

Altair Equipment Co., Inc Reference Projects

Johnson & Johnson , New Brunswick , NJ. Designed and installed a 500 GPD Purified Water System.

Merck Sharpe & Dohme, West Point , PA. Design/build and assisted in validation of an extension to an existing water system.

Wyeth, Pearl River , NY . Reviewed and prepared a report on the requirements to upgrade and validate an existing water system.

Anthony Products Company , Arcadia , CA . Renovated and upgraded a WFI system which was the subject of FDA objections.

Lederle Laboratories , Pearl River , NY . Purified water system design for a pilot plant facility.

Wyeth-Ayerst Laboratories , Marietta , PA. Clean utility systems design for Influenza Vaccine Production Facility. Coordinated pipe design and layout for the project.

Bayer De Mexico , Mexico City , Mexico . Purified Water System design for tablet and encapsulation facility.

Sterling , China . Purified Water System design for an oral dosage facility.

Warner Lambert , Lititz , PA. Review of validation documentation and water sample results.

Lederle Laboratories , Pearl River , NY . Detailed design of a Purified Water System for a Fermentation Facility.

B.I. Chemicals , Petersburg, Va. Design of a USP Purified Water System for a bulk pharmaceutical facility.

Taylor Pharmacal , Decatur , Ill. Utility capacity review study to determine expansion ability.

Kemet Electronics Corp. , Greenwood , SC. Economic study of various system upgrade options for electronic water system.

Fujisawa, USA, Inc ., Grand Island , NY . Design of fully automated point of use heat exchangers.

Danbury Pharmacal , Carmel , NY . Performed site waste water analysis and evaluation regarding facility expansion potential.

Elkin-Sinn, Inc. , Cherry Hill , NJ . Evaluation of system requirements. Conceptual design. Currently working with vendor on system design.

Syntex , Humacao, Puerto Rico . Purified Water subsystem design and specification. 50 GPM circulation rate, solid dosage facility.

Pharmaceutical Basics, Inc. , Morton Grove , Ill. Troubleshoot existing Purified Water system, recommend upgrades in response to FDA concerns while designing a replacement system, currently working on implementation of the recommendations.

Upjohn, Inc. , Kalamazoo , Michigan . Evaluate microbial problems in existing potable water system, established a comprehensive program to implement upgrades. Water system demand is 2000 GPM maximum currently awaiting approval to design a chlorination system to control bio film and remove iron.

Radiometer, Inc. , Cleveland , Ohio . Conceptual design and budget for construction of a Purified Water system during a renovation of a new facility for Grade 2 Medical Devices.

G.D. Searle , Skokie , Ill. Upgrades to Purified Water and Water for Injection system. Upgrades included replacement of the pretreatment system, utilization of ultra filtration to polish the Purified Water system distribution loop and point of use heat exchanger design.

MEMC , Spartensburg , SC. designed a pilot study to reduce TOC contamination in electronic grade water system. Utilized ozone and ultraviolet light to reduce TOC to 10 ppb.

Schering-Plough Research , Union , NJ . Preliminary design, layout and distribution loop isometrics for a bulk pharmaceutical Water for Injection system. All instrumentation was designed for explosion proof operation.

Merck, Sharpe and Dohme , West Point , Pa. Purified Water, Water for Injection and Clean Steam system design and construction support. Utilized PVDF pipe and sanitization by ozonation. Circulated 100 GPM to research labs and pilot plant operation.

Glaxo , Stevenage , UK . Site master plan for purified water for research.

Glaxo , Research Triangle Park . NC Troubleshoot start-up on new Purified and Water for Injection systems.

Bristol-Myers Squibb , Morrisville , NC . Design Purified Water system. Supported construction and validation. Circulated 80 GPM to cosmetic and syrup production facilities.

Sterling Research Group , Phoenixville , Pa. Designed a pretreatment system to feed the Purified Water, Water for Injection and Deionized Water systems. Utilized continuous deionization.

Bristol-Myers Squibb , Morrisville , NC . Designed a subsystem off the main Purified Water system for use in production of nasal spray.

Pfizer, International , Venezuela. Supported in-house efforts to validate a Purified Water system to FDA standards. System serviced a penicillin operation as well as aseptic operations.

Alcon, Inc. , Humacao, Puerto Rico . Assisted the client in identifying heavy metal contamination in the Water for Injection system, developed a re-passivation procedure and supervised the re-passivation effort.

Schering-Plough Research , Kenilworth , N.J. Assisted the client in troubleshooting a new system they were unable to validate. Developed a complete system commentary, which the Client utilized to direct the vendor to take corrective action.

Merck, Sharpe and Dohme , West Point , Pa. Reviewed high purity water specifications.

PUBLICATIONS

"Upgrading Purified Water Systems To Today's Standards", ULTRAPURE WATER 10(5), pp. 40-44 (July/August 1993).

"Providing Support Facilities to Biological Processes", presented at ASME '93 WAM Bioprocess Engineering Symposium, New Orleans , Louisiana , November 29, 1993 .

"Laboratory Utilities for Research and Development", Introduction to the Pharmaceutical Industry", ISPE Delaware Valley Chapter course offering. 1994

"Simulation of Purified Water Systems", Scheduled for Presentation, May 9, 1994 , Ultrapure Water Conference, Philadelphia , Pa.

"Prescription for Finding a Strategic Partner", BIOPHARM 7(9), pp. 34-38 (November 1994).

"Prescription for Finding a Strategic Partner for a Biotech Company", Pharmaceutical Engineering 15(5), pp. 30-36 (May 1995).

"Gathering Validation Documentation for Pharmaceutical Water Systems." Ultrapure Water, December 1995

“Gathering Validation Documentation for Pharmaceutical Water Systems-Part 2.”
Ultrapure Water, April 1996

“FDA/Regulatory Issues Concerning the Introduction of New Technology into
Pharmaceutical Facilities” Ultrapure Water, March 2000 (presented at the
Ultrapure Water Conference Executive Committee Meeting April 1999).

“Water Reuse Initiatives in the Pharmaceutical Industry”, Ultrapure Water
Executive Committee presentation April 2003.

TRAINING SEMINARS

Water Treatment Basics

Boiler Treatment

Deionization

Purified and WFI System Design

Treatment Technology Overview

Validation of Water Systems for Pharmaceutical Facilities

Water System Design

Central Utility Requirements

Industrial Waste Water Reuse