miles northeast of the desalting plant. The dam would be an earthfill structure rising 219 feet above streambed with a crest length of 4,100 feet at elevation 344. The reservoir would provide 40,000 acre-feet of regulatory storage for the conveyance system from a total capacity of 175,000 acre-feet.

Tunnels.—Eighteen gravity flow, horseshoe-section, concrete-lined tunnels would be required. All tunnels would be single-stage construction, would be 17.5 feet in diameter, and would have a capacity of 3,240 c.f.s.

Pipelines.—Pipelines would be required for about 85 miles of the aqueduct system. All pipelines would be double-barreled, precast concrete, gravity-flow sections. Each barrel would be 15 feet in diameter and have a capacity of 1,620 c.f.s. The pipelines would be constructed in two equal stages.

Pumping plants.—Ten pumping plants, constructed in three stages, would be required, ranging in total dynamic head from about 173 to 728 feet. The total capacity of each plant after third-stage construction would be 3,240 c.f.s. and would consist of nine units, including one standby. The total installed electric capacity of the pumping plants would be 1,430 megawatts.

Power drops.—Three power drops would be constructed in three stages to a total hydraulic capacity of 3,240 c.f.s. with eight units. The total installed capacity of the inline powerplants would be 372 megawatts.

Canals.—All open canals would be concrete lined and would be constructed in one stage. The canals would have a capacity of 3,240 c.f.s., a base width of 24 feet, and a water depth of 17.0 feet.

Transmission facilities.—Energy for pumping desalted sea water to Lake Mead would be supplied by the dual-purpose nuclear powerplant on the California coast and by inline hydroelectric powerplants installed at power drops along the conveyance system. The Federal Government would construct the transmission system necessary to serve the pumping plants.

Transmission lines would roughly parallel the conveyance system throughout its length so that power could be furnished to each pumping plant and energy could be recovered from the power drops. Transmission system losses for capacity and energy were assumed to be 5 percent.

The transmission system would be constructed in three stages.

Project costs

Dual-purpose nuclear desalting plant.—The construction and annual operating costs of the nuclear reactor are prorated between the purposes of desalting and electric power generation on the basis of the proportion of the useful heat applied to each process. All of the desalting cost are Federal costs. The electric power costs were prorated between that portion of capacity required for project pumping and the portion of capacity surplus to project needs. The latter portion of the costs would be non-Federal costs and are excluded from this analysis.

Estimates provided by the Atomic Energy Commission and the Office of Saline Water are based upon 1966 price levels and market conditions.

DUAL-PURPOSE NUCLEAR DESALTING PLANT CONSTRUCTION COSTS

[In millions of dollars]

Feature	Stage			
	1990	2000	2010	Total
Nuclear reactor	241	121	121	483
Powerplant	142	71	71	284
Desalting plant	312	179	179	670
Total	695	371	371	1,437
Less non-Federal power costs	258	129	129	516
Federal costs	437	242	242	921
Desalted water	(381)	(214)	(214)	(809)
Nuclear pumping power	(56)	(28)	(28)	(112)