spite their differences of policy, the treaty powers are united in wanting to solve the resources problem within the framework of the treaty. As one delegate put it, "If we can't resolve the dispute internally, then Antarctica will fall into the hands of the UN," a result which none of the 13 relish. When the Food and Agricultural Organization committee on fisheries attempted at a recent meeting to set up a subcommittee to examine the question of Antarctic fisheries, the proposal was defeated by the concerted action of the Antarctic Treaty powers. "The only common link in the system" the same delegate remarked, "is that all the treaty powers are afraid of the outside world." Hence the pressure at the London meeting to achieve some formula which would maintain the cohesion of the treaty while also bringing Antarctica's resources under control. The claimant countries (Argentina, Australia, Britain, Chile, France, Norway, and New Zealand) named Australia to represent their interests, while the nonclaimants were represented by Japan. Up to the final day an agreement seemed unlikely; but then Japan, on behalf of the nonclaimants, accepted a formula that would extend the principles of Article 4 of the treaty (the article which freezes all territorial claims) to the new accords governing fishing and mineral exploration.

With respect to mineral exploration, all 13 nations agree that exploration and exploitation of Antarctica's oil is at least 10 and probably 15 years away. Therefore, it cost them little to declare a moratorium on oil development while the environmental implications are examined and while the basis of a mineral regime is worked out. The United States conceded the most in agreeing to the moratorium because it has traditionally taken the view that mineral resources should be open to all—"free non-discriminatory access" in the legal jargon. The majority at the meeting opposed the U.S. view, and Australia and Argentina said they were unwilling even to discuss a mineral regime unless it preserved Article 4 of the treaty. Faced with this united front, the United States capitulated.

The way in which the moratorium was agreed was particularly interesting, according to one delegate. At the previous

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Breeder's Progress: When a Veto Is Not a Veto

Using for the first time the executive big stick that Gerald Ford once wielded with abandon, President Carter has vetoed funds for the experimental breeder reactor planned at Clinch River, Tennessee. The action is the latest round in a year-long battle between the White House and Congress over the future of the project, which Carter insists is technically outmoded and must be deferred indefinitely to make the American nonproliferation policy credible around the world. Few observers expect Congress to overturn the action, but in this case one veto will not be enough.

The legislation just rejected was the 1978 authorization bill for energy research and development, which included $80 million for the construction of the prototype breeder reactor. Usually, authorization is the decisive step that a project needs as it wends its way through the congressional funding maze, while appropriation is a second step contingent on the first. But the language of the breeder appropriation bill has been written so that the funds are not subject to authorization in this case. The crucial change was made when the chairman of the House Appropriations Committee, Representative Tom Bevill (D–Ala.), successfully passed an amendment to the $80 million supplemental breeder appropriation bill last week. (The Senate appropriation bill is expected to use the same language.) The move not only gave the breeder double protection, but also covered many southern and western water projects included in the same bill.

The White House has consistently maintained the importance of the breeder issue, requesting only $33 million to finish the blueprints and close out the project. But Congress—prodded mightily by the nuclear industry—wanted much more money. At one point, it was suggested that the Administration would veto any bill granting the Clinch River project more than $75 million, a suggestion many on Capitol Hill thought to be a bluff.

The veto materialized, but it has not ended the battle or the project. Carter may have to veto the appropriation bill, with many nonnuclear items, as well.

New Accelerators Making End Runs

As much of the scientific community shows increasing wonder at the lavish funding that high energy physics continues to receive, two accelerators seem to have squeezed through the tightest budgetary strictures.

Brookhaven National Laboratory on Long Island has been championing a $250 million accelerator for 3 years without getting approval from the Executive Branch, but it has done much better with Congress. Although the full budget has not been granted yet, both houses have voted an authorization of $10.5 million and appropriations of $5 million for the Brookhaven ISABELLE project in the fiscal 1978 budget. The Office of Management and Budget reportedly suggested that the funds be withheld until a decision was made on whether to authorize the complete project next year, and Congress asserted its will. On 2 November, the House passed an additional bill prohibiting any deferral of the $5 million amount, which is intended for architectural engineering work on the project. The facility will consist of two rings stacked on top of each other and configured so that the countercirculating beams will collide in eight locations. Each beam will have an energy of 400 gigaelectron volts (Gev). The legislative effort on behalf of ISABELLE has been spearheaded by Representative Jerome Ambro (D–N.Y.).

The other accelerator that is moving rapidly toward full approval is the intended upgrading of the Fermi National Accelerator Laboratory's main ring with a new set of magnets so that the facility will be able to produce a single beam of 1000-Gev particles, doubling the present capabilities. The Fermilab project has been supported on the laboratory's research and development funds for 3 years in increasing amounts ($7.5 million in fiscal 1977 and $11 million in fiscal 1978) which do not get the same scrutiny as new construction proposals. The laboratory hopes to build one-sixth of the new accelerator ring with these funds, and then to receive $39 million in funds explicitly earmarked for construction in the following year to complete the job.

meeting of the treaty powers, in Oslo 2 years ago, six countries had favored the moratorium: Argentina, Chile, Australia, Japan, the U.S.S.R., and New Zealand. This time, only four countries were clearly in favor: Australia, Chile, the U.S.S.R., and to some extent Poland. Yet in spite of the apparent weakening of support for the moratorium, the final result came much closer to a moratorium than to the voluntary restraints originally favored by the United States. One reason for this is the very long timescale envisaged for exploitation—the expert group who advised the treaty nations suggested a timescale of about 15 years—and the second is the shift in the position of the U.S. Administration toward a more conservationist approach since President Carter has taken office.

The next step in the drafting of the mineral regime will be a meeting of ecological and technical experts to examine the problems of exploiting the resource without damaging the environment, followed by a legal and political meeting to start drafting the mineral regime itself.

Fishing presented a more immediate problem, and a more difficult one to solve. The Soviet Union and Japan, the two nations already fishing in the Antarctic, favored a fishing regime which treats each species individually, while the Latin American countries argued in favor of a regime treating the ecosystem as a whole. The Latins argued that the role of the krill as food for larger species should not be neglected, and that any agreement based on krill fishing alone would be inadequate. (The word krill is an old Norwegian whaling term meaning "whalefood.") An accord based on stocks of krill alone would almost certainly produce higher fishing quotas than one based on the entire ecosystem, which is why the major fishing countries favored it. In the end, however, it was the Latin American view that prevailed, and the communique issued after the meeting declares that any possible utilization of Antarctic marine living resources should be conducted "with proper regard to the Antarctic marine ecosystem as a whole."

While the details of a regime to control fishing are being negotiated, the treaty countries ask for adherence to interim

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The Fermilab project is called the Energy Doubler/Saver because the new superconducting magnets are expected to use only half the electrical power required by the present accelerator. The Brookhaven accelerator will also use superconducting magnets. By their distinctly different feats of budgetary legerdemain, both new accelerators appear to be under way.

EPA Rules Out Human Cancer Tests

Explicitly reacting to a minor scandal that was revealed last summer tying two senior administrators of the agency to a plan for testing animal carcinogens on human patients in a Mexican hospital, the Environmental Protection Agency issued new guidelines last week protecting human subjects in a wide variety of tests.

No patients were ever given animal carcinogens under EPA auspices, but in April 1975 the head of the Metabolic Effects Division, Lamar Dale, and the chief of the Evaluation Division, Leonard Axelrod, both approved a plan to test the effects of a group of fungicides, EBDC's, on humans. The tests were to have been made at the Gineco Obstretricia Hospital in Mexico City. Only a quirk in the project led to higher review. Because it was planned to allocate the test funds to the hospital on a sole-source contract, the project plan was sent to the EPA general counsel's office, where it was judged "absolutely shocking." After being alerted by the general counsel's office, the deputy assistant administrator for pesticide programs, Edwin L. Johnson, turned down the proposal.

When the planned project was revealed last summer, the present EPA administrator, Douglas Costle, said that the EBDC proposal showed serious errors of judgment and that he personally found it "unethical and repugnant."

The new EPA guidelines not only bar agency support for any "research to test whether a substance is a carcinogen by testing it on a human subject," but also require that such tests as the effects of noise on human behavior be subjected to increased agency review. The new policy was issued by deputy administrator Barbara Blum.

JET Arrives in England at Subsonic Speed

It took 2½ years to settle on a landing spot, but the European research community finally decided on a site in England, not far from Berkshire downs, as the location for its long-planned fusion research facility, JET (Joint European Torus). After what seemed to be countless meetings, the research ministers of the nine Common Market countries finally agreed on 25 October to put the $220-million project at Culham Laboratory, about one hour away from London.

The decision apparently gives a go-ahead for the project, which some observers thought was in jeopardy during the long debate over location. Funds will not be officially granted, however, until a 16 member governing council is set up, a bureaucratic roadblock that will delay the project at least six more months, according to one member of the international design team that has been waiting out the long political battle. Nevertheless, the team, which has shrunk from 60 to 35 members, is "quite optimistic" and "some of our members are even eager to return," he says.

With its considerable prestige value and future economic impact, proprietorship over the JET project was a matter of hard political bargaining from the beginning. Italy, which has an underutilized Common Market research center to offer, dropped out first, leaving the three countries with prominent national fusion programs—France, West Germany, and England—to contend. France demurred next, and finally in October West Germany allowed the matter to come to a vote and lost. The final selection, Culham Laboratory, is the center of the British fusion effort and is regarded by many as having the strongest fusion team in Europe.

Before the siting brouhaha began, JET was considered to have a slight edge over similar projects in the United States and the Soviet Union. Now it appears to be clearly trailing the U.S. project, the Tokamak Fusion Test Reactor, for which ground was broken in Princeton, New Jersey, 2 weeks ago.

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