

Science & Technology

Coal conversion: a disaster

In his July 1979 energy message to the nation, President Carter proposed a program to reduce electric utility consumption of oil by half by 1990. The nation's utilities currently burn about 3 million barrels of oil per day out of a total national consumption of 17 million per day.

Then on March 6, 1980, the President added another sweetener in his three-year crusade to cajole and threaten the utilities to convert to coal. He proposed that the federal government kick in \$10 billion over this decade to meet a reduced goal of cutting 1 million barrels of oil consumption per day by 1990.

Talk of utility conversion to coal began after the 1973 oil embargo when the Federal Energy Administration issued voluntary conversion orders to mainly the Northeast utilities. When *not one* utility had voluntarily converted to coal, these orders became mandatory. Since then they have been tied up in court.

In 1979, the utility industry, the National Coal Association and the boiler equipment manufacturers who would have to supply the conversion equipment, stated clearly that oil-to-coal conversion would not only waste billions of dollars that the utilities need to supply cheap, reliable power, but adversely affect the reliability of the electric grid system, actually *waste energy* in terms of BTUs of input for kilowatt hours produced, and would put an unreasonable strain on the transport system and the electric equipment manufacturers.

In any case, the utilities had their own, well-thought-out plan for phasing out oil-burning capacity—to build nuclear power plants.

The program would require approximately 72 million tons of coal to be transported in primarily the New England region. The Department of Energy itself has admitted this would strain railroad capacity and increase freight rates. Reportedly, the Environmental Protection Agency fought with the DOE for eight months on the environmental effects of burning the coal, particularly in the New York-New Jersey region. As a matter of record, it is *illegal* to burn coal in New York City.

The EPA has estimated that sulfur emissions in New



Coal miners in the deep-mine fields at Marissa, Illinois.

England could increase by as much as 25 percent with the enactment of this conversion program and that the phenomenon of acid rain would increase. The combination of sulfides in the air (from burning coal) and water in the atmosphere effects the acid balance of bodies of water when it rains leaving lakes and rivers in New York and Canada sterile.

Much more immediately disastrous for the utility industry and the population of New England will be the financial effect of such a program. A recent study, titled "Regional Conversion to Coal" by the Engineering Societies Commission on Energy, states simply that "because of its physical characteristics, simple conversion to coal of a utility steam boiler unit designed for oil or gas is not feasible. Boiler replacement or pre-boiler coal liquefaction or gasification would be required..."

In 1977, the American Boiler Manufacturers Association stated that "if the unit was not initially designed for future coal-firing...conversion of an industrial or utility boiler is virtually impossible and totally impracticable, both as relates to economic feasibility and boiler capacity, which can be reduced as much as 60 percent...This situation really means boiler replacement."

In 1977, the Edison Electric Institute estimated that the coal conversion plan would cost the electric utilities and their customers over \$50 billion. For the past decade, the Long Island Lighting Company in New York has planned to phase out their oil-burning power plants and replace them with nuclear capacity.

Now LILCO is under orders to convert 10 power plants to coal in the first phase of the DOE program. The utility estimates this will cost them \$3.2 billion—one third of all the money being offered in federal grants.

Though the cost of conversion can vary significantly depending upon whether the plant burned coal in the past, it is clear that over \$30 billion will be needed for phase one, alone.

That figure of \$30 billion is more than the entire utility industry will spend this year in capital expansion.