Background: The Advanced Oxidation Process Water Treatment Facility

The City of Tucson and Tucson Water are committed to water reliability -- providing a reliable supply and system to customers today and in the future. Making well-planned investments in infrastructure is critical to achieving this goal.

- The Advanced Oxidation Process (AOP) Water Treatment Facility represents a strategic investment in a reliable, high quality water supply and system.

- The new AOP Facility is located at 1102 W. Irvington Road, adjacent to the existing Tucson Airport Remediation Project (TARP) Plant.

- AOP Facility construction started in September 2012 and was completed in January 2014. The AOP Facility cost $18 million to construct. Construction costs were included in Tucson Water’s long-range capital plan.

- The AOP Facility includes:
  - a 4,500 square-foot facility that houses 3 side-by-side UV reactors, a telecommunications center, electrical room, storage and battery backup to system controls
  - 8 granular activated carbon (GAC) hydrogen peroxide quenching contactors
  - blending station, booster pumps, and GAC backwash tanks

- AOP technology combines ultraviolet (UV) light with hydrogen peroxide to create a strong oxidant that effectively removes 1,4-dioxane, viruses, bacteria and other contaminants from water.

- Contaminant 1,4-dioxane was used as a stabilizer in industrial solvents in aircraft manufacturing facilities from the 1940s to the 1970s and has been detected in the groundwater plume at the TARP-area.

- The AOP treatment facility is a pro-active approach on behalf of the City of Tucson and Tucson Water to respond to the Environmental Protection Agency’s (EPA) health advisory levels for 1,4-dioxane. The EPA does not currently regulate 1,4-dioxane but issues advisories as guidelines for the nation’s water utilities. In January 2011, the EPA issued a new drinking water health advisory for 1,4-dioxane of 0.35 parts per billion – significantly lower than the most recent advisory level of 3.0 parts per billion.

- Together the new AOP Facility and the existing TARP treatment plant purify up to 8 million gallons of water a day.

- The water delivered by Tucson Water meets all federal drinking water standards and is safe for drinking, cooking, and bathing. The utility collects about 12,000 water samples each year across its service area with test results reported to the Arizona Department of Environmental Quality and to citizens in an annual Consumer Confidence Report.