Graftel’s approach to heat exchanger testing and analysis is consistent with the methodology presented in the EPRI document TR-107397, “Service Water Heat Exchanger Testing Guidelines.”

We can come to your site to perform testing and evaluation using our portable instrumentation systems. The testing services provided support a facility’s existing heat exchanger testing program while keeping it consistent with the best practices of EPRI guidelines. Alternatively, Graftel sells systems that are permanently installed, this allows for continuous monitoring of heat exchanger performance. Permanent systems may be wired directly to your plant’s LAN or may be wireless. Either may be monitored on your desktop or remotely via internet connection or GSM.

Our heat exchanger performance analysis software offers real time evaluation of the current and future conditions of the heat exchanger. This may be done by the facility staff or remotely by Graftel personnel.

Real Time Monitoring of:
- The operating efficiency of your heat exchanger
- If or when the next cleaning is required
- The total heat removal capacity
- Overall heat transfer coefficient
- The amount of cross leakage and blockage
- Total fouling factor and film thicknesses
- Inlet and outlet temperatures
- Inlet and outlet flow rates
HEAT EXCHANGER MONITORING SYSTEMS
Tube and Shell Heat Exchangers

Data is collected and analyzed by a heat exchanger performance software package supplied by Graftel for commercial applications or Zachery Engineering’s ProtoHx for nuclear power applications.

Temperatures are measured with a total uncertainty of 0.1°F or better and flow rates with 2% of reading or better. Graftel has a wide variety of different temperature sensors and flow meters to choose from for many different applications. Each system is custom designed to meet your specific needs.

Once installed the system may run autonomously seeking the optimum conditions of heat load and stability to calculate the desired parameters while maximizing resolution and minimizing the total measurement uncertainty. Calculations are validated using a first law energy balance.

This system allows the owner to always know the maximum heat transfer capacity as well as the projected time until next cleaning.