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USER REPORT

Acrodyne Eases Transmission Transition

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FOND DU LAC, WIS.

WWAZ-TV was originally signed on as a temporary 35 kW facility with the call sign WMMF in December 2000. Once on-air, the station, owned by Pappas Telecasting, needed to build the full-power facility required by its construction permit. Because the station had an analog channel assignment of 68, we had to construct a facility of nearly 5 MW to maximize the station's coverage. We considered several transmitters, but we especially focused on the newer depressed collector IOT designs.

We decided to purchase the Acrodyne Quantum QDCN-4 in April 2004, just before the NAB convention. The comparative energy savings promised by the e2v ESCIOT depressed collector technology, along with the proven track record of the Quantum design convinced Pappas management to make this choice for the new facility.

Project management for the installation began on the floor at NAB2004. Jeff Powis and Mark Bricker from Acrodyne got the project moving and Dale Scherbring, vice president and director of engineering for Pappas Telecasting also brought his experience in facility design to the project. Scherbring's requirements for the layout of the equipment emphasized simplicity and common sense.

CONSTRUCTING, CONFIGURING

The traditional configuration of an Acrodyne four-tube transmitter, for instance, placed the exciter between the second and third amplifier cabinets. Scherbring requested that the exciter be moved to one end to provide easier access to the rear of the exciter cabinet. Additionally, the locations of the deionized (DI) pump stands and the water distribution system were altered to maximize the separation between water and electricity, and the layout of the RF system was modified to make it easier to install and maintain.

Scherbring also requested a separate "water-only" cable tray to carry the DI hoses between the pump stands and the transmitter and mandated that all plumbing and conduit runs be placed overhead.

Construction of the transmitter building and the new 500-foot tower was delayed in early 2004 as persistent rain fell throughout May and into the first half of June. This caused concern because the construction permit deadline was in mid-October. To speed up the timeline, delivery of the transmitter was taken in early August, while the building was still under construction.

The installation occurred in several phases. The first phase began as a two-man crew, led by Howard Ford, set the major pieces in about a week. Ford remained at the site to finish the installation of the RF system and plumb the water systems. When the physical installation was complete, Carl Devitt, an Acrodyne field engineer, arrived to begin the cabling and electronic system setup.

DeVitt was eventually joined by another Acrodyne field engineer, Stu Boughton. The two worked together to finalize the installation, with Boughton remaining to do the final proofs. Finally, with just less than a week remaining before the expiration of the construction permit, Acrodyne pronounced the project complete and turned control over to the Pappas engineers. The transmitter went on the air at full power just nine weeks from when it came off the trucks.

The Acrodyne Quantum transmitter at the WWAZ-TV site in an example of a clean, clutter-free installation.

In the months following the installation, Acrodyne has continued to provide excellent technical support for the transmitter. During the first seven months of operation, two of the ESCIOT tubes required replacement, as did one of the high-voltage beam supplies and some other minor parts. In each case, Acrodyne lost no time getting the parts to the site and installed. Acrodyne also initiated a couple of design modifications and has retrofitted the WWAZ transmitter in the field to incorporate the upgrades.

Transmitter control is accomplished by combining a computer operating proprietary Acrodyne software on a Linux platform, and PLC controllers in each amplifier. All in all, it has been a very successful installation. n

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For more information, contact Acrodyne at 410-568-2105 or visit www. acrodyne. com.