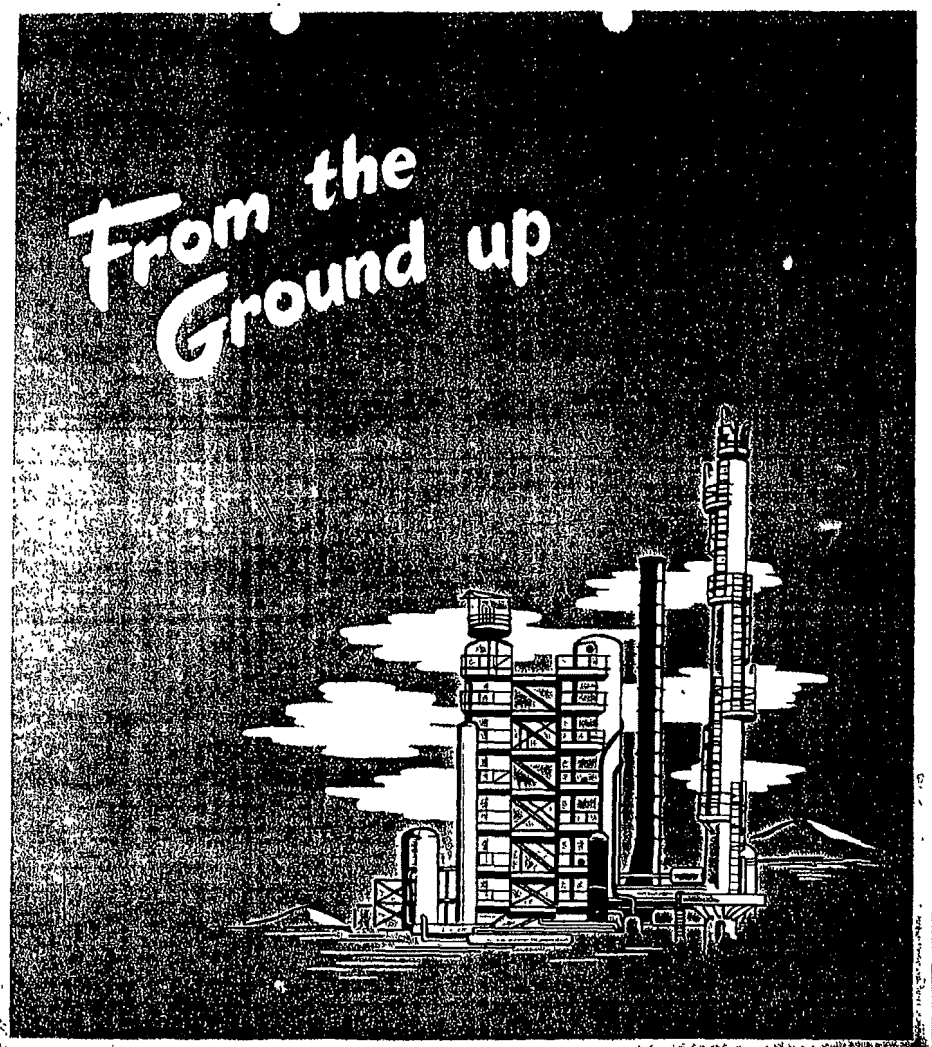
FILE NAME: Bechtel (BECH)

DATE: 1950 July

DOC#: BECH028

DOCUMENT DESCRIPTION: Trade Journal Article - Bechtel Briefs

July 1950



Another refinery by Bechtel — custom-planned to meet the owner's requirements, process-designed, engineered and built from the *ground* up under single responsibility. Performance all the way that only a complete self-contained engineering-construction organization can provide.

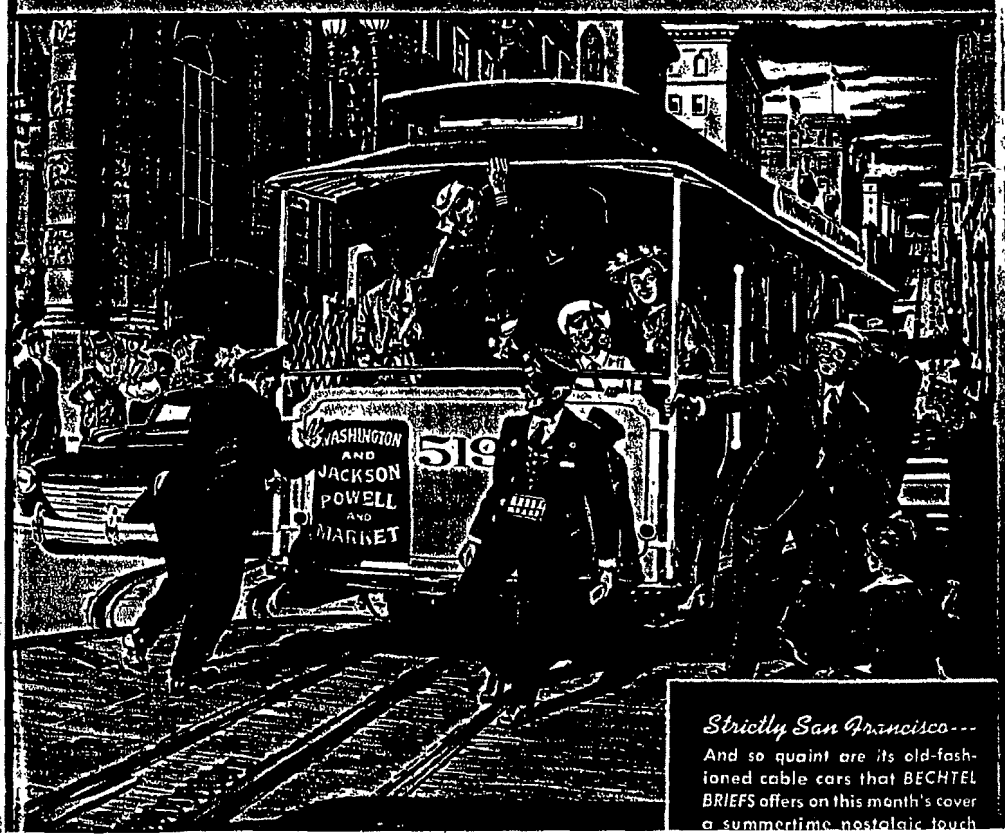
BECHTEL

BECHTEL CORPORATION

SAN FRANCISCO

Bechtel Briefs

JULY 1950



Strictly San Francisco---

And so quaint are its old-fashioned cable cars that *BECHTEL BRIEFS* offers on this month's cover a summertime nostalgic touch



Purchasing

THE SAN FRANCISCO Purchasing Department made purchases totaling over $25,000,000 in 1949 and 1950. Items varying from a one-half ounce spring to 80-ton vessels appear on the active list. Procedures and methods to take care of the actual hundreds of thousands of items within this range are of a necessity accurate and efficient.

Each unit order must be screened with four major objectives in mind: the highest quality available, conformance to a specified design, most reasonable price and receipt at job site to meet the construction schedule. To guarantee the fulfillment of these objectives requires exacting coordination between the different sections of the department.

BUYERS

The buyers cooperate with the Engineering Department during the design stage to ascertain that any specified item will be available at the required date as well as being of economic desirability. Even before that when the project was being bid they had cooperated with the Estimating Department. Immediately on approval of engineering design they really go to work placing firm orders to insure delivery of material in the field.

EXPEDITORS

After the order is placed it must be *followed*." It is the business of the expeditor to check the orders before delivery dates are due and make sure that delivery will arrive as required. If there is possibility of delay it is up to the expeditor to rectify the situation of special handling.

INSPECTORS

Representatives* of the Purchasing Department in the field, inspect items during manufacture for quality. J. M. Sturdia is stationed in the eastern area, R. E. Smith in the north central and L. C. Torgerson in the southwest. In addition to having a good engineering and technical background they must have a direct acquaintance with construction, manufacturing, and plant operations. Their absence from the home office prevented their being included in the attendant photographs.

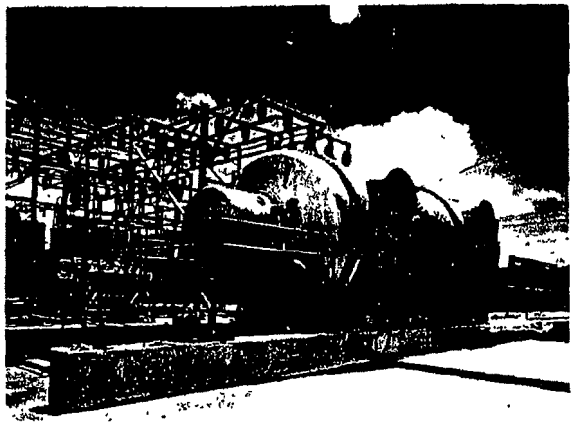
CLERICAL

Maintaining the files, writing the purchase orders, and taking care of the great volume of paper work in conjunction with the foregoing operations requires an alert and trained clerical group. Adjacent photographs show the personnel with the exception of Sarah Kelly, who came into the group since the pictures were made.

FUNCTION

Manager of Purchasing, George Rugg, under the direction of Administrative Manager W. R. Ayers, is responsible for the entire activity. The group functions as a smooth working unit including keeping current on economic conditions, vendors, transportation facilities, and newly developed products in our field of business.

From top of page—San Francisco home office Purchasing Staff: George Rugg, Manager of S. F. Purchasing. L. to R.—Virginia McCartney, Steno; Margaret Brand, Secretary; and Kay Makuses, Clerk-Typist. L. to R.—Purchasing Men: Reynold Watson, Gus Noack, Norman Archer and Bill Erdman. L. to R.—Bob Untermann, Buyer, Margy Brown, Steno, Irene Ladlar, Clerk-Typist, George Horlan, Office Asst.; and Bob Buckles, Sr. Clerk. L. to R.—Clara Lagg, Steno; Eva Smith, Steno, Mary Matulich, Steno and Bob Grant, Sr. Clerk.



Synchronous Condenser, Highgrove Substation

WESTVACO CONTRACT FOR BECHTEL

The Food Machinery and Chemical Corporation's Westvaco Chemical Division announces award to the Bechtel Corporation of engineering and construction of two units for the manufacture of phosphorus and commercial phosphates.

Ed Dorresten is acting as coordinator for both projects and will follow the jobs right on through construction.

One project is concerned with the erection at Lawrence, Kansas, of a new plant for the processing of phosphorus into soluble phosphates used by the soap, textile, oil, and chemical industries. Engineering work is being done by the Bechtel Refinery Engineering Division under Hugh Hyde.

The other unit has as its major concern the addition of a furnace and facilities to be installed at Pocatello, Idaho, for the manufacture of elemental phosphorus from phosphate shale deposits found in the vicinity of the plant. This will be in addition to the two furnaces already in operation. Engineering work is under the direction of Ralph Keilholtz.

The Bechtel contract calls for the detailed design and construction of both units. John D. Anderson, Chief Engineer of Westvaco is responsible for basic design. Scheduled completion date for both is planned for late spring of 1951.

Couldn't Stop the Press

Big news in the offing at least requires an announcement. The news is the Bechtel Picnic which may be over by the time you read this for it's scheduled for June 24th at Happy Hollow Park near the Contra Costa Steam Plant.

But don't worry. Next issue will give the full story of the event—with pictures!

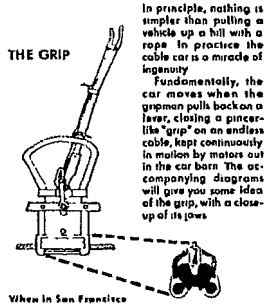
THIS MONTH'S COVER



THE GRIP

In principle, nothing is simpler than pulling a vehicle up a hill with a rope. In practice the cable car is a miracle of ingenuity.

Fundamentally, the car moves when the gripman pulls back on a lever, closing a pincer-like "grip" on an endless cable, kept continuously in motion by motors out in the car barn. The accompanying diagrams will give you some idea of the grip, with a close-up of its jaws.



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FRONT COVER COURTESY OF THE "COAST BANNER"

More Effective Power Through New Condenser at Highgrove

RUNNING so quietly that it can be barely heard while one is standing alongside, the 110-ton rotor of the condenser pictured, is now turning at 600 RPM at Southern California Edison Company's Highgrove Substation near Colton. Similar in construction to a large synchronous motor, the rotor of this machine produces alternately north and south magnetic poles and comprises the revolving field rotating within the stator. The whole assembly is enclosed and entirely sealed and internally cooled by hydrogen gas. The hydrogen in addition to its coolant qualities, offers less drag to the rotor than would air.

In operation the synchronous condenser reduces power losses by improving the power factor of the voltage. By automatically controlling the field excitation the machine varies the power factor and raises or lowers the voltage to a pre-determined level. Improving the power factor increases the kilowatt capacity of the transmission lines to deliver effective power to the utilization point.

One of the most important criteria of an electrical power system is to make available at the utilization point the maximum amount of effective power, and relatively high losses are caused by certain electrical phenomena when power is transmitted long distances by high voltage lines. The synchronous condenser is a device used to overcome or minimize these losses.

Installation of this 400-ton, 60,000 KVA condenser was just part (though an important part) of the work assigned Assistant Superintendent M. S. "Slim" Morris at Highgrove by Jim Reimers, General Construction Superintendent. Slim accords great credit for the job to his Millwright General Foreman, Horace Johnson, and to Electrician General Foreman E. A. "Babe" Ruth. John Kiely, Power Division's Manager, explains that an idea of the perfection strived for by Power Division crews in assembling and installing the machine may be gained by learning that the alignment is such that, with the bearing oil lift pumps in operation, the 220,000-pound rotor may be turned on by hand and, without braking, it takes more than 4 hours after power is cut for it to slow to a stop from operating speed.



The Highgrove condenser, second in a series to be added to Edison's system by Bechtel's Power Division, followed installation of a similar 60,000 KVA machine placed in operation at Mesa Substation, early in 1949. Work is presently in progress at Springville, where a 40,000 KVA is being installed by Assistant Superintendent O. J. Rogers, and at Barre Substation (Orange County) where preparation for installation of another 60,000 KVA is going forward under direction of Assistant Superintendent Jack Price.