Resin and RO Membrane Replacement

Situation
Pure water is the lifeblood of every process plant. Ensuring that enough high-quality water is generated at optimal cost is a key strategic goal for high-performing industrial water systems. However, the variability of surface feed water challenges the capability of aging water treatment systems to keep pace with growing demands.

Ion exchange resin and RO membranes are the heart of nearly every water treatment process, and the resin and membranes must be maintained so that the system can properly remove hardness elements, particulates and other microbiological and natural organics that are suspended in the treated water that flows through it. Fouled resin and membranes lower throughput and drive up regeneration costs.

Over a three year period, untreated systems can:
- Decrease throughput by 30%
- Quadruple the risk of available water
- Add 30% to the operating costs associated with running your water treatment facility

RTI has shown, over many systems, that resin and membranes can often be cleaned so that throughput can be restored at costs lower than replacement. But many times resin and membranes are not healthy enough to be cleaned and need to be replaced. RTI can make replacement happen as well; in fact, RTI is the only resource that can combine cleaning and replacement to provide the most effective solutions for all industrial water systems.

RTI’s Replacement Option
RTI has teamed with Lanxess to provide a replacement option for both the highest quality ion exchange resins and RO membranes in the marketplace today. Lanxess is a global specialty chemicals company that makes a number of chemical products in over 29 countries, all focused on the best use of current technologies and bringing the highest value to their customers.

The advantages of RTI working with Lanxess to replace resin and RO membranes are numerous:
- Two of the premier suppliers of technology solutions for industrial water systems
- The only resource that can combine new and cleaned resins, resulting in higher average throughput and longer resin life:
  - Superior products and services delivering superior operating results
  - Reduced operating costs
  - Lower overall resin replacement costs over time
- A hands-on approach delivering real results
- On-going services at no charge:
  - Resin analyses
  - Resin installation
  - Discounts on future resin cleanings

Ion Exchange Resin Products
Through Lanxess, RTI can offer a full range of UPS and hetero-disperse styrenic and acrylic resins to meet all the needs of any industrial plant:
- Strong acid and weak acid cations
- Strong base and weak base anions
- Mixed bed resins
- Condensate polisher resins

Typical UPS Anion Resin
These resins are offered with a number of important advantages for industrial customers:
- Products comparable to or better than Dow and Purolite in every respect
- Competitively priced
- Better availability
- Many years of successful experience in hundreds of industrial applications
- Superior service from both Lanxess technicians and RTI demin experts

**RO Membrane Products**
Many industrial water systems include reverse osmosis systems as an integral part of their demineralizer process. The purchase and maintenance of the RO membranes is a critical component of the successful operation of these systems.

RTI, working with Lanxess, can:
- **Analyze** the current condition of the RO membranes
- **Clean** membranes that have good operating performance left in them
- **Replace** membranes that are beyond cleaning with a superior designed RO membrane from Lanxess

Lanxess has made a $40 million + investment in both RO membrane technology and software with a patented product technology that generates a number of advantages compared to competitors:
- Greater durability and performance
- Greater resistance to fouling
- Higher silica rejection rate
  - Due to unique Xlinked construction
  - Results in less downstream system load
- Accompanied by a Lanxess software product that is an innovative planning tool
  - Planning and simulation of water systems
  - Incorporates both resin and RO aspects

**Innovative Purchasing Options**
Resin cleaning and replacement – a unique combination to begin with – can be obtained through a number of innovative purchasing channels:
- Approaches combining all components of the improvement plan in a traditional one-step proposal
- Longer term approaches that capture the true nature of the system improvement **over time** that cleaning and replacing together promise:
  - Multi-year with continuous system analysis
  - Monitored by RTI with planned actions
  - Monthly payments that capture overall cost savings and system improvements

**How To Get Started**
Give RTI a call to start your water system improvement plan today – it’s easy!
- Samples are collected and RTI performs an analysis of them – **at no cost to you**!
- Data is generated and recorded specific to your system’s performance and capabilities
- Together with you, RTI examines other system issues impeding performance
- RTI prepares a comprehensive improvement plan
  - Includes cleaning and replacement where warranted
  - Ready for implementation

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**Partners in Water System Improvement!**

*Reduce Water Risk ➔ Improve Water Quality ➔ Cut Operating Costs*

Call or Contact RTI at (215) 682-7099  
[www.rtiservices.com](http://www.rtiservices.com)

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