

MISSION-CRITICAL PROFILE

Name: Michael Shea

Organization: San Francisco Public Utilities Commission – Water Enterprise



Job Category (Check one below):

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| <input type="checkbox"/> Water Treatment | <input type="checkbox"/> Electronic Maintenance Technician/ Instrument Technician |
| <input type="checkbox"/> Water Distribution | <input checked="" type="checkbox"/> Electrician/Electrical Line Worker |
| <input type="checkbox"/> Wastewater Treatment | <input type="checkbox"/> Machinist/Mechanic |
| <input type="checkbox"/> Wastewater Distribution | <input type="checkbox"/> Other |

1. Please describe the work you do:

I am the lead electrician for the San Francisco Water Department City Distribution Division. We maintain the City's network of pump stations, reservoirs, tanks, and motorized valves along with the Auxiliary Water Supply System for the San Francisco Fire Department. This requires a working knowledge of electrical work methods and safety required to work from 15kv down to the milli volt/amp range.

2. What combination of education, vocational training, apprenticeship, experience, and/or skill did you obtain in order to be qualified and selected for your job?

After I completed high school, I went to the University of San Francisco as a political science major but dropped out. I worked as a tree-topper for a couple of years then became a marine electrician's apprentice working out of Local 6. This was during the Reagan defense buildup. In 1990 I changed my classification to that of an inside wireman electrical store-keeper while waiting to take the inside wireman apprentice test. I completed a 5-year electrical apprenticeship program with IBEW Local 595 in 1996. This included extensive on the job training in industrial, commercial, and residential wiring methods for customers like Toyota/G.M. at the NUMMI plant in Fremont, Lawrence Livermore Laboratories, Sandia National Laboratories, I.B.M., and U.C Berkley.

3. What do you like best about your job?

I love being able to work on a "living system." It's constantly changing. I like being able to do something that is tangible. I can drive down the streets with my kids and show them work that I have done. I like working with other people to solve problems, and taking ownership of tasks. When Water Department workers are on stand-by, we own the system, we are responsible to protect it 24/7. We also take a major role in design of new facilities (e.g., maintenance system integration associated with System Control and Data Acquisition systems.) We have to understand programming and work with SCADA technicians. Once new facilities are up we are responsible for maintaining and trouble shooting them. I have also been involved in design of pump

stations, including groundwater pumping stations. Just recently we completed a pump station that will provide back-up potable City water to a park that will normally be irrigated using recycled water.

I have always been fascinated with the Hetch Hetchy system and O'Shaughnessy's design. I always had it in my mind that if I were to go to work for a public agency it would be for the Water Department. It's in my blood. My grandmother's brother worked on construction of the tunnel delivering water across the Central Valley from Hetch Hetchy. He and eleven other men died from a construction accident in the tunnel. His older brother was with Southern Pacific and had mining experience. He arrived on site and was able to advise the shift supervisor on how to avoid endangering the other workers who were there—that they would need to stop and assess the situation before they sent anyone else in. Later my father was a driver for the Water Department. It has always been one of my goals to work for the Water Department because of my family history and great respect for the system.

I spent 19 years working in private industry and I hit a point where I felt that I could be an asset to the SFPUC. Because of the SFPUC's Water System Improvement Project Water Enterprise saw a need for an electrician with a construction background. The Electrical Shop has tried to go out and look for people who could think on their own. The planning and skillset not only of the electricians in our shop but of the other craft workers we coordinate with at the San Francisco Public Utilities Commission is far ahead of what I dealt with when I was working in private industry in construction. My supervisor is a great teacher; if you don't get it from the first explanation, he will try it from another angle. From his mentoring, I learned more in my first 2 weeks than I had from 20 years on the outside.

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4. Please tell us about the projects and activities you have enjoyed most in your work in the water/wastewater field, and what made them rewarding,

I enjoy the challenge of being an emergency standby. You never know what kind of problem is going to pop up in the middle of the night. Every standby rotation is different.

Bringing our new pump stations online and working with the system integrators, I have learned a ton. Every aspect of my apprentice training is applied as we bring new stations up.

5. What qualities and capabilities are needed in order for a person in your area of expertise to be successful in the water/wastewater industry?

The ability to learn new and highly technical systems and equipment is very important. The willingness to learn and the ability to get along with others are both critical. In a crisis this can make or break a project. You need the ability to get along with others, all kinds of people, not to be stand-offish or abrasive, particularly when a team of people need to work together on a project.

6. Do you have any advice for an individual who is considering pursuing a career in your field in the water/wastewater industry?

I would recommend as much training as possible. I would take electronics at the very least. Motor control training would also come in handy. This could be learned at a community college. Joint apprentice Training Committee training courses you could take before or after apprenticeship. Every bit helps. If you take an apprenticeship course on-line, make sure it is accredited. Military service would help with both training and building discipline. Do not get discouraged as the process can be long and tedious but well worth it!

