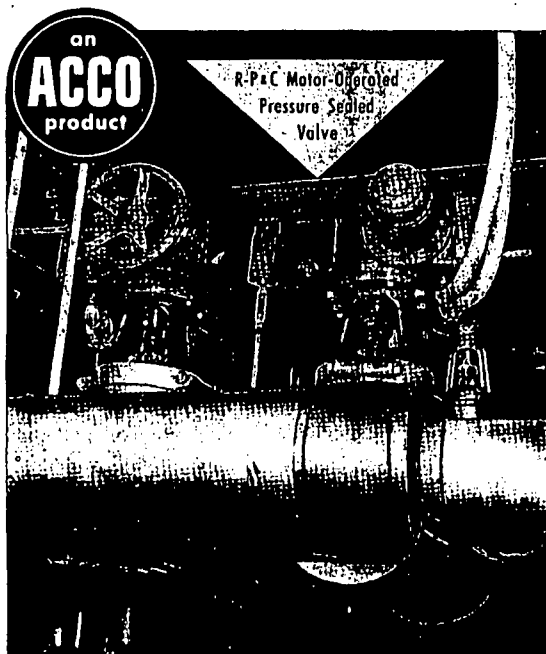




## Why This R-P&C Valve Suits the Power Industry

• This cast steel R-P&C Gate Valve with pressure sealed bonnet provides continuous tightness when exposed to the varying conditions of high pressure steam generation. The inside bonnet is forced against a metal sealing ring by pressure in the valve. A compensating wedge permits easy opening and closing by either hand or electric power. This valve is always tight, yet easy to operate.

Cast steel construction is designed for pressures to 1500 lbs., temperatures to 1100° F. Sizes: Gates 2½" to 14"; Globes 2½" to 8". Full specifications are shown on page 144 of the No. 9 R-P&C Valve catalog.

See your R-P&C distributor or write our Reading, Pa., office for information

ACCO

R-P&C VALVE DIVISION  
AMERICAN CHAIN & CABLE

Reading, Pa., Atlanta, Baltimore, Boston, Chicago, Denver,  
Detroit, Houston, New York, Philadelphia, Pittsburgh,  
San Francisco, Bridgeport, Conn.

R-P&C  
valves

## HYDRAULIC GOVERNORS

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valve has permitted the receiving piston to gradually return to its original position, in the same time the engine took to return to its original speed and the ballarms to return to the vertical.

Note that in this governor the temporary speed droop (compensation) is applied by changing the effective length of the connection between the speeder rod and pilot valve. Changing connection length causes speed droop for the same reason that changing the compression of the speeder spring does. Power, March, p. 73. Each method of causing speed droop changes the engine speed at which the pilot valve seals the control ports.

Strictly speaking, only isochronous governors are true constant-speed governors. All mechanical governors, and some hydraulic governors, have permanent speed droop and are "nonisochronous" because engine steady speed is slightly different at different loads. But the speed change from full load to no load (speed regulation) is usually only 3 to 8%. Since such governors hold engine steady speed substantially constant, they too are classed as constant-speed governors.

## FEED PUMP

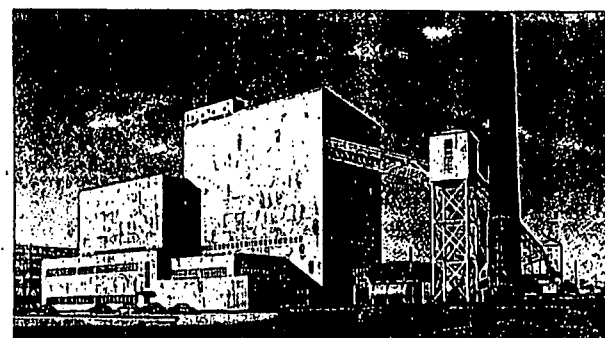
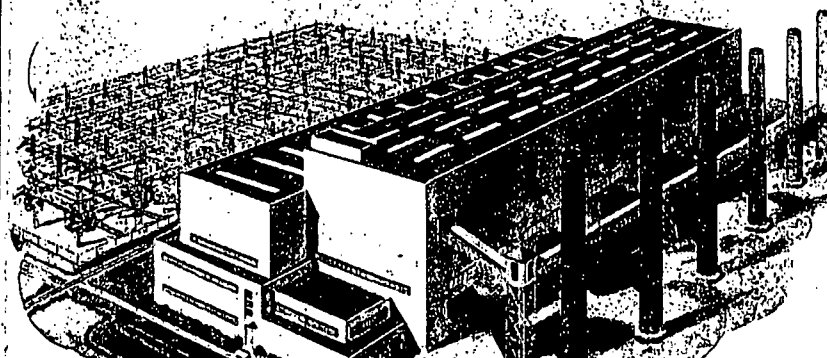
Continued from page 117

cast-iron plungers for high feedwater temperatures. Though cast iron corrodes faster, it's cheaper and easier to replace, and may cost less in the long run.

Commonest liquid-piston packing is fibrous type of laminated layers of duck with a rubber or neoprene binder. It is soft or rockhard, depending on cure of binder. I find soft grade is good for water to 180 F. Rockhard is used to 240 F. Preformed cups of molded duck and neoprene are easy to install, require no fitting. They are good up to 250 F.

Suction Conditions. Perhaps most headaches with reciprocating feed pumps are from low suction pressures. Even at slow speeds these pumps must have enough suction pressure to overcome friction and to lift suction valve against spring tension. Pressure needed is called net positive suction head (nph). This varies with each size and pump type, with different capacities, and with different sizes and types of liquid valves and springs.

Let's say pump engineer advises 3.5-psi nph for your capacity. This means pressure in suction line at pump must be at least 3.5 psi greater than liquid's vapor pressure at suction temperature. You can provide nph in many ways—by having water supply above pump and



Portsmouth Power Station is designed for an ultimate total of six units, each of 100,000 kilowatt nameplate capacity

## More Kilowatts for a Growing Region

The system-wide generating capacity of Virginia Electric and Power Company was increased to nearly 1,000,000 kilowatts early in 1953 and in 1954 it will be further augmented by an additional unit of the Portsmouth Power Station near Portsmouth, Virginia.

The initial unit of this new station, a 100,000 kw preferred standard machine, is already "on the line".

Stone & Webster Engineering Corporation was retained for the design and construction of the new facilities.



STONE & WEBSTER ENGINEERING CORPORATION

A SUBSIDIARY OF STONE & WEBSTER, INC.