

Seven of Greatest Electrical Transformers in History to Be Placed in Giant Structure and New Process Is Being Used to Place Them

By FLORENCE S. HALSETH

Boulder dam, the acknowledged eighth wonder of the world, has something new to offer an interested nation by way of more "world's largest" statistics.

The first power generated by the turbines of the Boulder canyon project will be available late next spring, Walker R. Young, construction engineer, has announced. Installation of machines necessary for the development of that power has begun.

Seven world's largest electrical transformers at a bid price of \$113,000 each, and with each capable of raising a voltage of 16,320 to 287,500 volts of electrical energy, will be installed soon on the Nevada powerhouse structure. Because of the tremendous size of the transformers, they are being shipped to Boulder in sections and will be assembled by government workmen under the supervision of a General Electric factory engineer.

Each transformer, of the 55,000 kilo-volt variety, consists, in part, of a huge steel tank with a 20,000 gallon capacity. One arrived this week in two sections from the General Electric plant where they were manufactured. The two sections will be taken to the government warehouse adjacent to the steel fabrication plant of the Babcock and Wilcox company. A large pit has been constructed there, where the sections will be welded together.

Following the welding process the whole tank will be hauled over the government road on the world's largest trailer to the head-tower of the government cableway. From this point it will be taken down into the canyon by the cableway, and placed on a specially constructed 180 ton capacity transformer car on the powerhouse.

Scientists and engineers have, figuratively, joined hands for the assemblage perfection of the great transformers. An extremely high grade of oil will be shipped to Boulder, and, before it can be placed in the transformer tanks, must again be run thru a series of purifiers and directly into the tank.

The core, most important part of the transformer, will be sent to Boulder from the General Electric factory hermetically sealed in a container in nitrogen, an inert gas, to prevent any degree of moisture from reaching it. The core will be immersed in the oil of the transformer tank, and all will be sealed against atmospheric conditions.

The location of these 55,000 kilo-volt amperage transformers is elevation 677, on the dike of the Nevada wing of the powerhouse. One will be a "spare" to be used in the event of an emergency. Each transformer, of this variety, is 32 feet high from the base to the top, and the core of each transformer will operate in 20,000 gallons of oil which weighs 150,000 pounds. The total weight of each transformer, when assembled, will be 385,000 pounds. They are scheduled to arrive in Boulder City at four-week intervals and will be placed at the same rate of time, government engineers said today.

Four smaller transformers, of the 13,333 kilo-volt amperage variety, will be placed, eventually, on the transformer dike of the Arizona wing of the powerhouse.