

Nuclear power

Renewed urgency in Poland

LAST month Poland embarked on a plan to develop nuclear power stations — for the third time. An agreement signed on 27 July between the State Nuclear Physics Agency and the Association of Polish Electrical Engineers inaugurated a programme for the construction of nuclear power stations. Commenting on the agreement, Mieczyslaw Sowinski, chairman of the agency, remarked that the nuclear power industry in Poland was in a “highly unsatisfactory state”. This was something of an understatement — during the latter half of the 1970s the industry did not exist at all. The Atomic Energy Bureau was abolished in 1976 under Party Leader Edward Gierek, a former coal miner, and Poland’s energy programme was based firmly on coal and lignite.

Even at the height of the Gierek era, however, a lobby in favour of nuclear power persisted. An agreement with the Soviet Union, for the construction of a nuclear power station at Zarnowiec, north of Gdansk, was signed in 1974. It was initially hoped that the first 440 MW VVER light-water reactor would be operational by 1984 but plans fell more and more behind schedule. By 1977, when the Soviet Minister of Electrical Power Development, Petr Neporozhnyi, visited Poland, there was talk of a nuclear generating capacity by the year 2000 that would equal Poland’s total existing capacity. More immediately, plans were put forward for a second nuclear power station at Ciechocinek, in the Kujawy district, which would be sited on an artificial lake, to be created on the lower Vistula as part of a grandiose civil engineering scheme.

Meanwhile, theoretical work on nuclear energy went forward, and Poland began manufacturing nuclear power equipment for other Comecon countries. At the Zeran branch of the Nuclear Research Institute (transferred to the energy ministry when the Atomic Energy Bureau was dissolved) a team headed by Dr Zbigniew Jaworowski, found good reason for supporting nuclear power. They collected a considerable body of data showing that the radioactive fallout from conventional coal-fired power stations was greater than the estimated leakage from nuclear plants, and in September 1980, Dr Jaworowski was appointed head of a UNESCO commission on fallout problems.

The labour disturbances of 1980 caused some rethinking on coal. And nuclear power began to look more attractive when the search for oil beneath the Baltic Sea proved unproductive. In January 1981, it was announced that construction work at Zarnowiec would restart “by the end of the year”, but more than a year later, when a major fire broke out at the site (the damage was estimated at between 4 and 5 million zloty), all that had been consumed in the

blaze was the workers’ barracks — nothing else had yet been constructed.

By this time, however, the need for nuclear power was officially considered “urgent”. A temporary government plenipotentiary for nuclear power, Professor Jerzy Minczewski, said in November 1981 that for the next four decades, nuclear power

would be the only way of bridging Poland’s “increasingly evident” energy gap.

Present plans, according to Mr Sowinski, envisage a nuclear generating capacity of 8,000 to 10,000 MW by the year 2000. Construction of the Zarnowiec station has at last begun, and two 440 MW reactors are due to go into operation there in the late 1980s. At the same time, design work for the Kujawy station, which will have four 1,000 MW sets, is being given priority.

Vera Rich

Biotechnology index

Stocks sliding down

Washington

IN the face of the continuing slide of high technology stocks on Wall Street, Novo Industri was one of the few biotechnology stocks to buck the trend last month. A very favourable earnings report sent the stock up four points in a single day; more good news came with the approval on 30 August by the Food and Drug Administration of the human insulin originally developed by Novo Industri and produced in the United States in partnership with Squibb.

This product is made not by genetic engineering but by chemically altering pig insulin to produce a substance chemically identical to human insulin. The product will compete directly with Eli Lilly’s genetically-engineered human insulin, which was introduced in the United States last month.

Lilly, however, has had a disappointing time with its human insulin; the *Wall Street Journal* last week said the product was off to “an excruciatingly slow start”. Lilly, which has long dominated the insulin

market with its animal insulin, says that it expects the human insulin to serve the 5 per cent or so of diabetics who are allergic to the animal product.

California Biotechnology, the genetic engineering company founded by E.F. Hutton, Inc., Professor Brian McCarthy (University of California, Irvine) and Professor John Baxter (University of California, San Francisco), announced last week that it will offer 1,600,000 shares of common stock in early October. The initial public offering price is expected to be \$12-14 per share.

The company currently manages a \$27.5 million research and development partnership for which it conducts research. It plans to develop products for human therapeutic use (specifically products for hypertension, immunosuppression and atherosclerosis) and for human diagnosis and animal therapeutic use. The sale of stock will result in a 30 per cent public ownership of the company, which was founded early in 1982.

Stephen Budiansky

Nature index of biotechnology stocks

12-Month high	12-Month low	Company	Close previous month	Close 26 August	Change
60¼	27½	Pharmacia (Sweden)*	58½	58	-½
23¼	14½	Biogen (Switzerland)	16¼	14½	-1¾
6¼	3	Bio-Logicals (Canada)	4¾	3¼	-1½
16½	7¼	Bio-Response (USA)	13½	14	+½
19	11½	Cetus (USA)	15¼	13¾	-1½
15½	8¾	Collaborative Research (USA)	11½	10½	-1
39¾	15	Damon (USA)	28¼	22½	-5¾
34¼	16¾	Enzo-Biochem (USA)	28½	25	-3½
18¾	10¾	Flow General (USA)	12¼	11¾	-½
49¾	26½	Genentech (USA)	45¼	43½	-1¾
17¾	8¾	Genetic Systems (USA)	12¼	12¾	+¾
23¼	12¾	Genex (USA)	18½	19½	+1
31	21¼	Hybritech (USA)	26½	22¾	-3¾
23¼	14¾	Molecular Genetics (USA)	19	15¾	-3¼
22¼	13¾	Monoclonal Antibodies (USA)	15½	15½	0
65½	42	Novo Industri A/S (Denmark)	57¾	61	+3¾

Closing prices are for the last Friday of the month. For over-the-counter stocks, bid price is quoted; for stocks on the American and New York exchanges, the transaction price. *Nature’s* weighted index of biotechnology stocks stood at 232 on 26 August, compared with 238 a month earlier. Data from E.F. Hutton, Inc.

*Pharmacia (formerly A B Fortia) underwent a 5 for 3 stock split last month; prices have been adjusted to reflect this.