

With the above water supply, the benefit-cost ratio for CAP, based on 100 years and total benefits, would be 1.3 to 1.0. A rate of \$63 per acre-foot for M&I water would be necessary without financial assistance from the Development Fund. With financial assistance from the Development Fund limited to Arizona's share, the M&I rate required would be \$57 per acre-foot.

Mr. ASPINALL. What average annual amount of water, Mr. Secretary, is necessary from the main stream for all lower basin uses in order to make the central Arizona project a success?

Secretary UDALL. Let us include this in the record rather than try to answer it at this time. We can give you the figure.

Mr. ASPINALL. I would ask unanimous consent to insert it here.

Mr. JOHNSON. It is so ordered.

(The material referred to follows:)

The average annual amount of water and the minimum annual amount of water needed from the main stream for all Lower Basin uses in order to make the Central Arizona Project feasible are both of the same general order of magnitude. At least 8,250,000 acre-feet annually are required. This amount would serve the following requirements:

| <i>Use</i>                       | <i>Amount</i>         |
|----------------------------------|-----------------------|
| Delivery to Mexico-----          | 1, 500, 000           |
| California -----                 | 4, 400, 000           |
| Nevada -----                     | 246, 000              |
| Arizona main stem-----           | 1, 230, 000           |
| Central Arizona project-----     | <sup>1</sup> 284, 000 |
| Net losses below Hoover Dam----- | 590, 000              |
| Total -----                      | 8, 250, 000           |

<sup>1</sup> This plus 50,000 acre-feet of other project water supply developed by CAP would be a firm supply to meet the revenue-producing M. & I. sales.

Inasmuch as net inflow between Lee Ferry and Lake Mead just about equals evaporation from Lake Mead, this means that the minimum regulated flow at Lee Ferry would need to be 8,250,000 acre-feet. With average runoff, the regulated flow at Lee Ferry will exceed 8,250,000 acre-feet for a number of years, at least into the 1980's. Thus, the average Lower Basin water supply would exceed the minimum required by a small amount due to early years of excess.

Mr. ASPINALL. Mr. Secretary, in your statement, you discussed first the matter of virgin runoff, pointing out that your estimates are based on the longest period of runoff on record which you have identified as the period starting in 1906 and continuing through today.

You show the average virgin runoff at Lee Ferry for this period as 14,965,000 acre-feet.

At the same time, you point out that the average virgin flow for the period since the signing of the Colorado River Compact in 1922 to the present time has been only 13,750,000 acre-feet. These figures themselves indicate the period 1906 to 1922 was a period of very high runoff.

Since the assumption you have made to include this period in your operations study is critical to the water supply of the central Arizona project, as I shall bring out later, I believe we need to examine further the Department's decision to include it.

Your statement supports the conclusion only by saying that you normally use the longest period of runoff for which you have records.

As I understand it, your records between 1906 and 1922 are based upon the stations on the San Juan River at Bluff and, on the Green River at Green River, Utah, and on the Colorado someplace around Cisco. Is this correct?