

# SIX COMBINED COMPANIES TO BUILD BIG DAM

Corporation Submits Low Bid of \$48,890,995.50 for General Contract on Great Engineering Project.

By FRANK H. FRAWLEY.

DENVER, March 4.—(A)—The biggest engineering project ever attempted within the United States—construction of the \$165,000,000 Boulder Canon project, will be under way within the next 30 days.

A few hours after the Six Companies, Inc., of San Francisco had submitted the low bid of \$48,890,995.50 for the general contract on Hoover dam, power plant and appurtenance works to government engineers in Denver, it had been recommended to Secretary Wilbur for acceptance by Dr. Elwood Mead, commissioner of reclamation.

W. A. Bechtel, representing the low bidders, said they were ready to proceed with the preliminary work leading to the construction of four tunnels which will divert the flow of the Colorado river for a distance of 4,000 feet and permit the building of upper and lower coffer dams.

The general contract specifies that work must be started within

30 days from notification of acceptance of the bid.

Bonds of \$2,000,000 accompanied each of the three bids submitted. The bid of Six Companies, Inc., was exactly \$5,002,883.20 lower than that of its closest competitor, the Arundel corporation of Baltimore, Md.

Woods Brothers corporation of Lincoln, Neb., another competitor, bid \$58,653,107.50 for the general contract.

More than 1,000 workers will be taken to the dam area to begin operations. A railroad now under construction and which will be completed next September, is to provide transportation for materials between Boulder City, Nev., where the thousands of workers later are to be housed, and the damsite.

Actual construction of the four diversion tunnels, two of which will be located on the Nevada side of the river and two in Arizona, must await the high water season of July or August.

Contractors are allowed 1965 days to complete the dam to within 300 feet of the top. At this point it will be possible to begin the generation of electrical energy which is to be sold on contract to the city of Los Angeles, beginning in September, 1936. The dam, when completed, will be 727 feet high from the floor of the canon.

All the work specified in the contract which was bid for today must be completed by the summer of 1938. The government has reserved the right to exact a penalty of \$3,000 for each day's delay beyond the 2,565-day limit.

The Six Companies' bid is the largest in the history of American construction. The project itself is second only in magnitude and cost to the Panama canal. The Panama Canal construction was done by the government itself.

Mr. Bechtel said Frank T. Crowe of Boise, Idaho, would be general superintendent of construction if Secretary Wilbur acted favorably on the reclamation department's recommendation. Crowe has had 26 years of practical experience in building dams for the reclamation service and in 1924 and 1925 was general superintendent of the United States reclamation service in Denver.

San Francisco formed by six construction agencies combining forces, stood out as the probable builder, as their low bid of \$48,890,995.50 was \$5,000,000 below their nearest competitor and within \$20,000 of federal estimates.

In addition Commissioner Mead said in suggesting to Secretary Wilbur that this organization be given the contract, several of the six companies, particularly the Utah Construction company, had built projects for the reclamation service. Arundel-Atkinson Construction corporation, Baltimore and Los Angeles, \$53,893,878 was second and Woods Brothers of Lincoln, Neb., third and highest with \$58,653,107.

Three other bids were submitted but were irregular and were not passed upon.

Secretary Wilbur, although asserting work would be hastened so unemployment conditions in the southwest would be relieved, warned workers against a general migration to the Nevada-Arizona line damsite as there were 10,000 laborers on hand at Las Vegas, Nevada.

Estimates for construction forces ranged from 2,000 to 2,500 men at work at one time when the program gets into full stride.

Wilbur pointed to the ultimate benefit from the whole Boulder Canyon project which will have a total cost of approximately \$400,000,000 of which \$165,000,000 is to be supplied within the next few years by the government. Los Angeles plans to spend \$250,000,000 for an aqueduct and other California cities and companies will spend several millions for water and power.

The government has divided its cost estimates into \$70,600,000 for the dam; \$38,200,000 for the million-horsepower power plant; \$38,500,000 for the all American canal across Southern California into the Imperial and Coachella valleys and \$17,000,000 for interest.

Power revenues will repay the government and the project will be self-sustaining with receipts from power and water expected to reimburse the government within 34 years.