

central banks have the dollar situation temporarily under control. Key to this was Wednesday's cabinet meeting in Switzerland, where Swiss National Bank chief Fritz Leutwiler and his two chief deputies, Longuetin and Schulman, were raked over the coals for failing to intervene in support of the dollar. Leutwiler's statements that he would not intervene triggered the most recent round of dollar-bashing. Swiss National Bank intervention, more than Carter's mid-week announcement of unspecified support

efforts for the dollar, accounted for the currency's modest recovery at the end of the week. West German Bundesbank sources emphasize that the big dollar holders have their nerves under control, and the line will be held for the time being.

This gives Washington time to sort out the mess that was reflected at the Tuesday National Security Council meeting — and take up on useful European advice.

—David Goldman

## U.S. Breakthrough In Fusion Energy Announced

Over 100 members of the Washington press corps, government and foreign officials, and scientists crowded into a press conference room at the Department of Energy's Forrestal Building in Washington, D.C. on Monday, Aug. 14 to hear Dr. Marvin Gottlieb of Princeton and Dr. John Deutch of the DOE formally announce the historic Princeton fusion research breakthrough. The news had already captured front page headlines throughout the country over the weekend as a result of an end-run around Energy Secretary Schlesinger's office at the DOE.

What was announced in effect was that American scientists at the Princeton University Plasma Physics Laboratory have broken through the scientific barriers to achieving temperatures required for continuous thermonuclear fusion reactions. This result, originally scheduled to be officially unveiled in Washington on Aug. 15 and later this month in Innsbruck, Austria, eliminates the final scientific hurdle to the production of a pollution-free and virtually unlimited supply of electrical power. The news has been followed by a groundswell from Congress, key U.S. press, and other layers demanding a crash "Manhattan Project" style acceleration of American fusion energy research (see ENERGY).

In July — Gottlieb began his presentation — the Princeton Large Torus (PLT) had attained sufficient conditions of hydrogen fuel impurity so that the main heating source, the Oak Ridge neutral beam apparatus, could be turned up in power. With the low impurity level reducing the radiative energy losses from the PLT's hydrogen plasma, 2 megawatts of the deuterium heating beam shot the plasma temperature up from the previous high of 26 million degrees Centigrade — and past the ignition temperature of 44 million degrees — to a record *60 million degrees*. As Gottlieb described this feat, "it took us seven years to go from several million degrees to 26 million in

December 1977, and then just six months to go another 35 million."

Even more important, no instabilities or excessive leakage from the plasma occurred in this high temperature "collisionless" regime, in agreement with the theoretically predicted behavior. With these results in hand, Gottlieb noted, there was little doubt that the larger Tokamak Fusion Test Reactor (TFTR), now under construction, would achieve better than energy-breakeven conditions when it begins operation in the early 1980's. Gottlieb further pointed out that although there are about 100 tokomaks worldwide, the Princeton success is a unique U.S. result.

"The question of whether fusion is feasible from a scientific point of view has now been answered," said Dr. Steven Dean, head of magnetic confinement systems at the DOE. "It is the first time we've produced the actual conditions of a fusion reactor in a scale-model device."

Schlesinger knew of the Princeton results and their extraordinary significance as early as July 31. On that day Assistant Secretary of Energy for Technology Robert Thorne notified Schlesinger that the Princeton results were a unique achievement for the U.S. and unmatched by any other nation; that they were the most important results in the history of the U.S. program, and that a press conference would be held at DOE headquarters in Washington on Aug. 15.

Almost immediately, Schlesinger press secretary James Bishop went to work to prevent a devastating blow to the Schlesinger no-energy bill. By the evening of Aug. 11, Bishop was telling callers that the press conference was off. Thorne angrily replied that it was on. A blitz of telephone calls to the press by the Fusion Energy Foundation and active work by Dean clinched the affair and by the weekend before the press conference the story was appearing in banner headlines across the country.