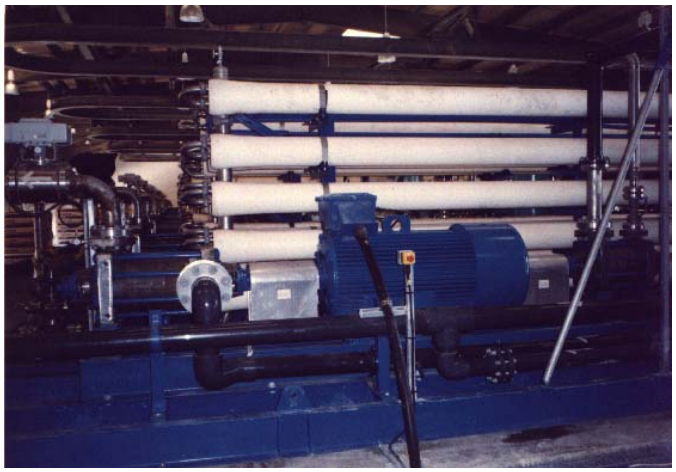
Process:	**Reverse Osmosis**
Client:	**Sual Power Station**
Country:	**Philippines**
Site:	**Sual Power Station**
Contract Description:	**Design / Supply / Commission a SWRO Station.**
Contract Value:	**US$ 7 million**
Contract Date:	**April 1996**
Contract Completed Date:	**July 1997**
Capacity:	**8,000 m³ / per day**
Sea Water Conversion:	S.W.R.O. 35%
Sea Water Feed Quality:	41,936 mg/l (tds)
Fresh Water Output Quality:	S.W.R.O. ≤ 430 mg/l (tds)



Project Description: -
Design and supply an S.W.R.O. plant.

Process Description: -
Seawater is taken from the cooling water intake to the power station and pumped through downward flow type pressure vessels filled with a dual filter media of sand and anthracite. (The filters are automatically back-washed at pre-set periods to provide optimum water quality). Final filtration upstream of the R.O. trains is provided by an array of cartridge filter vessels.

The R.O. plant comprises of 12 independent trains, each fitted with 54 spiral wound type membrane elements. Filtered water is supplied to the R.O. membranes by high-pressure multi-stage centrifugal pumps. The membranes convert 35% of the sea water into fresh water, the remaining water is rejected as brine. This sea water reject (brine) is used to operate turbine driven pumps that are positioned in series with the high pressure pumps, thus allowing the recovery of energy which would otherwise be lost.