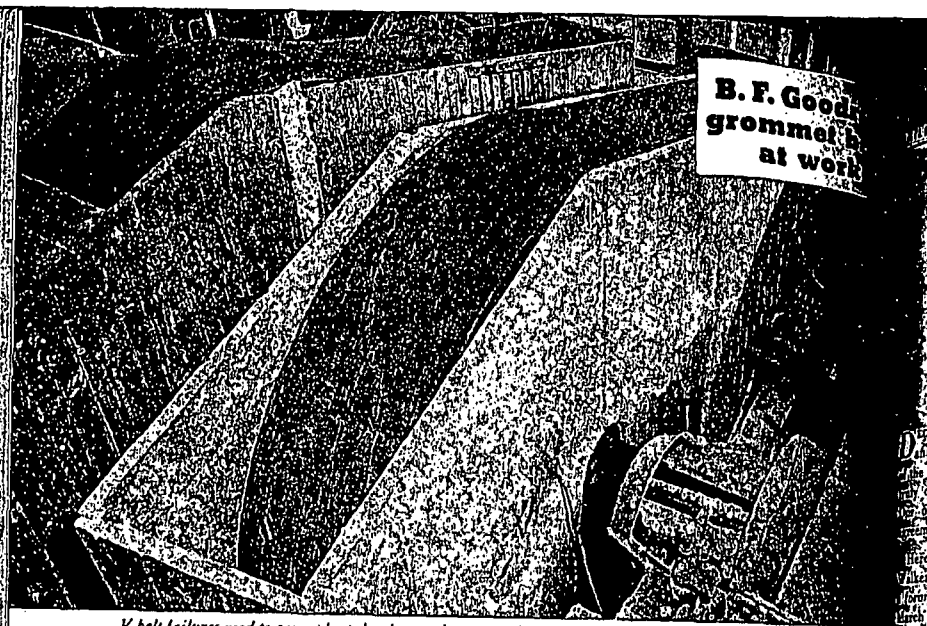

V belt failures used to cause plant shutdowns, slow up production at Westfield Paper Co., Russell, Mass.

Eliminate paper wait

Ordinary V belts on these drives lasted only a year. They couldn't take the 24-hour service, the heavy load running the pulp beaters. Covers would separate from the belt, flap around the drive, get caught in pulleys, finally tear off completely.

A BFG distributor heard of the trouble and recommended grommet V belts. It proved to be a perfect solution. Installed in 1941, both sets of grommet V belts have already outlasted other belts by *10 years*, and still look good for years' more service.

These typical examples (see preceding pages) tell you why B. F. Goodrich grommet belts are superior to ordinary V belts—prove they last 20 to 50% longer—yet cost no more

The B. F. Goodrich Company
Department PO
Akron, Ohio

☐ Please have a BFG distributor call on me to discuss grommet V belts.

☐ Send set of reports telling users' experiences and showing actual installations where grommet belts outlasted all others.

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Grommet V Belts BY
B.F.Goodrich
FIRST IN RUBBER

A Favorable Slant on Atomic Power

DECEMBER 1952 POWER presented a keen economic analysis of *atomic power by Philip Sporn, president* the American Gas and Electric Co. He concluded that commercial atomic power is many decades away. own editorial comment indicated our substantial

Here is the "other side," a summary of the paper Cisler, president of Detroit Edison, presented at rum on "The Industrial Uses of Atomic Energy" on March 25 at the American Power Conference in Chicago. thousand engineers gathered to hear Mr Cisler other leaders in the atomic field. We judge this to be most fruitful atomic forum yet held anywhere.

Many leading countries, Mr Cisler noted, have nearly exhausted their coal deposits and have developed their more economical hydro sites. Even in the United States, coal reserves are immense, rising coal costs direct attention to the cheaper and more plentiful atomic fuels. From 1930 to 1952, while Detroit Edison's average revenue per kilowatt-hour fell 19 percent, its coal cost more than doubled. Cost of all conventional fuels will keep rising, he predicted.

Assuming breeder plants that can completely consume uranium and thorium, the world's supply of fissionable materials (on a heat unit basis, and considering only recoverable deposits) is about 23 times the total supply of coal, petroleum and natural gas, Mr Cisler reported.

Also, because a single pound of uranium equals 1300 to 1500 tons of coal, costs of transporting the fissionable fuel to any part of the world will be negligible.

Mr Cisler indicated that a "nonregenerative reactor," which discards the U238 and uses only about half the U235 after a costly separation process, would make fuel costs too high (7 mills per kilowatt-hour) for ordinary commercial power plants, and would also be wasteful of natural resources.

A more practical possibility would be a "converter reactor" consuming about 1 percent of the natural uranium, with a fuel cost of about 1.3 mills, or less, per kilowatt-hour. With a true "fast breeder reactor," said Mr Cisler, fuel costs would drop to practically zero (0.013 mills per kilowatt-hour), assuming purified natural uranium at $35 per pound.

He analyzed atomic power from the angle of Detroit Edison's 625,000-kw St. Clair Station, now being built at an estimated cost of $158 per kilowatt. If the conventional boiler plant, costing $77 per kilowatt, were replaced by a nuclear-reactor steam generator, the extremely low cost of nuclear fuel would justify spending as much as $227 per kilowatt for steam-generating plant. To put this another way, a complete nuclear power plant costing $308 per kilowatt would break even with a coal-fired plant costing $158.

"At the present time," said Mr Cisler, "we do not know whether a breeder reactor can be *built within* the cost limits we have set. There are many technical problems to be solved, and it is impossible to make accurate cost estimates. It is our engineering judgment that this goal will be achieved.

"From the standpoint of reactor design, construction and operation, the economic possibilities look bright indeed, but we still are in the development stage. We believe that the cost of reactors for the generation of electric power can be brought within reason and that an important new segment of industry may result. We believe, too, that there may be many auxiliary effects which will contribute greatly to the economy of our country."

Mr Cisler reminded his hearers that the present atomic-energy law forbids private atomic power. "Modification of the law is needed to permit the ownership of fissionable materials and facilities for using these materials under conditions compatible with national security."

The endless debate about when atomic power will be practical will never be resolved until competent elements of private industry are willing to build pioneer plants and are given the green light by government. It appears that Detroit Edison (associated in this venture with Dow Chemical Co) has the will to build. They should have their chance to make a vital contribution to the development of this great new art.

ADS OUT