

US nuclear power

Silver lining shows for industry as demand grows

Washington

ALTHOUGH 1984 is not the best of years for the US nuclear power industry, industry spokesmen maintain that neither is it the worst, and point to several hopeful omens.

The most recent and tangible success was the decision on 2 August by the Nuclear Regulatory Commission (NRC) to approve a licence application from the Pacific Gas and Electric Company to carry out full-power testing of its Diablo Canyon-1 plant in California. The utility discovered in September 1981 that modifications to the original design made necessary by the discovery of a nearby geological fault had been carried out incorrectly, apparently because the wrong plans had been used. Now, with the errors corrected, Pacific Gas hopes to be supplying electricity to consumers as early as October if tests go according to plan.

The industry has also taken heart from the recent decision to resume construction at the Seabrook plant in New Hampshire. With the plant 85 per cent completed, construction had been halted, because of escalating costs. According to the Atomic Industrial Forum (AIF), the will to put together a financial rescue package was mustered after it became clear that without Seabrook, New Hampshire's electricity would have to be supplied by a nuclear plant over the border in Canada.

Another encouraging sign for the industry is the sudden rise in electricity demand. After years of little or no growth, demand in the United States jumped by 8 per cent according to the latest annual figures. AIF predicts that existing excess generating capacity will be quickly depleted if this growth continues.

The immediate picture still has its bleak spots, however. So far this year, 13 construction projects have been delayed and four have been cancelled; five operating licences have been issued and three reactors have started commercial operations. And still no new orders have been placed for nuclear plants since 1978.

The spectacular cost overruns that have attended the recent cancellations have not helped. The most recent casualties, the Midland 1 and 2 plants in Michigan, were cancelled last month after \$4,000 million had been spent. The plants' owner, the Consumer Power Company, says the decision to cancel was taken after the breakdown of negotiations with consumer groups over how rising costs could be met. The company had offered to absorb \$1,000 million dollars of the cost and the two sides were not very far apart when it became clear that Wall Street would not bail out the project. The company has applied for com-

penation for the construction costs, saying that the plant will be left in a state that would make it possible for a future owner to complete the construction work, and is now trying to avoid bankruptcy. And in New York, a similar fate may await the Long Island Lighting Company, due to technical problems and delays at its Shoreham plant and the unwillingness of the local authorities to cooperate in emergency planning.

Financial woes are casting a cloud even over the industry's recent success stories. The financial consequences of the earlier blunder at Diablo Canyon are still hanging over the utility; it will be up to the California Public Utilities Commission to decide how much of the \$5,100 million construction costs can be passed on to consumers.

On a different front, the industry may benefit from the expected publication this year of new, lower "source terms" for nuclear plants by the Nuclear Regulatory Commission. The commission believes

that the present source terms, which define the likely release of radioisotopes into the environment during an accident, are unnecessarily cautious.

One immediate consequence of lowered source terms would be that emergency planning requirements could be relaxed. But any such proposal would be certain to meet stiff opposition: the Union of Concerned Scientists (UCS) has already declared its belief that source terms used at present are too low, rather than too high.

Another possible effect of revised source terms envisaged by UCS would be to alter assessment of the maximum liability of a plant operator in the event of an accident. The liabilities of nuclear operators are at present covered by the Price-Anderson insurance plan, which puts a ceiling on liability and includes provisions for costs to be shared out between nuclear operators in the event of a serious accident. Price-Anderson expires in 1987 and in the next Congress discussions will start in earnest over how the scheme should be renewed. One set of proposals already aired by the Nuclear Regulatory Commission would have the effect of substantially increasing operator liability, a suggestion the industry is rather cool about. But UCS believes that new source terms would be used to argue for a lower operator liability, rather than a higher one.

Tim Beardsley

Biotechnology centres

Spanish self-consolation

Barcelona

THE Spanish Government is to set up a National Centre for Genetic Engineering and Biotechnology in Madrid.

The idea arose last year before the Madrid meeting of the committee of the United Nations Industrial Development Organization (UNIDO) on the foundation and location of an international biotechnology centre. Officials from different ministries agreed to contribute funds from their respective budgets to support Spain's candidacy, but when the UNIDO committee decided to split the international centre between India and Italy, the commitment of the Spanish authorities to create a biotechnology centre in Madrid persisted.

A committee including government officials, industrialists and scientists has been at work for the past year, and a planning document has been approved and released. The committee has also approved the creation of a Centre for Microelectronics, to be split between Barcelona and Madrid.

The National Centre for Genetic Engineering and Biotechnology will have a staff of 220-260, including about 40 scientists. The initial group of scientists will come from laboratories already working in related areas, mainly in institutes of the Consejo Superior de Investigaciones Científicas (CSIC, the Spanish science

research council). Because of the lack of experience in some of the fields covered, other scientists will be recruited from elsewhere. It is likely that this and related projects will absorb many of the new positions to be created in CSIC.

The new centre will be housed in a 10,000m² building on the campus of the Autonomous University of Madrid, not far from the Centre for Molecular Biology, one of the leading Spanish research centres. The lines of research to be followed at the new centre will include molecular genetics, immunology, plant molecular biology, biochemical engineering and industrial microbiology. The total cost of the project is estimated at about 3,000 million pesetas (US\$20 million) over the next three years.

The creation of the biotechnology centre is one outcome of the government's plan to concentrate research spending on a few priority fields. The new centre will absorb more than 70 per cent of the money allocated to the government's outline plan for the development of biotechnology. At the same time, the funds available to other projects have been either maintained at previous levels or reduced. For example, the funds available this year for molecular and cellular biology and biochemistry from the main funding agency represent about a third of those awarded to the new centre.

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