

nuclear desalting and project pumping facilities every 30 years through the 100-year period of analysis. These costs are summarized as follows:

FEDERAL ANNUAL O.M. & R. COSTS

[In millions of dollars]

Feature	O.M. & R.	Sinking fund for plant replacement	Total
Nuclear desalting facilities (including project pumping power)----	23.99	19.60	43.49
Conveyance system-----	5.32	-----	5.32
Total-----	29.31	19.60	48.91

Annual equivalent costs were determined over a 100-year period of analysis beginning with the completion of the first stage in 1990, using a $3\frac{1}{4}$ percent interest rate. Investment costs and operating costs associated with staged development were appropriately discounted. Total annual economic equivalent costs of investment averages \$91.7 million; annual OM&R discounted for time of occurrence averages \$39.4 million, making the total annual economic costs \$131.1 million. Based on the ultimate annual delivery of 2.0 m.a.f. as scheduled in this study, the economic cost of desalted water conveyed to the Colorado River at Lake Mead averages \$81 per acre-foot (25 cents per thousand gallons).

Project benefits

This project will provide a number of tangible and intangible benefits. As a result of the project, the flows of the Colorado River will be augmented by 2.0 m.a.f. annually. Because the treaty with Mexico insures the delivery of water to Mexico whether or not augmentation occurs, the augmented supplies will be utilized within the United States.

The replacement, as a Federal obligation, of the portion of water assigned to Mexico will eliminate much of the long controversy which has impeded orderly development in the Lower Colorado River Basin States and threatens future orderly development in both the Upper and Lower Basins.

Augmentation by desalting will provide opportunities to improve the quality of the water supply provided from the river. The addition of almost pure distilled water will enhance the overall quality of the river downstream from the point of delivery, with attendant benefits to users.

The delivery of additional supplies at Lake Mead will also produce power benefits from increased generation at Hoover and Davis powerplants.

Mexican Water Treaty.—National benefits are associated with discharging the Federal obligation of the Mexican Water Treaty. Because of the difficulties of measuring the intangible values involved, it has been assumed that the benefits of meeting the terms of this international agreement, as a minimum, are equal to the costs of an augmentation plan sized to deliver 1.8 m.a.f. annually to the river. Therefore, an average annual equivalent benefit of \$120.8 million has been claimed for this function.

Additional water use in the United States.—The augmentation plan will make available an additional 200,000 acre-feet of water for use in the Lower Basin within the United States over the amount required to provide water to Mexico.

The average annual benefit value, of about \$74 per acre-foot, discounted for staged deliveries results in total annual equivalent benefits of about \$11.8 million.

Water quality.—The benefits associated with water quality improvements have not been evaluated in this preliminary study but should prove to be significant.

Increased hydroelectric power generation.—Increased generation at Hoover and Davis powerplants will result in increased power sales averaging some \$3 million annually in increased revenues.