



ENGINEERED PARTS AND SERVICES (EP&S) SYSTEM OPTIMIZATION PROGRAM



PROGRAM OVERVIEW

For existing water treatment systems that are not operating at optimum efficiency, USFilter offers the System Optimization Program to enhance your system's performance. This program is offered through USFilter's Engineered Parts and Services (EP&S) group. Through the program, an EP&S Technical Services Engineer will:

- Travel to your site.
- Conduct a comprehensive review of your water treatment system and ancillary equipment.
- Meet with your operating personnel to determine current maintenance procedures and operating conditions.
- Review your operating data and sequences, drawings and Operating and Maintenance Manuals.
- Provide a detailed engineering report, including observations and recommendations.

Services are available on a per diem basis and can include engineering consulting, process troubleshooting, equipment evaluation and optimization and an optional Process Optimization Modeling Report. Using our proprietary computer simulation program WinCPD™, we can generate a Process Optimization Modeling Report that will detail the optimum parameters for your specific system. WinCPD allows us to analyze a multitude of variables within a water treatment system and then model the most effective operating parameters for each system. Some of the variables that we analyze:

- Influent conditions including ionic load, water temperature and organic contaminant levels.
- Flow rates and bed depths.
- Regenerant dosages and how they can be altered to make the regenerants more effective, while consuming less volume.
- The types and sizes of pretreatment and primary systems already in place and how they can be optimized by using different types of resins or membranes, operating co-current versus countercurrent, adding pretreatment equipment to produce a better quality product, etc.

As part of the report, we can suggest additional equipment that will lower your costs, while improving your overall operations, flow rates and quantity and quality of water.



Depending upon the level of services that you require, the EP&S Technical Services Engineer can work in an advisory capacity or we can work with USFilter's service organization to supply you with installation and supervisory services, labor, materials and equipment to return your system to optimum performance.

PROGRAM INCLUDES ALL MANUFACTURERS' EQUIPMENT

The program includes water treatment systems supplied through USFilter's family of companies including systems previously supplied by:



(also referred to as Himsley International)



IONPURE



(Illinois Water Treatment)



Mitco

PENFIELD

PERMUTIT



Water Services of America

We are also well qualified to perform evaluations on all other manufacturers' water treatment systems, as EP&S personnel have over 200 years of water treatment experience.



EQUIPMENT ROUTINELY EVALUATED

Examples of the types of water treatment and ancillary equipment that is routinely evaluated includes:

Boiler feedwater treatment systems	Gravity filters <ul style="list-style-type: none"> • AVGF (Automatic Valveless Gravity Filters) • Valved gravity filters
Carbon towers	Heat exchangers
Chelators	HFCS systems
Chemical feed systems	Hot lime softeners
Chevron tube settlers	Membralox ceramic microfiltration systems
Chromatography systems	Microfiltration systems
Clarifiers <ul style="list-style-type: none"> • Inclined plate • Lamella • Solids contact 	Multiport valve systems
Clean-In-Place (CIP) systems	Neutralization systems
Condensate polishers	Precipitators <ul style="list-style-type: none"> • Horizontal • Vertical
Condensate softeners	Pressure Filters <ul style="list-style-type: none"> • Anthracite • Birm • Carbon • Dual media • Greensand • Iron • Manganese • Multimedia • Sand
Continuous electrodeionization (CEDI) systems	Regeneration skids
Deaerators	Resin maintenance vessels
Dealkalizers	Reverse osmosis (RO) systems
Decarbonators	Sampling devices/sinks
Decolorizers	Six bed systems
Delonization recirculating systems	Softeners
Deionizers / demineralizers <ul style="list-style-type: none"> • Anion exchangers • Cation exchangers • Layered beds • Mixed beds • Non-regenerable demineralizers • Packed beds • Two beds (also called two step or separate beds) 	Ultrafiltration (UF) systems
Desugarization units	UV (ultraviolet) sterilizers
Dissolved air flotation (DAF) systems <ul style="list-style-type: none"> • FAVAIR 	Vacuum degasifiers
Forced draft aerators	

This list is not all encompassing. If you have other water treatment equipment not shown on this list, please contact us for additional details.



CAPABILITIES INCLUDE CONTROL SYSTEM UPGRADES

Through our dedicated staff of electrical engineers, we also offer the most comprehensive program for evaluating and upgrading obsolete or special-function controls, relays and timers or existing programmable logic controllers (PLCs) for optimum performance of your controls and instruments. Updating existing controls and instrumentation is one of the most cost-effective methods for improving a plant's efficiency and reliability. USFilter's EnControl program will provide the reliability you need in our fast-changing technological environment.

TYPICAL RECOMMENDATIONS

Some examples of the typical recommendations contained within our reports could include the following, depending on the operating characteristics of the system being evaluated and the needs of the installation:

- Methods for obtaining consistent water quality and quantity
- Methods for improving production rates including technological improvements and adjustments to the operating sequence and components
- Ways to reduce maintenance costs and improve maintenance procedures
- Ways to reduce chemical consumption
- Optimization of resin and other media
- Correct dosages and flow rates for improved regeneration and production cycles
- Analysis of valves, flow measurement devices, strainers, gauges and other components and recommendations for alternative devices
- Feedwater quality requirements or feedwater qualities that are changing
- Cleaning procedures
- Analytical and sampling procedures
- Record-keeping
- Recycling and conservation of water, chemicals, etc.
- Lubrication techniques and specifications
- Materials of construction and mesh sizing for screens
- Distribution and internal assemblies
- Paints and coatings for improved corrosion-resistance
- Alternative materials of construction

Within the e-mail that was sent to you, we included a typical report as a separate attachment, so you can evaluate the type of recommendations that are provided. The end user's name and address were altered to keep their specific recommendations confidential.

CONTACT US FOR ADDITIONAL DETAILS

To discuss your specific requirements, please e-mail us at retrofits@usfilter.com or call us at 800.582.5261 ext. 378. For international inquiries, please call us at 815.921.8378. If you prefer, you can also contact your local USFilter sales office for further details.



EP&S PRE-EVALUATION QUESTIONNAIRE

Date		Person Completing the Questionnaire	
End User's Contact Name		End User's Contact's Title	
Telephone	()	Fax No.	()
E-Mail Address			
Company Name (Former Name)			
Address			
City		State	Zip
EQUIPMENT DETAILS			
Equipment Type – Examples: Softener, Mixed Bed Demineralizer, Filter, Precipitator, etc.	Original Equipment Manufacturer— Examples: IWT, Permutit, Glegg, Ionics, Continental, Penfield, etc.	Year Purchased	Job, Serial or Shop Order No.
Describe Operational Concerns			
Describe any Repairs or Retrofits that are Needed			
Describe the Controls & Instrumentation (type, manufacturer, vintage, condition, etc.)			
Describe the Available Documentation – are drawings, Operating & Maintenance manuals & other documents readily available and discuss how they will be provided to USFilter (UPS, e-mail, etc.)			
Desired Time Frame for Evaluation & Recommendations			
Person(s) Who Will Be Involved At The End User's Site			
List Any Other Pertinent Details			

Please fax the completed form to 815.877.2868 or e-mail us at Retrofits@usfilter.com.