S2.2.2 MEMBRANE SEPARATIONS TECHNOLOGIES IN WATER, WASTE WATER AND INDUSTRIAL APPLICATIONS

Richard (Rick) Ide, Rick Ide, LLC

The world has seen tremendous economic growth over the past century plus. The goal of economic growth is improved standards of living, but with the continued growth of industrialization comes the threat of increasing environmental pollution, the effect of which may result in a decreased standard of living. This environmental threat is especially noticeable in developing nations and becoming more apparent with the growing focus towards "green and energy efficient technologies".

New and improving membrane separations techniques are increasingly important as environmental regulations, and industry itself, focus on pollution control and waste stream resource recovery. Generally, the driving forces that promote evaluation and implementation of waste water and industrial waste stream separations techniques include solids generation, handling and haulage costs, disposal, increasingly stringent environmental regulations, increasing costs of fresh water, improved performance, the need for environmentally compatible processes, energy preservation, and the economic pressure to salvage or recycle useful or expensive components from various streams.

Membrane filtration (microfiltration (MF), ultrafiltration (UF), nanofiltration (NF) and reverse osmosis (RO)) technologies are being employed on water, waste water and industrial streams for recycle, reuse and discharge. Pre- and post- filtration techniques enhancing membrane filtration applications continue to be developed for the removal of contaminants from various waters and waste waters.

Topics of discussion:

- Industrial applications for membrane technologies (oily waste waters, glycol recovery, metals waste waters, recycle-reuse, other)
- Available membrane types, chemistries & configurations
- The membrane manufacturers