India is one of the few developing countries to have fully mastered the technology indigenously. But perhaps the most compelling reason for pushing nuclear much harder is the cost of such heavy dependence on coal as is presently envisioned.

Coal versus nuclear

India's coal supply has an inordinately high ash content, making it a relatively inefficient energy source from the beginning—quite apart from the highly polluting quality of coal burning, made worse by its low quality. Moreover, the coal supply is concentrated in the eastern part of the country. Coal for power requires bulk mining, washing, and transportation, as far as 600-700 miles from the pithead in certain cases. It also requires highly efficient upstream capabilities of infrastructure and disciplined manpower. It will also require "dedicated" railroads to transport coal from the pithead to the power plant.

In reality, neither India's coal mining operations nor the railroads are efficient enough to handle such bulk material on a daily basis. Over the years, India's railroads have deteriorated, and very few new lines have been installed since 1970 (less than 3% of existing capacity, in fact). India's passenger traffic on the major routes is too heavy, as the network has not been extended enough to serve as more than a main artery.

Unless the railroad network is extended and the quality of wagon movement upgraded significantly, the massive movement of coal to service the power program will simply jam up the entire rail system. Under present circumstances, for instance, long stretches of railroad remain submerged and unusable for weeks when flood-waters from the tributaries of the Ganges, Brahmaputra, and some other rivers overflow following heavy monsoon rains. This particular situation is deteriorating every year, as very little attention has been paid to the rivers and mountains of the country.

To reduce dependence on coal-fired power plants, with the enormous costs indicated above, India would do better to put a greater emphasis on building nuclear power plants. Nuclear plants can be installed where extensive rail networks cannot be established because of difficult terrain—for instance, in northeastern India. Even with the present difficulties and cost of installing nuclear plants, they have proven completely cost competitive with coal-fired plants that are not located at or very near the pithead.

A 1979 EIR study of India's economy found that the optimal energy development path would have to make nuclear power the priority for rapid expansion over the medium term, even while doubling thermal power capacity in the relative short term. The EIR study, a 20-year economic perspective, set a 230,000 MW target for generating capacity in the year 2000, 80% of it nuclear. That target represents the electrical power capacity that would be required to provide a standard of living for the entire population equivalent to present-day industrial economies.

Du Pont, ICI behind the 'ozone' scare?

by William Engdahl

Significant evidence points to the fact that the recent campaign to ban CFC compounds (chlorofluorocarbons) for allegedly being "ozone killers" is a carefully orchestrated and well-financed hoax designed to allow a tiny handful of chemical multinationals to cartelize and extend their control over the world chemicals trade into the next century. At stake is control over a market for CFCs and related products which could easily total \$120 billion per year in the next decade.

On May 2, representatives of some 80 nations meeting in Helsinki, Finland under auspices of the United Nations Environment Program, solemnly endorsed a call for a complete ban on CFCs by the year 2000, less than 11 years from now. While some member states of the U.N. group called for establishing a global fund to be administered by the U.N. ostensibly to "help Third World nations develop the technology necessary to produce alternatives to CFCs," Britain's "practical" Environment Minister Nicholas Ridley bluntly attacked the idea, saying he preferred "bilateral" aid instead.

What he did not say was that Imperial Chemical Industries (ICI) is advising the Thatcher government on its "antiozone" strategy.

The chemical 'cartel'

Today, 13 companies worldwide produce the bulk of an annual 1.14 million tons of CFCs, most for refrigeration, air conditioning, and use as solvents in sensitive electronics manufacture. Du Pont, which patents its CFC under the trademark Freon, is the world leader, making 25% of the total, U.S. Allied Chemical is number two, with Britain's ICI tied to a French maker, Atochem (Elf Aquitaine), with 10% each. These four companies control about 60% of world supply. Significantly, these same four leading producers are now spearheading the campaign to ban CFC use!

Is this an expression of genuine concern for the welfare of the environment, or for the imaginary threat from the naturally ocurring hole in the polar ozone cover? A spokesman for ICI admitted in a recent discussion that ICI is almost finished with a big new plant in Runcorn, Great Britain, which will produce ICI's "ozone friendly" HFC-134a alternative, beginning in 1991. A second plant to make the new chemical is under construction in the United States. ICI's Denys Henderson says the company has already spent hundreds of millions on the development of the "ozone friendly" chemical. "We are absolutely confident this is 'ozone

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benign," "he stated. But, he admitted, they are not so certain that it is safe for humans! Du Pont officials have confirmed that du Pont is constructing its own production plant for the same HFC-134a.

In fact, there is an "informal association" of the 13 multinational chemical companies in the United States, Western Europe, and Japan which are pooling research on this matter. No Third World companies—Taiwanese, Korean, Brazilian, or others—are included in this elite circle rushing to corner what is likely to be the most lucrative new market to come into the world chemicals industry in decades.

That major U.S. and British chemical companies collude to fix prices and divide global markets is not new. It has been standard practice since at least the First World War. Since sometime in the 1940s, according to informed London chemical industry analysts, du Pont has had an "informal arrangement" with ICI to cooperate on a variety of issues of mutual concern. Some people believe this cooperation is what lies behind the dramatic escalation of worldwide "ozone hole" scare campaigns and a series of recent meetings in Montreal, The Hague, London, and the latest in Helsinki to cut or eliminate world production of CFCs. If this succeeds, it will be a tragedy in more than one way.

'World's leading chemical company'

On April 28, ICI chairman Henderson told his shareholders, "Our aim is to become the world's leading chemical company." There are some hints as to how ICI plans to do this. Henderson was a key adviser to Prime Minister Thatcher before she chaired the recent London conference on "Saving the Ozone Layer." ICI has come out publicly demanding "complete elimination" of CFC use in the next decade. Du Pont and ICI, according to well-informed industry sources, have already secured patents on an "ozone friendly" and expensive "alternative" to the cheap and chemically inert CFC. One chemical industry analyst with a leading London stock brokerage told this news service, "There are billions of dollars at stake. ICI is positioning itself to corner an extremely lucrative market. This is a very rich prize they are after."

According to persons familiar with the development of the chemical industry in developing countries, the market grip of du Pont, ICI, and the tiny handful of elite companies in their "informal association," realized its domination of the world market was fundamentally threatened over the coming decade. Countries such as Brazil, Taiwan, South Korea, and certain OPEC countries are rapidly developing independent and nationally owned chemical industries which are becoming self-sufficient in producing CFCs and other basic chemicals. "For these large companies, elimination of a few percent in their market share can destroy their entire price structure. These Third World producers have become a serious threat to them on the margins, and that is critical," stressed one London industry analyst familiar with the internal corporate debate. "The ban on CFCs will be a big, big problem

for especially Third World countries," he stressed. "The big chemical multinationals want binding legal sanctions internationally to enforce the ban on CFCs. They have invested huge sums in development of alternatives and they aren't about to let Third World producers take this market away from them."

The greening of du Pont

According to sources inside the U.S. government in Washington, du Pont, the U.S.-Canadian conglomerate controlled by Edgar and Charles Bronfman of Seagram's, played a decisive role in shaping the 1987 Montreal Protocol of the United Nations Environment Program on drastic reduction of CFCs. A du Pont spokesman told this reporter in a recent interview, "We had input into the Montreal Protocol. In 1986, du Pont came out calling for strict controls on CFC use. By 1988, we declared that we would phase out all CFC production by the end of this century." Not surprisingly, this is the exact timetable that ICI has had and it is the exact program which has now been adopted by the Helsinki monitoring conference of the UNEP. Du Pont suggests that enforcement of the CFC ban, especially against Third World producers of the cheaper and simpler CFCs, will be a "nightmare," but indicates that there are already advanced plans to use the trade enforcement mechanisms of the General Agreement on Tariffs and Trade to maintain control of the huge new chemicals market.

According to ICI, their new "ozone friendly" HFC will cost a hefty price. And, ICI calculates it can charge some 500% more than it can get for its present CFC, Arcton. Present CFCs cost some 60¢ per pound, while the New Age variety "ozone friendly" HFC-134a will cost \$3 per pound. That is quite a tidy reason for some corporate giants to suddenly befriend the "environment."

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