

WEST GERMANY

By any objective standards the West German nuclear industry should be at a take-off point for both domestic and foreign orders. The West German industry, which is concentrated in the Kraftwerk Union (KWU) includes the world's first operating 1300 MWe (mega watt electric) reactor unit, the Biblis "B" and a year's successful operation of the 1200 MWe Biblis "A" PWR. The German nuclear industry is, according to all professional estimates, among the most exacting in safety terms in the world.

KWU, which is now wholly owned by Siemens after AEG Telefunken sold its interest last month, has just signed a major deal to supply eight reactors to Brazil in a deal that initially will mean 12 Billion D-Marks for KWU and estimated some \$5 billion to the German economy over the next two years. Importantly, the size of the deal, which has provoked hostile political pressure from the U.S., will allow the minimum economically feasible

operation of the industry including a fuel cycle unit. Other KWU contracts are held with Iran, Argentina, Spain and Switzerland.

KWU in addition to participation in several other groupings, owns Interatom which has major responsibility for advanced reactors, including fast-sodium-cooled breeder at Bensberg.

Development of the West German nuclear program, despite the excellent safety requirements, has been somewhat slowed due to the mobilization of various "environmentalist" groups such as the "Citizens' Initiative" group, whose protest has been against the concentration of nuclear stations in areas especially the Rhine which already have high industrial density. These arguments are being answered by such efforts as ongoing experiments using thermal "waste" of reactors to heat soil making it "super-productive," as well as by demonstrations by trade-unions in support of continued fission plant construction.

Scientists, Governments Press France to End Fusion Blockade

Political and economic pressure has increased in Europe against widely acknowledged attempts by the French government of Giscard d'Estaing to stall development of the European Common Market (EEC) thermonuclear fusion research project, the so-called Joint European Torus or JET. Late last month the French government effectively blocked a decision on the location for the JET fusion reactor, causing widespread speculation that the project was effectively dead.

Il Fiorino, the Italian financial daily reports in its Jan. 5 issue that the West German government is pressuring France to stop its sabotage of the \$200 million JET project by offering, among other things, to locate a major radiotelescope project in France in return for agreeing to EEC majority decision as to the location of the JET.

A top U.S. fusion scientist told this press service that general sentiment in the European scientific community is to locate the JET at the already substantial Culham research Laboratory in Abingdon, England. The Culham facility, which has since 1973 been the location for the international JET planning group, has six different magnetic confinement systems, the only facility in the world with such an array in one location. Furthermore, it is near adequate large power supplies, necessary for construction of the large JET.

The U.S. source confirmed that there was firm agreement among West German, as well as French scientists to locate the JET at Culham and that it was "bureaucrats" of the French Atomic Energy Agency, recent Giscard appointees, who opposed the Culham location. Physicists generally agree that there are only three possible locations for the JET project: the Culham site, Garsching, near Munich in West Germany, and the

Ispra research facility in Italy near Milan. Further, the Culham location of the three is the only one which would not endanger the continuance of important alternative lines of research such as the current hi-beta magnetic confinement research ongoing at Garsching.

'Fusion Europe's Last Chance'

Der Spiegel: Jan. 3, "Last Chance for Europe" — Excerpts from an interview with fusion planning director Prof. Donato Palumbo:

Spiegel: Professor Palumbo, when in your estimate will the first fusion reactor produce current in Europe, and how much?

Palumbo: It could satisfy a considerable portion of Europe's energy needs. Most experts believe that it will get that far in 30 years. I am more optimistic: if fusion is possible at all, it can be done sooner than that.

S: Now the construction of the experimental fusion installation, "JET," is threatened with failure. Has the project gone down the drain with the French insistence upon a French location for the JET?

P: No. The conflict around JET is rather an "accident du parcours" — an accident in the course of a political hurdle race....

S: Wouldn't the team rather settle in Ispra (Italy) anyway?

P: Ispra has very definite advantages. It is already one of the community's research centers, and also the current supply is enough for the requirements. Other centers, such as Garsching and also Culham, have the experience in the area of plasma physics. But such

differences do not justify the years-long delays we have experienced with JET.

S: In 1973, 53 top physicists were working on the project. At last count only 42 were left. Where have the others gone in the meantime?

P: To their national research centers. Some will certainly go to other countries. Last week six more left the team...

S: Are the Europeans still leaders in fusion research?

P: In an official comparison in July, 1975 between Europe, Japan, the USA and the Soviet Union, we were

one year ahead. Now on a second comparison, made a few weeks ago by Princeton University, our lead was only a few months. The possibility of keeping the lead is very slim.

S: Will the Europeans have to order their fusion reactor from the USA one day?

P: No region in the world must have as much interest in fusion as we have in Europe. Now already, the EEC countries must spend hundreds of millions of dollars for imported crude oil and uranium. Fusion is therefore not just one, but our last chance.