

TECHNICAL BRIEFS

ENGINEERING DEVELOPMENTS HERE AND
ABROAD DIGESTED FOR BUSY POWER MEN

REVIEWED THIS MONTH: DIESELS

Centrifugal Blowers for Two-Cycle Engines

HYDRO POWER

Flood Control and Power in Southwest
Sediment Transportation in Streams in Relation to Power-Plant Operation

STEAM POWER

Steam Power Plant Appraisal
Package Steam Units

OPERATOR TRAINING

Training Operating Engineers
Training Power-Plant Personnel
A Training Program for Custodians and Boiler Operators

For Complete Text:

Material in these briefs comes from one of three sources:

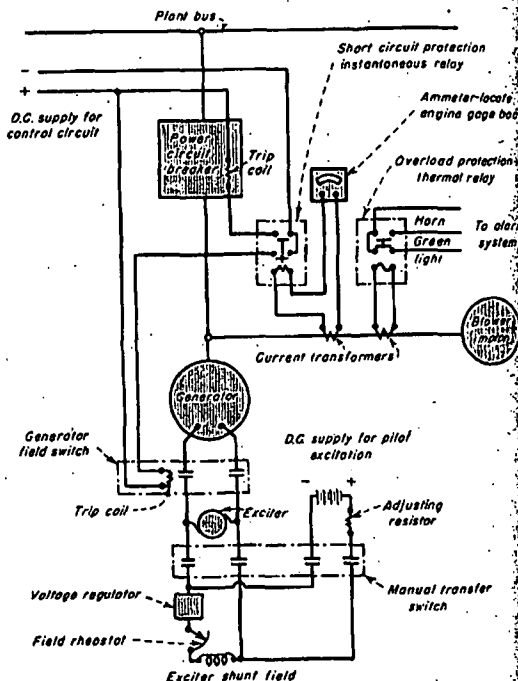
Midwest Power Conference, Tenth annual meeting, Chicago, April 1-9, 1948. Papers identified by initials MPC. Available in Volume X, Proceedings of Midwest Power Conference, 1948, \$3, through Stanton E. Winston, Conference Director, Illinois Institute of Technology, 3800 Federal St., Chicago 16.

American Society of Mechanical Engineers, Oil and Gas Power Div meeting, St. Louis, May 22-24, 1948. Papers are identified by initials ASME and paper No. Available while supply lasts at ASME, 29 W 59th St., New York.

Oil Heat Institute of America, Inc., New York, N. Y. Annual meeting, Chicago, April 5-8, 1948. Papers are identified by initials OHI. Only copies are ones made available to those in attendance at the annual meeting.

DIESEL ENGINES

Centrifugal Blowers for Two-Cycle Diesel Engines by Robert Cramer Jr., Nordberg Mfg. Co. Discussing various means currently employed for scavenging 2-cycle diesels, the author tabulates blower, drive and combined efficiency of each, showing the Roots positive-displacement blower, gear-driven from the engine crankshaft, to be most efficient. In spite of this, other considera-



CENTRIFUGAL SCAVENGING BLOWER is electrically connected to its generator for starting with the engine. Pilot excitation, usually from battery, speeds starting

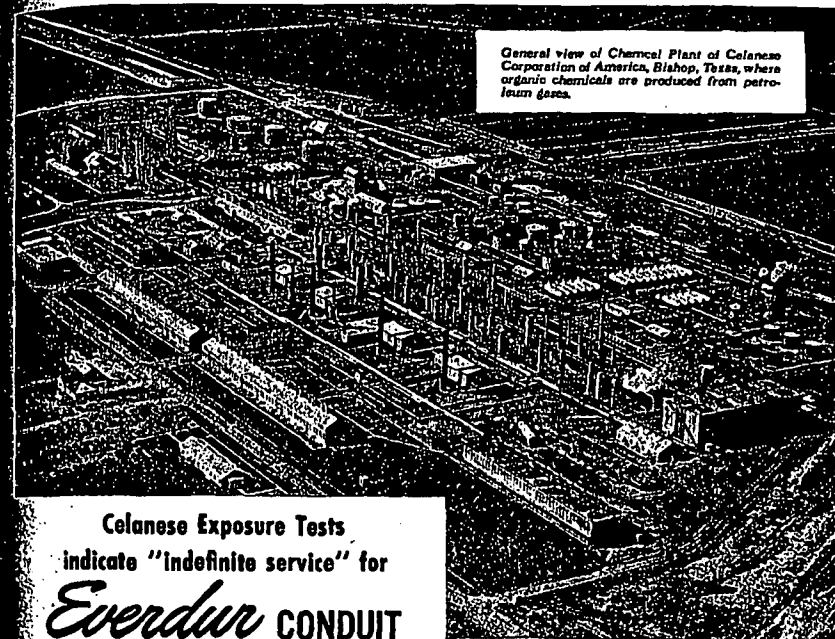
tions, such as space restrictions and better air distribution in very large engines, may favor the centrifugal blower, and it is the only answer for extremely large units.

To give a clear picture of the relation between blower characteristics and engine air requirements, the author analyzes the situation fully, giving air-requirement data based on experimental investigations of 2-cycle engines of 17.5, 21.5 and 29 in. bore, with 5 to 10 cylinders. He points out that characteristic

curves must be constructed for the blower unit as installed, allowing for increasing resistance in the intake system with increasing volume, decreasing motor speed with increasing horsepower and fouling of engine and blower.

Centrifugal blower must be selected for the most unfavorable conditions: 90 F. minimum barometer, maximum load, plus allowance for fouling. This makes it necessary to limit blower power at high-density and minimum

(Continued on page 164)



General view of Chemical Plant of Celanese Corporation of America, Bishop, Texas, where organic chemicals are produced from petroleum gases.

Celanese Exposure Tests indicate "indefinite service" for *Everdur* CONDUIT

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These 2" long test sections were exposed to sunlight, continuous water vapor spray, plant fumes, plant Northeast and Southwest winds and a temperature range of 32° F. to 87° F.

Examination showed no pitting of samples and an average corrosion rate of .000395 i.p.y. "During the test," states the Metallurgical Laboratory report, "the surface of the specimens became coated with a thin, black corrosion product film which would be in no way detrimental in the service intended."

"Everdur Conduit would," the report continues, "at the rates determined, last indefi-

nately in service as electrical conduit in the locations tested."

Everdur Copper-Silicon Alloy Conduit possesses high strength, is non-magnetic, workable and weldable. It is available in two wall thicknesses: rigid conduit (RC) in nominal sizes from 1/4" to 4" inclusive; and the thinner walled electrical metallic tubing (EMT) in nominal sizes 3/8" to 2" inclusive. Complete lines of fittings... connectors, couplings, outlet boxes, etc. are available in Everdur Alloys from leading manufacturers.

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