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Dr. Christodoss has over 30 years of experience in the Engineering Profession with design/construction/operational expertise in Industrial Wastewater Technologies including operator training. Highlights include:

- ★ Adjunct professor for industrial and municipal wastewater treatment at the University of Tennessee
- ★ System optimization, design, construction, operation and operator training for industrial wastewater plants and associated infrastructure.
- ★ Conversion of high BTU industrial waste to natural gas and electricity co-generation.
- ★ Industrial process improvements for enhanced effluent quality and waste minimization.
- ★ Design of tertiary plants for reuse of industrial wastewater
- ★ Pilot studies and innovative technology development
- ★ Design of process pipelines, pump stations and conceptual design of control systems with remote radio monitoring/SCADA
- ★ Root cause analysis, risk assessment, condition-criticality assessment and condition-criticality-probability ranked preventive/scheduled maintenance-replacement program development.
- ★ Industrial wastewater permitting with TCEQ
- ★ His career highlights include 5 Awards:
 - **National Pollution Engineering Award** for eco-sensitive design and construction,
 - **Texas Environmental Excellence Award** minimizing industrial waste pollution and conversion of industrial high BTU waste to energy,
 - **Air Force Base Environmental Excellence Award** for proficient engineer-operator team work,
 - **AWWA Award** for work in water quality, and the
 - **Bechtel Global Technical Grant Award** for innovative waste minimization technology.

Professional Expertise

- ✓ Industrial Water and Wastewater Piloting, System Optimization, Design, Construction, and Operations/Operator Training
- ✓ Preventive Maintenance Program Development and Implementation
- ✓ Asset Management and Long-Term Capital Improvement Planning
- ✓ Waste to Energy/Renewables
- ✓ Eco Sensitive Design
- ✓ Grant Identification and Administration

Years of Experience

- ✓ 2 year with URS
- ✓ 30+ years with other Firms
- ✓ 10 years with Local Govt.

Education

BS, Civil Engineering. 1980
MS, Environmental Engineering. 1986
PhD, Civil Engineering, 1990

Registration

Professional Engineer, Texas

Industrial Wastewater

- ★ **Senior Project Engineer, Kelly/Brooks Air Force Base, Industrial Water Treatment, Design-Build Projects:** Field engineer for optimization of the Unipure industrial heavy metals co-precipitation treatment plant; performed a comprehensive study of process parameters for enhancing treatment performance and meeting NPDES limits. Published report summarizing operating guidelines for achieving maximum efficiency.
- ★ Performed a hydraulic design upgrade with integration of an Industrial Wastewater Plant and an existing Groundwater Treatment Plant (GWTP) in a design-build process, and oversaw construction and operational optimization-startup. Functioned as the general contractor for the project. Prepared electrical and controls concept with cost estimates for SCADA radio monitoring and control from 7 automated remote pump stations. Integrated the 1,000 gpm industrial waste water treatment plant into a 500 gpm SCADA GWTP to reduce costs and utilize both infrastructures effectively. Performed hydraulic design and construction oversight of pump station, recovery well pumps, oil/water separators, silt traps, below ground piping, ultraviolet/hydrogen peroxide treatment systems and mechanical-instrumentation components.
- ★ **Program Manager, City of Waco Industrial Wastewater Pre-treatment Program:** Performed a plant tour of industrial facilities to identify process changes for increasing efficiency and waste minimization-pollution prevention. Identified high BTU industrial waste with potential for conversion to energy at local industries, oversaw design and construction of a receiving station for the industrial waste. Oversaw system modifications for the new industrial waste to natural gas and electricity co-generation process.

Publications:

- ★ Water Reuse Technologies for Industrial and Municipal Applications, 2013 9th Annual Practical "WATER Issues & Technologies" Short Course, Texas A&M Short Course, Dept. of Food Sciences, October 2013.
- ★ Tangential Flow Filtration (TFF) Membrane Applications, Texas A&M Short Course, Dept. of Food Sciences, April 2013.
- ★ "Wastewater: Heavy Metals Removal-Enhancing the Process-Part I & II", Environmental Technology Journal of Advanced Science & Engineering (1999).
- ★ "Turning Industrial Wastewater Treatment Sludge into Revenue by Bio-transformation (Alternative Bio-Fuel: Methane Generation, Optimization, Electricity Production, and Reuse)", Texas AWWA Conference Proceedings, Austin, TX, April 2006/Texas Public Works Association, Mesquite, TX (2006).
- ★ "Tangential Flow Membrane Filtration (TFMF) Applications in Wastewater Reuse to meet Industrial Water Supply Demand plus Brackish Groundwater and High Chloride Surface Water Treatment", March 2014 Membrane Technology Conference, AWWA-AMTA, Las Vegas, NV