

We hope that these answers provide you with the data which were requested. We will be pleased to furnish additional information if you so desire.

Sincerely yours,

JAMES R. SMITH,
Assistant Secretary.

ELECTRODIALYSIS BRACKISH WATER DESALTING

Plant type	Electrodialysis		Electrodialysis		Electrodialysis		Electrodialysis	
Capacity, million gallons per day.....	0.1		0.5		1.0		5.0	
Capital investment.....	\$98,000		\$33,000		\$630,000		\$1,570,000	
	Dollars per year	Cents per thousand gallons	Dollars per year	Cents per thousand gallons	Dollars per year	Cents per thousand gallons	Dollars per year	Cents per thousand gallons
Fixed charges.....	6,900	20.8	23,000	14.0	44,100	13.5	109,000	6.6
Operating costs: ¹								
Energy cost.....	5,300	15.9	22,500	13.7	27,800	8.5	105,000	6.4
Chemical treatment.....	1,000	3.0	4,900	3.0	9,800	3.0	49,000	3.0
Personnel cost.....	6,000	18.0	14,400	8.7	24,000	7.3	120,000	7.3
General operating cost.....	2,700	8.1	11,700	7.2	22,200	6.8	73,000	4.5
Total.....	21,900	65.8	76,500	46.6	127,900	39.1	456,000	27.8

¹ Brackish water, 1,500 p.p.m. TDS, moderate hardness. 1971 dollars, USA costs. 5½ percent interest, 30-year plant life, probable energy cost.

SEAWATER DESALTING—SUMMARY

Plant type	Distillation MSF		Distillation MSF		Freezing VFVC		Freezing VFVC	
Capacity (MGD).....	1		50		0.1		0.5	
Capital investment.....	\$1,460,000		\$43,000,000		\$280,000		\$1,200,000	
	Dollars per year	Cents per 1,000 gallons	Dollars per year	Cents per 1,000 gallons	Dollars per year	Cents per 1,000 gallons	Dollars per year	Cents per 1,000 gallons
Fixed charges.....	102,200	32.0	3,020,000	20.4	19,600	58.9	84,000	51.2
Operating expenses: ¹								
Energy cost.....	117,000	36.7	1,773,000	12.0	17,800	53.5	70,800	43.2
Chemical treatment.....	9,700	3.0	445,000	3.0				
Personnel cost.....	120,000	36.6	405,000	2.7	12,000	36.0	48,000	29.3
General operating cost.....	17,300	5.2	283,000	1.9	1,400	4.2	6,000	3.6
Total.....	366,200	113.5	5,926,000	40.0	50,800	152.6	208,800	127.3

¹ 1971 dollars, U.S. costs 5½ percent interest, 30-year plantlife.

REVERSE OSMOSIS BRACKISH WATER DESALTING

Plant type	Reverse osmosis		Reverse osmosis		Reverse osmosis	
Capacity, million gallons per day.....	0.1		0.5		1.0	
Capital investment.....	\$128,000		\$445,000		\$785,000	
	Dollars per year	Cents per thousand gallons	Dollars per year	Cents per thousand gallons	Dollars per year	Cents per thousand gallons
Fixed charges.....	9,000	27.0	31,200	19.0	55,000	16.8
Operating expenses: ¹						
Energy cost.....	10,000	30.0	36,000	22.0	55,000	16.8
Chemical treatment.....	1,000	3.0	4,900	3.0	9,800	3.0
Personnel cost.....	6,000	18.0	14,400	8.8	24,000	7.3
General operating cost.....	6,700	20.1	25,600	15.6	46,200	14.1
Total.....	32,700	98.1	112,100	68.4	190,000	58.0

¹ Brackish water, 3,000 p.p.m. TDS, moderate hardness. 1971 dollars, U.S. costs. 5½ interest, 30-year plant life, probable energy cost.