

# Project Profile

City of Aurora, Oregon

Arsenic, Iron & Manganese Removal System



## Background

In late 2009, Water Works Engineers contacted AdEdge to design and implement an arsenic, iron and manganese removal system to serve the City of Aurora, Oregon. The existing water supply consisted of three wells feeding into a centralized distribution system with a maximum combined capacity of 500 gpm. The site had an arsenic level of 12 ppb above the EPA's MCL of 10 ppb. The City of Aurora also had iron and manganese levels of .9 mg/L and .189 mg/L above the secondary MCLs of 0.3 mg/L and 0.05 mg/L respectively. AdEdge worked closely with Water Works Engineers and Ashley Engineering to supply the treatment system, backwash recycle pump skid and components, chemical feed, and instrumentation. AdEdge also furnished the system with a PLC communications module to perform the automated functions needed for proper operation of the control valves. The system was constructed and commissioned in the fall of 2010.



## Treatment System

The AdEdge treatment system featured a skid-mounted AD26 oxidation and filtration package united sized for a maximum design flow rate of 500 gpm. The model AD26-7260CS-3-AVH utilizes AdEdge ADGS+ media in a three vessel carbon steel configuration in series. ADGS+ is a manganese dioxide coated silica media which is NSF 61 certified used in the removal of iron, manganese and arsenic. Injected ahead of the treatment unit through a chemical feed is chlorine to oxidize As (III) to As (V) for optimized performance. The system is equipped with automated control valves and harness, central control panel with programmable logic controller (PLC) and a color user interface screen. System features also include differential pressure switches, flow sensors and totalizers, and sample ports for a complete functioning packaged unit. Each 72-inch diameter treatment vessel contains approximately 84 cubic feet of AdEdge ADGS+ oxidation filtration media. Backwashing of the system of the system occurs every three to four days based on the incoming levels of iron and manganese which is programmed using the PLC. Water exiting the treatment system feeds the 300,000 gallon storage tank and distributed to the end users.



## Performance

The system was started up and began operation in November 2010. Since the installation of the system, the arsenic, iron and manganese levels are below the treatment goals of 10 ppb, 0.3 mg/L and 0.05 mg/L respectively.

## For More Information Contact

### AdEdge Technologies, Inc.

Mr. Greg Gilles, Vice President  
5152 Belle Wood Court, Suite A  
Buford, Georgia 30518  
678-835-0052 \* 678-835-0057 Fax  
[greg@adedge technologies.com](mailto:greg@adedge technologies.com)  
[www.adedge technologies.com](http://www.adedge technologies.com)

### Water Works Engineers

Joe Reese  
1405 Victor Ave  
Suite A  
Redding, CA 96003  
530-243-2113  
[joer@wwengineers.com](mailto:joer@wwengineers.com)

### Ashley Engineering

14785 SE Foster Rd  
Dayton, OR 97114  
503-864-9404