one of the panels. At this point, the only impediment to entry was a small rivet which, in our opinion, could have been forced manually". Moreover, within 30 seconds, the investigators cut a 19-inch section of the panel with tin cutters.

● The door to the building could be opened easily because the lock had been broken, and it could be opened without activating the alarm.

● A second storage area could easily be entered through a vent in one of the walls. "With little effort", the GAO report states, "the louvres could be pulled out by hand and the inside screen could be manually forced, providing access to the building interior".

● Once inside the building, an intruder would have little difficulty in obtaining special nuclear material because it was stored in portable containers, which were "readily accessible". Moreover, plant personnel rarely entered the storage areas in the evening and night shifts, and the guards made regular rounds which could easily be monitored.

● Finally, all external means of communication at the plant were handled by a single cable, which entered the facility at a point which the guard could not see from his post. "Severing this cable would eliminate all means of timely communication with outside law enforcement agencies", the report notes.

The AEC says that it has taken steps to remedy the specific deficiencies outlined in the GAO report and earlier this year it issued a set of new regulations to tighten security at plants containing special nuclear materials. Nevertheless, the report does little to establish public confidence in the AEC's ability to keep an eye on its contractors and licensees, and it neatly underlines one of the arguments that critics of nuclear power have been persistently raising in the past few years.

It is frequently argued that proliferation of nuclear power plants will lead to an increase in the quantities of enriched uranium and plutonium in the United States, which will greatly increase the problems of ensuring that none of the material gets diverted into dangerous hands. At present, there are some ninety-five facilities in the United States which have at least 5 kg of weapons-grade nuclear material but by 1980 the AEC estimates that more than 1 million kg of special nuclear material will be required for the domestic power industry. Moreover, when the fast breeder reactor starts producing electricity in the 1980s, it will also start producing large quantities of plutonium. The extra precautions taken during the Middle East war will clearly be required on a longer term basis.

Short Notes

Crisis Under Control

STOPPING over in a power-reduced London on his way from a power-reduced Washington to a presumably warm Moscow, Dr Guyford Stever, director of the National Science Foundation and Science Adviser to President Nixon, paused long enough to tell a group of shivering journalists at the United States Embassy (where they take these things patriotically and the conference room central heating was down 20 degrees from the previous week) that the United States is going to more than double its expenditure on energy research over the next five years. A few years ago, Dr Stever said, about $400 million was spent each year on energy research. This year it was between $700 and $800 million. Next year it would be $1,000 million and over the next five years $10,000 million.

Nonetheless, Dr Stever said, there will be a serious energy shortage in the United States for the next five years. The solution, he believes, lies in exploring coal liquefaction and gasification and in energy conservation. Fusion, he said, might be with us by the year 2000, although the enormous capital investment involved might make its progress slower than some people believe. Solar energy might also be making a contribution by then.

At any rate, the United States is determined as soon as possible to become completely independent of any other country for its energy. The Arabs, Dr Stever added, had precipitated the energy crisis in the United States but it was a problem that was coming anyway.

As for nuclear reactor safety, proper engineering and design can "easily handle" the problems. There is always a small danger, he said, but then no member of the public has ever been killed or seriously injured by an atomic accident in the United States.

Critical Difference

A ROW is brewing in the United States over just how severe the energy crisis is likely to be this winter. According to President Nixon and other Administration spokesmen, supplies of oil will be between 10 and 17% short of demand when averaged out across the country and the crisis, although severe, will not result in undue hardship. But according to a study carried out by the Library of Congress and published last week in the *Congressional Record*, the shortfall could reach a staggering 35% if the weather turns out to be unduly cold and if there is no relaxation of the Arab oil embargo. Moreover, even if the winter is relatively mild and Middle East oil starts flowing again soon, the Library of Congress reckons that the gap between supply and demand will still be 20%.

The chief difference between the forecasts is that the Administration's sanguine predictions would probably not require rationing of petrol and heating oil, whereas the more pessimistic predictions of the Library of Congress almost certainly would. The disagreement is not, however, restricted to a battle of words between members of Congress and the Administration, for some of the President's own advisers are unhappy about the effects on public opinion if the Administration's reassurances turn out to be without foundation.

Australian Research

THE annual report of the Commonwealth Scientific and Industrial Research Organisation (CSIRO) of Australia for the year ending June 30, 1973, reveals that the total expenditure of the organisation increased by $A6.17 million to $A73.7 million during the year.

The report states that CSIRO is at present undergoing a significant reorientation. In the past it has been "industry oriented" but it is now striving to become "people oriented". To achieve this aim the organisation is, for example, changing the tone of its environmental research so that its relevance to industry is "more tenuous".

With this change of emphasis the report states that there is a need for a more effective communication "with the community as a whole". The organisation is taking steps to meet these needs but gives no details of the procedures involved.

Nixon's Economy

SOON after exhorting all Americans to conserve energy to help stave off a potential crisis this winter, President Nixon boarded his presidential airliner for a weekend trip to Florida. According to the White House, the return journey used up 8,000 gallons of fuel. According to the *Washington Post*, which is not one of Mr Nixon's most ardent admirers, that amount of fuel would have allowed one commuter to travel from the outskirts of Washington to his office and back every day for 11 years. Mr Nixon did, however, order the pilot of his aircraft to slow down to 475 miles an hour, thus saving 200 gallons of fuel an hour.

Mars for 10p

A 'street astronomer' has been spotted in London's Shaftesbury Avenue. Armed with a 75-mm telescope and sky maps, he offers passers-by a view of Mars for 10p (*Junior Astronomical Society Circular*, No. 57; November 1973).