

# DSW substation energized on short schedule

Story and photos by **Melissa Chiechi**

On June 27, a new substation was energized at the Citizens Utilities/DSW Nogales facility, located on the outskirts of Tucson. **Jim Hartzell**, an electrical engineer who served as project manager, headed a fast-track project schedule to complete construction of the substation for Citizens Utility Co., which faced extensive criticism from local media and the citizens of



*Original portion of Nogales Substation.*

Nogales. Work recently completed by Western's team will help improve reliability for that system and prevent future problems.

In the Dec. 4, 1998, issue of *Nogales International*, Citizens' service was featured in six articles questioning its reliability.

In addition, the Arizona Corporation Commission held a public hearing in early December to address a complaint filed by the city of Nogales against Citizens. Resal Cravens, director of engineering for Citizens Utilities, came to Western on Dec. 9, 1998, explaining the serious problem he faced with the citizens of Nogales, the news media and the Corporation Commission. He asked DSW to help by designing and building a new substation.

Only 204 days later, the substation was completed and energized. Construction Manager **David Radosevich** said, "This is the fastest I know that a substation of this size has been erected from scratch, either in private industry or by the government. It would not have been completed without the dedicated employees from the environ-

mental office, the designers at CSO, the construction contractor, my group and the commissioning engineers. It was also an example of extremely good project management by Jim Hartzell."

The work at Nogales required coordination within a number of areas—granting an environmental clearance, procuring construction work and creating design specifications. Many problems came up and were resolved, including moving cactus to new locations, dealing with damaged equipment and sequencing outages.

**Cal Ingram**, DSW power operations specialist, explained, "This station was commissioned at a time of year when equipment is not normally taken out of service. From a system operations standpoint, much coordination was involved behind the scenes in voltage control, alternate metering and AGC control, while the tap was cut over to the ring bus. The transmission system dispatcher accomplished all this while delivering reliable service to the customer from alternate sources."

DSW completed the project, meeting Citizens' specifications of energizing by July 1 and holding costs to just under \$1.9 million. The improvement will aid reliability in an area of Arizona that faces numerous storms and weather-related outages.

**(Note: Chiechi is a public affairs specialist in Phoenix.)**



*Addition to Nogales Substation.*