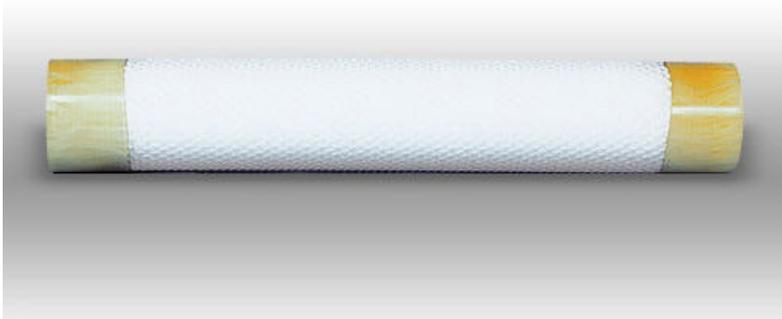


Mobile Water Recovery Using High Efficiency Hollow Fiber RO Membranes



High throughput hollow fiber RO element

OBJECTIVE:

- Develop a RO membrane resistant to biofouling with a salt rejection >99.5% in salt water desalination
- Develop a high throughput RO membrane element capable of producing 1L of fresh water from a salt water source in 15 min.

PAYOFF

- Lower energy requirements for water purification
- Improved robustness of the IWP membrane element
- Reduction in IWP size and mass

TECHNICAL APPROACH:

- Develop and optimize a RO membrane in a hollow fiber configuration
- Improve the membrane resistance to biofouling by modifying its surface with polyethylene glycol
- Develop and optimize a hollow fiber RO element for MIOX or Katadyn IWP devices

PERFORMERS:

Santa Fe Science & Technology Inc.

SCHEDULE:

TASKS	FY04	FY05
Develop hollow fiber RO membrane	▲	
The membrane optimization	▲	
Test membrane module (4L/h)	▲	
Hollow fiber membrane scale up		▲
1 st membrane element prototype		▲
2 nd membrane element prototype		▲

TRANSITION: Marine Corps Systems Command (MCSC)