

## Editorial

### *Why is America grounded?*

It took two-and-a-half years after the United States entered World War II to reach D-day. During that time, the United States amassed the logistical capability to support a 1.9-million-man invasion of the European continent, and there is good reason to suppose that the task could have been accomplished a year earlier. It is now assured that more than two years will elapse before the United States will relaunch the Space Shuttle.

As 1987 came to its end, news media throughout the United States recorded the story of the latest series of disasters to the U.S. space program. Contrasting with the news that new problems had been found in the redesigned Shuttle booster—the apparent failure of an inner seal in the nozzle of the rocket—and an explosive fire in the Morton Thiokol works where the first stage of the MX missile is produced, was the return of Soviet astronaut Yuri Romanenko after a record 326 days in space.

It is still not clear what the effects will be of delaying the Shuttle and MX production. (Indeed, the failure of the Shuttle booster may be more apparent than real, since special procedures are used to douse flames during a test, creating stress conditions that do not occur in actual flight.)

In themselves, neither accident could be considered a disaster, yet, the string of setbacks and accidents to the U.S. program of which they are part, is nothing less than disaster.

Last year, NASA and the Air Force found Thiokol safety and engineering practices to be below standard. Northrup has been criticized for failure to test certain electronic components of the cruise missile. We are also seeing a mounting list of disasters and near disasters in our civilian air travel, the latest a passenger jet splitting in half after a hard landing.

This is the cumulative result of years of economic recession, eroding the industrial base of the United States. This has been coupled with consistent congressional underfunding of the defense budget and space program. Whatever the faults of the management at U.S. aerospace firms, they have been given no alter-

native but to cut corners wherever and whenever possible.

Concerning parallel erosion of the civilian transportation infrastructure, the key is the aging of planes in service, rather than problems in manufacture, but the end result is the same.

Failure to provide for a margin of error means that every problem is magnified. The essence of a healthy economy is built-in redundancy. What appears to the ignorant as a squandering of resources is as essential to maintaining a flow of production as spare parts are to maintaining machinery.

A crash program is only an intensification of the methods of successful industrial production. New technologies are deliberately developed in parallel, rather than waiting for each step of the process to be proven before beginning the next. What appears as waste—when errors emerge and processes are scrapped—is more than made up by the rapid increase in productivity that spins off from the cascade of new technologies developed.

The Apollo program succeeded because President Kennedy insisted that it be conducted as a crash program or not at all. In his 1961 speech to Congress proposing that an American land on the Moon within the decade, he said: "Let it be clear that I am asking the Congress and the country to accept a firm commitment to a new course of action—a course which will last for many years and carry very great costs. . . . If we are to go only half way, or reduce our sights in the face of difficulty, in my judgment it would be better not to go at all."

Recently, the budget line for the space station was cut from the original NASA request of \$1.2 billion, to \$767 million, and then to \$425 million. And this, after last year's reduction of its projected size by half, from four to two modules. It is foolish to suppose that such cuts can be absorbed by merely slowing the time of launch. They are a built-in recipe for disaster. Not only is it foolish, but in the face of the Soviet challenge, is it anything short of treason?