

## Aid for Jobless Scientists

President Nixon has leapt into the wake of the departed SST with an emergency \$42-million program to help speed the reemployment of idled defense-aerospace scientists and technicians. The money will be deployed, starting immediately, through local U.S. Employment Services of the Department of Labor.

The funds will be divided as follows: \$5 million in travel allowances to enable 20,000 jobless scientists to investigate job possibilities away from home; \$25 million in employer subsidies for on-the-job training in fields such as environmental sciences and urban studies; \$10 million in loans to help 10,000 families cover moving costs necessitated by job changes; and \$2 million for a study of job conversion problems.

Accompanying this infusion will be the establishment of job referral centers in hard-hit areas and an expanded national job registry and job bank in Sacramento, California.

Earlier Senator Edward M. Kennedy (D-Mass.) introduced a bill that would provide jobless scientists and engineers with government guaranteed, low-interest loans to tide them over the current unemployment crisis. Called the Conversion Loan Bill, the measure would encourage banks and private lending institutions to make long-term loans to distressed scientists in amounts up to 60 percent of their former salaries or \$12,000, whichever is lower. The loans would be dispensed over a year's time in tax-free monthly payments. The program would be administered by the National Science Foundation (NSF), which would pick up all interest payments until a scientist has been reemployed at a job which pays him at least two-thirds of his previous salary. Thereafter, he would repay the loan over a 10-year period, including interest payments of 3 percent. NSF would subsidize interest costs over 3 percent.

The bill authorizes the expenditure by NSF of \$200 million over 3 years. The bulk of that amount would go for interest payments and the repayment of loans in default.

Kennedy said the measure is a supplement to one he introduced last year. The earlier bill would make \$500 million available over 5 years for retraining technical personnel and aiding local governments and small firms engaged in converting from defense to civilian activities. But additional aid is required immediately, he said, "to conserve our valuable reservoir of technical talent" until programs have been developed to enable scientists to turn their skills from defense and space work to civilian, socially useful research and development.—C.H.

applied seismic research and to assist "high-risk" cities such as Los Angeles and San Francisco to reduce existing earthquake hazards. The Academy report, nearly bereft of technical detail as it is, seems largely aimed at reiterating this plea. "We wanted to keep this paper brief and to the point," a panel member explained. "The federal government has not taken adequate interest in these matters, and we wanted to stimulate some action."

As a new clarion call, the Academy's San Fernando quake report is only the most recent of at least half a dozen similar documents written since the 1964 Alaskan earthquake by a variety of committees, task forces, and panels gathered by the Academy, the Office of Science and Technology

(OST), and the Federal Council on Science and Technology.

In 1965, for example, a panel of experts organized by OST and chaired by M.I.T.'s Frank Press recommended a 10-year program of earthquake prediction research costing an estimated \$137 million over the decade and with much of the money going into development and installation of instrumentation.

In 1968 an interagency committee of government scientists and engineers estimated that the probable potential loss due to one great earthquake in a metropolitan area would approach \$20 billion dollars and asked for a 10-year "National Earthquake Hazards Program" budgeted at an estimated \$220 million.

Federal expenditures on earthquake research at the time the 1968 report was issued aggregated about \$7.3 million a year. A "breakout" of current spending on earthquake research is not available, but the impression among responsible officials is that the total has not really increased very much.

The roster of agencies which cooperated in supporting the San Fernando quake report make up a list of the agencies most concerned with earthquake studies. The sponsors were Atomic Energy Commission, Advanced Research Projects Agency, National Science Foundation, National Oceanic and Atmospheric Administration, Bureau of Mines, Bureau of Reclamation, U.S. Geological Survey, Department of Transportation, Army Research Office, and Army Corps of Engineers.

Last August still another panel, this time weighted heavily toward an engineering view and working at the request of the OST, compiled an anthology of what it felt to be the most worthwhile and economically reasonable ideas for an earthquake hazard program.‡ Without specifying dollar amounts, the committee, headed by structural engineer Karl V. Steinbrugge of San Francisco, prepared lists of "high-priority" recommendations that ranged from support for studies of earthquake prediction and control to a variety of regulatory steps the federal government might take to reduce public buildings' vulnerability to earthquake damage. It urged, for instance, that special bracing be required for structures financed with federal funds; that a single federal agency should ensure that, after a damaging quake, local communities place public safety over the preservation of the tax base when it comes to razing damaged buildings; that the government assist cities in land use planning and avoid major construction in fault and landslide zones; and that "a strong program of basic research be supported."

"The upshot of all these reports," says a prominent government seismologist in California who has contributed to several, "is that we've had enough reports." He said he senses that the San Fernando quake may well have shaken the dust off these many proposals and that both the Interior Department and the Office of Management

‡ *Earthquake Hazard Reduction, Report of the Task Force on Earthquake Hazard Reduction, OST*, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.