

## c316318 : MAJOR INDUSTRIAL ENGINEERING

KEY WORD: COST/ REVERSE OSMOSIS/ EASTERN SEABOARD/ DESALINATION

NETPRAPA CHOTIMANON : A STUDY OF DESALINATION FOR THE EASTERN

SEABOARD AREA. THESIS ADVISOR : PROF.AMPIKA KRAIRIT,MR.WATTANA YUKPAN

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This thesis investigates the cost of desalination for Eastern Seaboard area. The main objectives are to study and analyze the cost of Reverse Osmosis, Multi Stage Flash and compare the cost between desalination and water from The Provincial Waterworks Authority in Eastern Seaboard area.

The main finding are as follows:

1. Water demand in Eastern Seaboard area increase every years depend on the growth of industry. In 1993, water demand was  $165.9 \text{ Bath/m}^3$ . In 2012, water demand will increase to  $433.6 \text{ Bath/m}^3$ . So, it is necessary to find the water resources for responding the increasing demand.

2. The cost for one cubic metres of water production in Multi Stage Flash system , Reverse Osmosis system, Banbung Water Treatment Plant are  $50.87 \text{ Bath/m}^3$ ,  $35.69 \text{ Bath/m}^3$  and  $43.77 \text{ Bath/m}^3$  respectively.

3. The highest average proportional cost for one cubic metre of water production in desalination system is energy cost . The average proportional energy cost of Reverse Osmosis is 64.85 % and Multi Stage Flash system is 68.92 % . Where as , the energy cost for Banbung Water Treatment plant of The Provincial Water works Authority is as low as 7.65 %.