



Stephen P. Donner, P.E.

Staff Consultant



**Sheppard T. Powell
Associates, LLC**

EXPERIENCE

STPA Staff Consultant

2014 to present

Independent Consultant

2005-2013

Senior Chemical Engineer Specialist

1991-2004

Other Engineering & Chemistry Positions

1972-1990

EDUCATION & REGISTRATIONS

Michigan Technological University

BS Chemical Engineering

Michigan Technological University

MS Business Administration

PE in Michigan

MEMBERSHIPS

ASME Power Plant and
Environmental Chemistry

American Institute of
Chemical Engineers

Mr. Donner has over 40 years of experience in power plant chemistry. Prior to joining Sheppard T. Powell Associates, LLC (STPA), Steve worked for Consumers Energy Company (CEC) for 32 years. He subsequently worked as an independent consultant for nine years. At CEC, he initially worked at BWR and PWR nuclear plants in the areas of chemistry, radiation protection, and plant engineering. Steve later worked as Chemistry Supervisor at a two-unit coal-fired power station. For over 15 years, he had corporate oversight responsibilities for chemistry (boiler water, cooling water, makeup water, chemical cleaning, fuel chemistry, flue gas conditioning and wastewater treatment) operations for the CEC's fossil-fueled power plants. His duties included establishing system chemical treatment programs and recommending improvements to plant chemical treatment programs. He has also performed reviews to assess compliance with specified limits and procedures, provided guidance on chemistry limits, grab sample water testing, fuel analyses, online monitoring systems, chemical feed systems and operating procedures, and assisted in troubleshooting chemistry-related problems. Mr. Donner worked closely with the corporate laboratory personnel to interpret of metallurgical, deposit and water analyses results. Mr. Donner has evaluated turbine deposition sources and corrective action. In some cases, he assisted plant and/or corporate environmental personnel with ensuring compliance with environmental permit requirements. Steve was also the CEC in-house chemistry consultant for other power plant engineering projects. Additionally, in 2009 Steve assisted the US DOE with the review of proposals submitted for partial funding of carbon capture and sequestration demonstration projects to be installed at new and/or existing power plants.

His steam/water cycle equipment experience includes steam surface condensers, air removal systems, condensate polishing, feedwater and deaerating heaters, chemical feed systems, chemistry monitoring and control systems, boilers, and steam turbines. He was a co-author of the 2008 revision of the EPRI document "Cycling, Startup, Shutdown, and Lay-up: Fossil Plant Cycle Chemistry Guidelines for Operators and Chemists".

Steve has been involved in the monitoring and troubleshooting of makeup water treatment systems. His work with makeup water system designs have included clarifiers, hot process lime/soda softeners, mixed-media filters, ion exchange demineralizers (primary and mixed-bed) regenerated on site, mixed-bed demineralizers regenerated off site, reverse osmosis units, and continuous electrodeionization (CEDI).

Steve has provided support to plant personnel for boiler chemical cleanings. This has included forecasting the need to clean, assisting in the planning and development of cleaning procedures, estimating deposit removal amounts, selecting solvents, evaluating vendor proposals, assisting in the supervision of chemical cleanings, recommending cleaning waste treatment, and evaluating cleaning effectiveness.