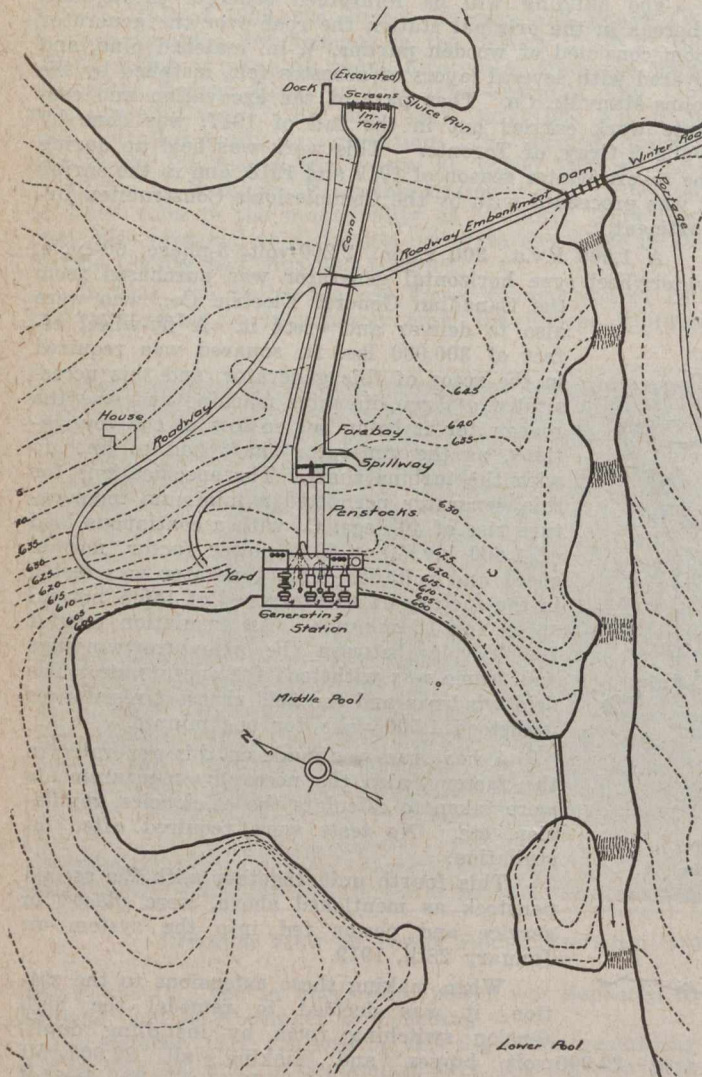


connected in place of any other transformer during an interruption on that bank of only a few minutes.

Practically all the new equipment was purchased from the Canadian Westinghouse Co and was delivered during the summer of 1918. The work of installing this new equip-



BIG CHUTE POWER DEVELOPMENT, SEVERN RIVER

ment and remodeling and moving old equipment is now being proceeded with by the commission's construction department, and it is expected that it will be completed early this summer.

An electric hot water heater, together with a water tank and shower bath, are being installed for the use of the station operators and the maintenance men.

A subscriber desires to obtain a copy of *The Canadian Engineer* for November 12th, 1914. Anyone who has a spare copy of that issue would confer a favor by quoting a price for it. Address the Circulation Manager, 62 Church St., Toronto.

The Pittsburgh Filter Manufacturing Co., of Pittsburgh, Pa., has changed its name to the Pittsburgh Filter & Engineering Co., and an office has been established at its factory at Oil City, Pa. The company is now manufacturing heavy duty oil engines in addition to its line of water-purification apparatus.

The annual general meeting of the Canadian Good Roads Association will be held at 8.30 p.m., May 21st, at the Parliament Building, Quebec City, for the reception of the annual report and financial statement, election of directors and officers for the ensuing year, and ratification of amendments to constitution and by-laws.

COST-PLUS-FEE CONTRACT FOR BRIDGE CONSTRUCTION*

EXCELLENT competition under a cost-plus-a-fee form of contract was obtained recently at a bridge letting in Kansas City, Mo. The work called for the construction of the 23rd St. viaduct, a reinforced concrete and steel girder structure, requiring approximately 19,000 cu. yds of concrete, 900 tons of steel, 1,000 tons of reinforcing metal and 13,000 sq. yds. of pavement. The contract, prepared by Harrington, Howard & Ash, of Kansas City, consulting engineers for the bridge, provides that in case the actual cost overruns the estimated cost, the contractor loses one-half of the excess up to a maximum loss of two-thirds of his profit fee; in case the actual cost is less than the estimated cost, the contractor receives one-half of the saving. It also provides a method for correcting the contractor's estimated cost in case the quantities in the structure vary.

The following is a summary of the bids received for constructing the viaduct, including paving with wood block:—

Contractor.	Contractor's est. cost.	Profit fee asked.	Total.
A. S. Hecker Co.	\$681,000	\$50,000	\$ 731,000
Arkansas Bridge Co.	679,560	60,000	739,560
Edward B. Garretson Co. ..	681,440	61,329	742,769
Mellan-Stuart-Nelson Co. ..	695,000	50,000	745,000
Missouri Valley B. & I. Co.	686,000	67,000	753,000
Hunkin-Conkey Constr. Co. .	756,861	40,000	796,861
Koss Construction Co.	739,000	70,000	809,000
J. O. Petterson & Co.	795,000	78,000	873,000
A. Guthrie & Co.	813,300	60,000	873,300
Fraser, Brace & Co.	925,406	80,000	1,025,406
Foundation Co.	986,214	60,000	1,048,214

Extracts from the specifications and contract follows:—

Bids are to be on a "cost-plus-a-fee basis," as set forth in the contract. Each bidder shall state his estimated "cost of the work," which shall be termed contractor's estimated cost, and shall also state a fee which shall be termed contractor's profit fee, which shall be separate from and not a part of the contractor's estimated cost. The contractor's profit fee must not exceed 10 per cent. of the contractor's estimated cost.

The contractor's estimated cost shall be assumed to be based upon the approximate quantities stated in the contract. Inasmuch as the actual quantities in the finished structure may vary from these approximate quantities, each bidder must also quote unit prices for each of the various construction items as given in the form of proposal and bid herewith. These unit prices shall be applied to the differences between the approximate quantities given and the actual quantities in the completed structure. The sums so obtained shall be added to or subtracted from the contractor's estimated cost accordingly as the actual quantities are respectively greater or less than the corresponding approximate quantities, thus fixing an amount to be termed the revised contractor's estimated cost.

Modifications of Profit Fee

The contractor shall be paid in cash, in the manner hereinafter provided, the actual cost of the work plus a profit fee. If the actual cost of the work is equal to the revised contractor's estimated cost, the contractor shall be paid the contractor's profit fee in full. If the actual cost of the work is less than the revised contractor's estimated cost, the contractor shall be paid the contractor's profit fee, and in addition thereto one-half of the amount which the actual cost of the work is less than the revised contractor's estimated cost. If the actual cost of the work is more than the revised contractor's estimated cost, the contractor will be paid the contractor's profit fee less one-half of the amount which the actual cost of the work is in excess of the revised contractor's estimated cost; but in no event shall the contractor be paid less than the actual cost of the work plus one-third of the contractor's profit fee.

*From "Engineering and Contracting," Chicago.