Arizona Falls
Hydro-Electric Plant

**PROJECT SPECIFICATIONS**

- **SYSTEM**
  - VA Tech Hydro, Charlotte, NC
  - Bekaert (United Solar), Auburn Hills, MI

- **TWO UNIQUE SYSTEMS ON-SITE**
  - Low Head Hydro Electric: 750 kW
  - Photovoltaic System: 2.5 kW

- **INVERTER**
  - Uni-Solar PVL-128
  - Sunny Boy 2500, 2.5 kW

- **ENERGY PRODUCTION**
  - 4,083 kilowatt-hours (kWh) per year

**PROJECT INFORMATION**

Arizona Falls is a low-impact hydro-electric facility which incorporates part of a retired hydroelectric plant originally built circa 1911. Power generation is “fueled” by SRP water transmission and delivery activities i.e., the operating philosophy is “run of river”. The design output is obtained at a flow rate of 550 CFS at a 19-foot head. The vertical propeller, adjustable blade, turbine drives an induction generator. The 480 vac output is increased to distribution voltage by a 1 MVA transformer connected to a “dedicated” feeder from the Falls Substation.

The site is adjacent to the City of Phoenix’s Herberger Park. SRP and the City entered a “joint-use” agreement to develop this historically aesthetic Arizona Falls site.

In conjunction with the City’s expansion of the Park, aesthetic features such as water falls, shade canopies, landscaping, stairs and walking paths are constructed around the “main” power plant to recreate the environment of the original falls.

**BRIEF HISTORY OF ARIZONA FALLS**

In the late 1800’s, Phoenicians enjoyed the wonders of Arizona Falls, gathering to picnic, socialize, and dance near the cool water.

Utilizing the flowing water of the canal to produce power, Arizona Falls was also the site of the first hydroelectric plant in Phoenix. Originally built in 1902, the plant was rebuilt by SRP in 1911, began delivering power again in 1913 and was eventually shut down in 1950.

As the years passed and more people moved to the Valley, Arizona Falls was almost forgotten as the place to gather, until today.

**WHAT IS HYDRO-ELECTRIC?**

Hydro-electricity uses the potential energy of water as it changes elevation. The potential energy in the water is turned into kinetic energy when it flows down the pipes and into the power station. Water under pressure enters the power station and is directed onto the turbine. The kinetic energy of the moving water is turned into mechanical energy as it makes the turbine spin around. The turbine is connected via a shaft to the magnets which in turn spin around inside the coils of conductor. Here the mechanical energy is turned into electrical energy ready for distribution and use.

**SRP EarthWise™**

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