject of deferments—an order that has been in the works for well over a month—is being reviewed in light of the new legislation. It is possible specific action on this question will be delayed until the middle of July.

At present, although most graduate students in science do win draft deferments, decisions as to who goes and who stays are solely in the hands of local boards. When the new regulations emerge from the White House, they will be uniform guidelines for all boards.

HIGH ENERGY

300 Bev: Compromise, Progress, Competition

In a competition reminiscent of the recent fight among U.S. cities for location of the proposed 200-billion-electron-volt particle accelerator, now planned for Weston, Ill., nine European nations are lined up as site candidates for the next jump in accelerator design: the 300 Bev being planned by CERN, the European Organization for Nuclear Research.

Proposals for the 300 Bev have been under consideration in Europe since 1964; U.S. physicists are already thinking beyond it, to a possible 600 to 1,000 Bev machine sometime in the next decade.

The Russians expect to have their new 70 Bev Serpukhov machine operational in November. CERN, made up of 28 nations, has welcomed an offered opportunity to cooperate with the Russians, and is about to sign an agreement. The Russians apparently do not plan any giant and may well count on using CERN's 300 Bev.

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What has held up the 300 Bev has been the insistence of scientists in the past that the monster accelerator be supported by satellite facilities—smaller than the 300 Bev, but not insignificant—within each of the cooperating nations. This program was to be at a spending level four times the operating cost of the \$500 million to \$1 billion CERN accelerator, and many of the nations balked.

Now, the European Committee for Future Accelerators, under Italy's Prof. Eduardo Amaldi, has come up with a recommendation more likely to be accepted by the cooperating governments. The Committee still recommends national growth in high energy physics to keep pace with the 300 Bev. But it now offers a cheaper plan. In a report delivered last month, it still recommends a new family of national European accelerators in the gap between the present 28 Bev at CERN and the proposed 300 Bev. But instead of swelling national spending levels four times as fast as the international effort's, it will now settle for a growth rate of half.

"Support for the international laboratories must be maintained," says Britain's Dr. John Adams, former Director-General of CERN. "If cuts have to be imposed, they should be made first in national programs."

In light of the new balance, the outlook for the 300 Bev appears promising.

According to Prof. Frances Perrin, high commissioner of the French Atomic Energy Commission, a proposed French 45 Bev accelerator will make sense only "if the 300 Bev project goes ahead."

The main recommendation of Prof. Amaldi's Committee is that the 300 Bev machine and laboratory must be built "as quickly as possible." Its energy and design technology are based on techniques developed for the CERN 28. But the giant's dimensions are stunning: circumference of the magnet ring, about five miles, compared to three for the 200 Bev, 864 magnets weighing a total of 25,000 tons, 6 accelerating stations and energy gain per turn of 13.4 Mev.

The scientists estimate the huge machine will take 8.5 years to establish from the go-ahead date, including six for actual construction. The task force hopes the decision will be taken by the end of the year, the site will be accessible by mid-68 and planning staff in place at about the same time, building started in mid-69, and the physics program under way early in 77.

CERN officials refuse to speculate on the choice of site; they insist that any of the nine offered would be splendid: Göpfritz, Austria; Focant,

Belgium Le Luc, France; Drensteinfurt, West Germany; Aspropyrgos, Greece; Doberdo, Italy; El Escorial, Spain; Uppsala, Sweden; and Mundford, Great Britain.

POLLUTION CONTROL

States Struggle With Water Standards

It is going to be a long, hot summer for the Federal Water Pollution Control Administration and its counterparts in the 50 states.

Last week the states struggled to meet the June 30 deadline for submission of water quality standards. Now the work of appraisal and approval or disapproval begins in the Department of Interior.

FWPCA officials, contemplating the task, have no illusions about the quality of the standards.

"The great bulk of them will probably fall in the general category of not being able to be approved in their present form," predicts FWPCA Commissioner James Quigley.

"There was a long period of reluctance," Quigley notes, "when the states said we can't do it; we have no money, no manpower, no time." That has changed, he feels now, as the states have begun to feel public pressure for a cleanup.

But a lot of foot-dragging remains. Less than 48 hours before the deadline, after 18 months of trying, only 10 states had submitted complete, final standards and implementation plans for the waters within their boundaries: Indiana, Florida, Georgia, South Dakota, North Dakota, Massachusetts, Arkansas, Oklahoma, Mississippi and Kentucky.

And early partial standards had been received from New York, New Jersey, Virginia, California, Illinois and Ohio.

Under the Water Quality Act of 1965, all the states are required to establish water quality standards for the interstate streams and lakes within their jurisdictions. Some, like Virginia, are taking advantage of the opportunity to set their own intrastate standards as well, to qualify for a Federal 50 percent, instead of 30 percent, contribution to their sewage treatment plant projects.

State standards are being measured against recommendations from five National Technical Advisory Committees appointed by Interior Secretary Stewart Udall. The committees, which have 84 members, cover agriculture, recreation and aesthetics, industrial water supplies, public water supplies and fish and other aquatic life and wildlife. The committees will determine how clean a body

of water should be for the uses contemplated.

If the states fail to set standards, or their standards are not approved by Udall, the Secretary is empowered to set and enforce Federal standards. Once the standards are set, failure to enforce them actively could bring a court suit by the U.S. Attorney General to force abatement of the pollution in question.

While June 30 was the official deadline, perhaps a more significant date will be Oct. 2. By then, evaluations of all the proposed state standards are to be ready.

Udall is likely to be tough-minded if a state hasn't managed to present acceptable standards by then.



Interior

Pollution: No region is exempt.

Every effort will be made to get the states to adopt their own standards, Quigley points out. The two most difficult areas have been agreement on physical standards for salinity, temperature and dissolved oxygen in the water and setting workable plans for implementation. It is a lot easier to say what should be done than it is to enforce standards on, for example, polluting industries that pay a large share of a state's taxes and employ large percentages of its people.

Contrasting examples of what the agency faces this summer are the Virgin Islands, Alaska and the states along the Ohio River. Alaska and the Virgin Islands have problems, the Ohio River Basin may not.

In Alaska, for example, the state is prohibited, by its own law, from enforcing water standards on mine owners. This, says Quigley, means Secretary Udall will have to decide whether to accept the standards submitted and wait for the Alaskan legislature to repeal the law, or throw out all of Alaska's standards and set Federal rules.

And in the Virgin Islands, work on standards was going well this spring until someone in the FWPCA pointed out to the Islands' administration that they had not held the public hearings required by law. The hearings will be held, but "they'll never make the deadline," Quigley notes.

Along the Ohio, however, an interstate compact has been working well for years.