

DEPARTMENT OF THE INTERIOR,
BUREAU OF RECLAMATION,
Washington, D.C., October 24, 1967.

Hon. JOHN P. SAYLOR,
House of Representatives,
Washington, D.C.

DEAR MR. SAYLOR: This is in further reply to your letters of September 14 and October 18, 1967, enclosing a list of questions concerning the Central Arizona Project and proposed Hooker Dam in New Mexico. The following replies are numbered to correspond with your questions:

Answer No. 1.—The provisions in H.R. 3300 and S. 1004, 90th Congress, with regard to additional New Mexico consumptive use in the amount of 18,000 acre-feet per year are based upon negotiations between the States of Arizona and New Mexico. As we understand these provisions, if either bill is passed by the Congress, our Bureau would be authorized to proceed with definite plan studies to determine the reservoir capacity required to allow 18,000 additional acre-feet of consumptive use from the Gila River, its tributaries, and underground water sources in New Mexico without prejudicing the rights of downstream interests under the Colorado River and Gila Decrees. Our testimony to date before congressional committees has related to a reservoir with a capacity of 98,000 acre-feet, but we have not established the capacity which will be required to meet the provision of 18,000 acre-feet of additional consumptive use. The following data submitted in answer to subparagraphs (1) through (6) of Question No. 1 are, therefore, for a reservoir of that capacity.

(1) Height of dam-----	227 feet.
Maximum water surface elevation-----	4,880 feet.
(2) Capacity of reservoir (including surcharge storage)-----	117,000 acre-feet.
(3) Surface area, maximum water surface-----	1,250 acres.
(4) Reservoir length, full capacity-----	9.2 miles.
Length of encroachment:	
Gila wilderness-----	3.5 miles.
Primitive area-----	0.7 miles.
(5) Consumptive use additional to New Mexico—less evaporation-----	(¹).
(6) Average annual evaporation loss over 100 years-----	3,700 acre-feet.

¹ Unknown; would vary with reservation for flood control and resolution of legal problems.

Detailed operation studies will be required to determine the reservoir capacity necessary to accomplish the exchange contemplated in the bills.

Answer No. 2.—(a) The design characteristics of Hooker Dam as presented in our 1947 report were adopted from studies made by the Corps of Engineers and presented in its December 1, 1945, "Interim Report on Survey, Flood Control, Gila River and Tributaries Above Salt River, Arizona and New Mexico." Cost estimates were updated to October 1963 price levels in our recent testimony before the committees. In total, these studies could be considered to be a little better than reconnaissance level.

(b) Our experience in the past is that feasibility-grade studies result in changes in cost and minor modifications in structure arising from additional foundation and hydrologic data which are not available from reconnaissance studies. In the case of Hooker Dam, if the requirement to provide 18,000 acre-feet of water for consumptive use is included in the authorizing legislation, we will need to perform detailed operation studies to size the reservoir. The resulting reservoir may be considerably in excess of the 98,000 acre-foot capacity used in the report.

Answer No. 3.—Various sites have been studied at a reconnaissance level by our Bureau and the Corps of Engineers over the past 35 years or so. Information on these studies is contained in our original Central Arizona Project report of 1947 and in the Corps of Engineers' 1945 interim report on the Gila River and tributaries above Salt River.

Answer No. 4.—Our reconnaissance investigations since about 1930 include the following:

- (a) The Alum Dam site located upstream from the Hooker site.
- (b) Hooker Dam and Reservoir.
- (c) The Upper and Lower Cliff Dam sites located below the Cliff-Gila Valley.
- (d) The Conner Dam site located below the Cliff-Gila Valley.