

Superfund awaits Carter's signature

A \$1.6 billion emergency "superfund" for cleaning up dangerous chemical spills and abandoned hazardous-waste dumps won congressional passage last week in the closing hours of the 96th Congress. The bill was pared down from a \$4.2 billion Senate proposal as part of a compromise. That compromise eventually ended three years of intense squabbling between members of the many committees on both sides of the Hill that were involved in drafting the superfund bill.

President Jimmy Carter, who personally lobbied for passage of this compromise bill, is expected to sign it quickly. Once he does, the federal government will be authorized to borrow money from the Treasury almost immediately to commence cleanup programs. As taxes are collected from the chemical industry, they will be used to reimburse the Treasury and begin feeding the superfund.

In fact, 87.5 percent of the superfund's financing will come from a small excise tax to be levied against producers of crude oil and roughly 40 petrochemicals (and their feedstocks) over the next five years. The remaining \$220 million will come in the

form of federal appropriations.

Firms responsible for spills and chemical damage will be sued by the Justice Department to recover cleanup money spent from the fund. In addition, companies would be liable for up to \$50 million per incident in damages to government-owned natural resources.

The superfund had been expected to compensate victims of chemical spills and leaking dumps—like the families living at Love Canal (SN: 5/31/80, p. 340)—for loss of income and for property damage, but those liability provisions were dropped in the last-minute compromise. And that has fanned the anger of many superfund proponents who feel the public has been cheated.

"If a toxic-waste discharge injures both a tree and a person," complains Sen. George J. Mitchell (D-Maine), "the tree's owner, if it is a government, can promptly recover from the fund for the cost of repairing the damage, but the person cannot. . . . Neither logic nor compassion nor good government nor common sense compel this result. It is a failure of will on the part of the Congress to deal with what is the most serious part of the problem: injuries to persons." Individuals may sue polluters under common law to recover damages, Mitchell says, but the process is invariably long and costly. □

Current status of coronary bypass

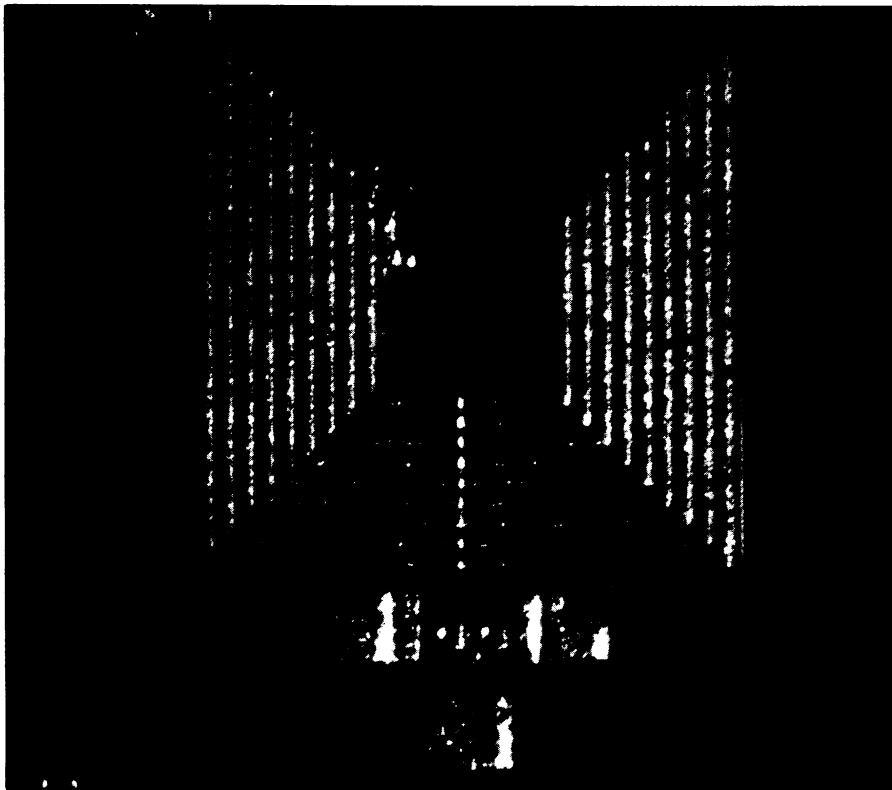
Since coronary bypass surgery was introduced during the 1960s, its use has skyrocketed. Thus it is imperative that clinicians and scientists determine which diagnostic procedures should precede it and when the operation should be used instead of drugs to extend and improve heart patients' lives. The latest consensus on these two questions was arrived at last week by an advisory panel to the National Heart, Lung and Blood Institute, headed by Robert L. Frye of the Mayo Clinic. Here are their major conclusions. . . .

Diagnostic workups that help a physician decide whether a patient should have coronary bypass or drugs to treat heart disease should be performed on the basis of a particular patient's status. Patients with severe angina (heart pain) as well as survivors of acute heart attacks should undergo invasive diagnostic procedures, but patients suffering from less severe angina should have noninvasive techniques.

Scientific studies show that coronary bypass can extend the lives of certain subsets of patients but not those of others. Study results on still other subsets are conflicting. For instance, there is agreement that surgery on patients with heart pain and greater than 50 percent narrowing of the diameter of the left main coronary artery, regardless of left ventricular function, results in improved survival when compared with medically treated patients (SN: 5/13/78, p. 314). However, there is no evidence currently available to support improved survival with bypass versus drugs in patients with other types of single coronary artery disease regardless of left ventricular function. As for patients with two diseased coronary arteries, there are conflicting data over whether bypass can extend their survival better than drugs can. Conflicting data also exist on whether bypass is superior to drugs in extending the lives of patients whose three major coronary arteries are diseased, regardless of whether they have impaired ventricular function. For instance, although a controversial Veterans Administration study failed to show extended survival in patients with three-artery disease and moderately impaired ventricular function (SN: 5/13/78, p. 314), if one looks at the 10 hospitals in the study with low operative mortality and not at the three hospitals in the study with high operative mortality, a significant improvement in survival with surgery is observed.

A study whose results were just released by Emory University School of Medicine, however, shows that women are less likely than men to experience long-lasting pain relief as the result of coronary-bypass surgery. □

On the way to almost noiseless SQUID



A superconducting quantum interference device (SQUID) is a circuit capable of measuring minute quantities of magnetic field (magnetic flux) quantum by quantum. Shown here is SQUID circuitry developed at the IBM Thomas J. Watson Research Center in a continuing effort toward low-noise operation and the measurement of the smallest possible fields. The square input coil is 175 micrometers wide. SQUID proper is below it.