

SPEAKING OF POWER

Add to things that sound screwy but aren't: recent proposals to refrigerate the perma-frost under runways of Alaskan and Canadian air fields. In case "perma-frost" is a new one, it designates that portion of the frozen subsoil that does not thaw in summer months. Refrigeration will, by preventing possible thawing under runway ends, make possible a considerable economy in those portions of the slab subject to landing impact. Even when it's explained it has a sort of "coals to Newcastle" sound, but it's true!

We've heard talk in atom circles about automatic "can openers" to remove safely the aluminum containers in which uranium rods for atomic reactors are sealed. Now comes a British report of an achievement "not expected for years, even in America"—a safe means of getting uranium piles hot enough to deliver superheated steam for power generation. According to the

report, British scientists working at the Didcot atom station have found a means of overcoming the limitations of aluminum cans, which disintegrate long before the reactor gets hot enough. Details are "secret," of course.

The late James H. Galloway—Jim to his legion of friends in the diesel industry—liked to tell this story of his early experiences as a salesman. It seems that shortly after Jim began selling for DeLaVergne many years ago, he got a wire from the home office to hop to a small Southwestern community that was considering installing a municipal diesel plant. Jim had been selling the pipelines and a municipal deal was a new one to him.

He approached the problem, as he thought, most intelligently and first looked over the composition of the town board. He found that the chief engineer of the municipal water plant was on the board and Jim decided that his strategy was to sell the engineer and let him sell the board. So he headed first for the water plant.

He found the chief engineer and much to his surprise got an extremely cold reception when he introduced himself as the DeLaVergne representative. Pressed for his reasons, the chief said, "Why you DeLaVergne people are practically frauds. You build an engine with a conical top on the piston (the famous old DeLaVergne design) and any engineer knows you can't hold the pressure on it—it just slides off."

Always quick-witted, Jim admired the engineer's perspicacity, confided that DeLaVergne engineers had discovered the same trouble and had, just recently, revised the design to include additional piston rings to hold the pressure. Then came the clincher: "You'll have to admit that if we can hold the pressure, the conical head is an advantage—there's more area for the pressure to work on!"

The light of comprehension slowly dawned in the engineer's eyes as he jumped from one misconception to another. "You know," he said, "I never thought of that."

Firmly convinced, the chief engineer sold DeLaVergne engine to the town board—which once again demonstrates the occasional truth of the old wise-

crack that an engineer is a man who reasons from insufficient evidence, by methods that are often faulty, and has the right answer more often than not.

A tank car of more than 6000 gal of crude shale oil—the first bulk shipment from the Bureau of Mines shale-oil demonstration plant near Rifle, Colo.—recently went to Universal Oil Products Co. at Riverside, Ill., where it will be fractionated. Later, Union Oil Co. will conduct cracking and other refining studies in its California lab. Work continues at Rifle on experimental mining and extraction. This is part of national synthetic fuels program.

For a few minutes recently, Power and OPERATING ENGINEER editors believed they had evidence that at least one reader thought their material was worth as much as the editors have long privately believed. An air-mail letter from China requesting reprints of the article on restoring flooded electrical equipment (OE for March—reprints on request) carried \$340,000 worth postage. A hasty check on the latest exchange rates for the skyrocketing Chinese dollar brought the editors back to earth; but left one office stamp enthusiast with a choice item.

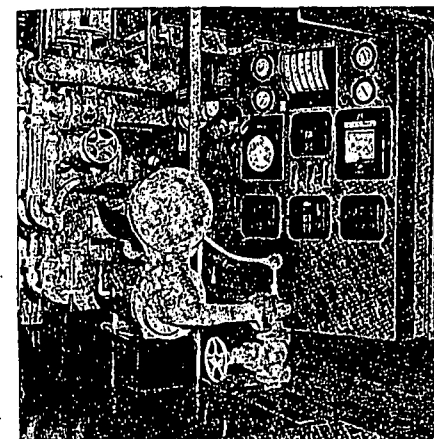
There's a new word creeping into the jargon of Washington's bureaucrats according to *Business Week*. They're picking it up from atom scientists who discovered during the war that there's such a thing as a million dollars. The word is megabuck—you know, like megawatts.

THIS MONTH'S COVER

Because they often simplify piping layouts and save valuable space, axial and mixed-flow vertical circulating pumps turn up with increasing frequency in new installations. Cover shows two Allis-Chalmers mixed-flow units in a Wisconsin Public Service Company plant. Foreground unit is a 38x24-in. pump rated 11,800 gpm against a 21-ft head. Pump on far side is 52x36 in. and rated at 22,000 gpm against 21 ft. Smaller pump has a 100-hp 580-rpm motor; the larger has a 200-hp 400-rpm drive.

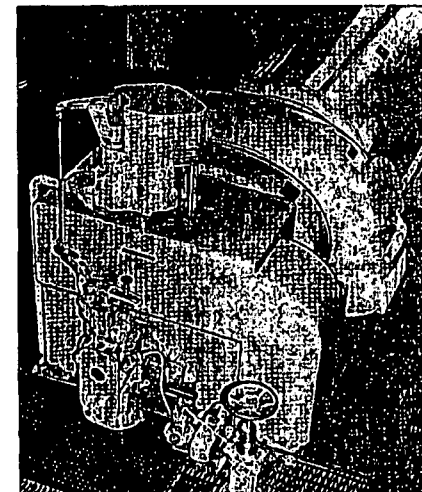


GUYMON STATION, housing one unit at present, uses 10,000-gpm cooling tower, at right, to serve its 6500-sq-ft surface condenser



BOILER CONTROL PANEL regulates operation of two 33,500-lb-per-hr units, forces two-stage air ejectors serving main condenser

TWO BOILER FEED PUMPS, one motor driven, one turbine driven, are located before two feedwater heaters in plant heat-balance cycle



5000-KW TURBINE, using 400-psig 700-F steam, drives 6250-kva generator at 3600 rpm as well as shaft exciter

Guymon Station Takes on Load

By L. L. MUNLEY, Chief Engineer
Guymon, Southwestern Public Service Co.

► Guymon, in the heart of the Oklahoma Panhandle Plains, has outgrown its boundaries and spread rapidly in all directions. This town and others received power from stations some 70 miles away in Texas via a 33-kv loop. A plant at Guymon consisting of two gas engines, 565 and 365 hp each, regulated the 33-kv lines and in emergency carried the town load.

Operation was quite successful until 1943 when the Guymon gas field began to develop. Compressor stations moved in, carbon-black plants, new stores and new homes were built. The sudden growth was too much for the existing means of power supply.

The Southwestern Public Service Co. designed the present station in July and August 1945, under M. E. Strom, design engineer, and construction started in the latter month. Materials were hard to find, strikes delayed deliveries and work progressed slowly because of wartime conditions.

The 6250-kva turbine-generator was given its final check on Jan. 18, 1947, and at 8 am on Jan. 19, 1947 the unit was synchronized to a 13.8/33-kv transformer and has operated practically continuously since. The unit has been taken off the line twice, once for four

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—R. S. Clark