

READER SERVICE SECTION

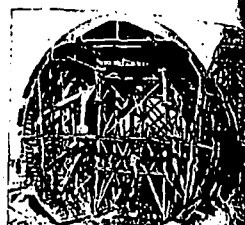
POWER NEWS
TECHNICAL BRIEFS
PLANT EQUIPMENT NEWS
NEW FREE BULLETINS



One of a pair of giant tunnels that will feed \$300-million Niagara station



Unlined tunnel has 51-ft dia, lining requires one million cu yd of concrete



Steel forms for 3-ft concrete lining were built by Blow-Knox Co of Pittsburgh

Giant Tunnels Feed Niagara Power Station

► TWO GIANT TUNNELS will divert water from Niagara Falls to the new \$300-million electric power station being erected in Canada.

The water will be taken from the Upper Niagara River, near Chippawa, two miles above the Falls. Twin tunnels will carry it under the city of Niagara Falls, Ontario and take it to a point below the Falls for a total journey of 5½ miles. At this point, the

tunnels will tie in with a 2¼-mile surface canal that will deliver the combined supply to the Sir Adam Beck Generating Station.

Actual site of the power plant is on the side of a 300-ft cliff of the Lower Niagara River Gorge six miles below the Falls. This station will have a generating capacity of 1.2-million kw—enough for the residential needs of 7 to 8-million people. Four of its 12 gener-

ating units are expected to be running next year; the remainder will reach full operation by 1957.

Some idea of the scope of the tunnel construction can be seen in the above photos that were provided through the courtesy of Ontario's Hydroelectric Power Commission.

Among the largest in the world, these tunnels have a rough diameter of 51 ft. (Continued on page 254)

New Plant Builds Key Turbine Parts



SMITH-KAPLAN RUNNER. One of the adjustable blade runners, 23 ft 7 in. in dia, for the 14 McNary Dam turbines, each 111,300 hp at 87.5 rpm and 80-ft head

► S MORGAN SMITH Co, one of the largest manufacturers of hydraulic turbines and associated equipment, recently opened its new \$3-million plant at York, Pa.

The new plant has two bays, each 90 ft wide by 400 and 600 ft long respec-

tively. In addition, it has a 42-ft boring mill, cranes of 25 to 100-ton capacity and a variety of large welding apparatus and machine tools. With these new facilities, the company expects to work off a backlog of orders that totaled about \$50-million at the close of the war.

As part of plant opening ceremonies, the company exhibited key turbine units that it is currently manufacturing for the Corps of Engineers' McNary Dam plant on the Columbia River. Photo at left shows the adjustable-blade runner for one of 14 turbines that will comprise the initial installation. This number will later be increased to 20 for an ultimate capacity of 2,226,000 hp.

These are the highest powered Smith-Kaplan turbines in the world. Each of the six runner blades weighs 30,000 lb and a complete turbine unit weighs 1000 tons when completely installed.

For coming events see page 256



Dr Adolph Meyer

Adolph Meyer Receives G R Henderson Medal

► DR. ADOLPH MEYER will receive the George R Henderson Medal from Franklin Institute of Pennsylvania for his accomplishments in the gas turbine field. The award will be part of the annual Medal Day Ceremonies to be held in (Continued on page 256)

Low Cost Installation

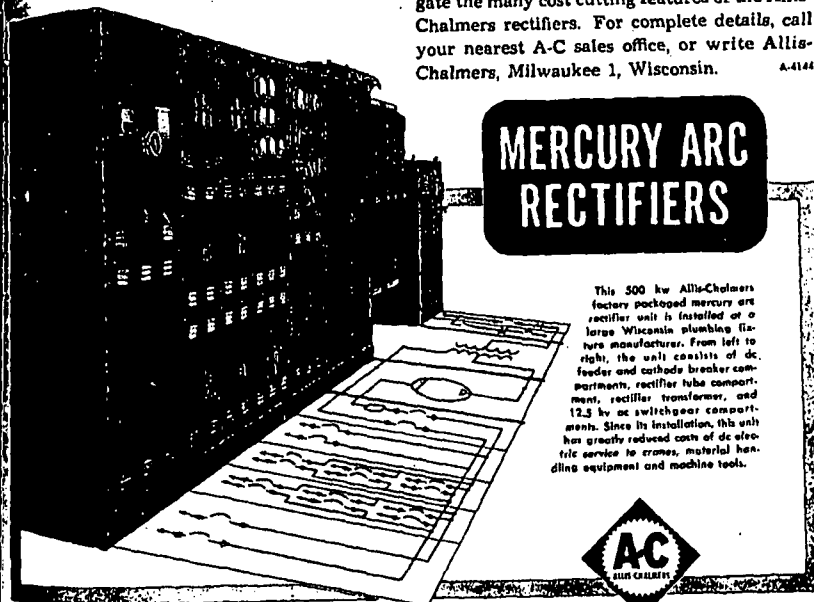
FACTORY PACKAGED RECTIFIER UNITS CUT INSTALLATION TIME AND COSTS

The factory packaged design of Allis-Chalmers sealed tube mercury arc rectifiers cuts labor and costs. All component parts are metal-cased and integrally connected into one complete unit. This unit can be located convenient to your dc load center to cut dc feeder cost and reduce dc distribution loss... requires no special concrete foundation. And because of its light weight, it can be installed on a balcony or

elsewhere to conserve valuable floor space. Only connection to power and control leads and to cooling water supply is necessary to make unit ready for service.

Allis-Chalmers sealed tube rectifiers are offered in ratings from 200 kw at 250 volts to 1000 kw at 600 volts.

When you are planning a new dc power installation of any size, it will pay you to investigate the many cost cutting features of the Allis-Chalmers rectifiers. For complete details, call your nearest A-C sales office, or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-4144



MERCURY ARC RECTIFIERS

This 500 kw Allis-Chalmers factory packaged mercury arc rectifier unit is installed at a large Wisconsin plumbing fixture manufacturer. From left to right, the unit consists of dc feeder and cathode breaker compartments, rectifier tube compartment, rectifier transformer, and 12.5 kv ac switchgear compartments. Since its installation, this unit has greatly reduced costs of dc electric service to cranes, material handling equipment and machine tools.



ALLIS-CHALMERS

Our Engineers Introduced Mercury Arc Rectifiers to U. S. Industry