NAB TV TechCheck

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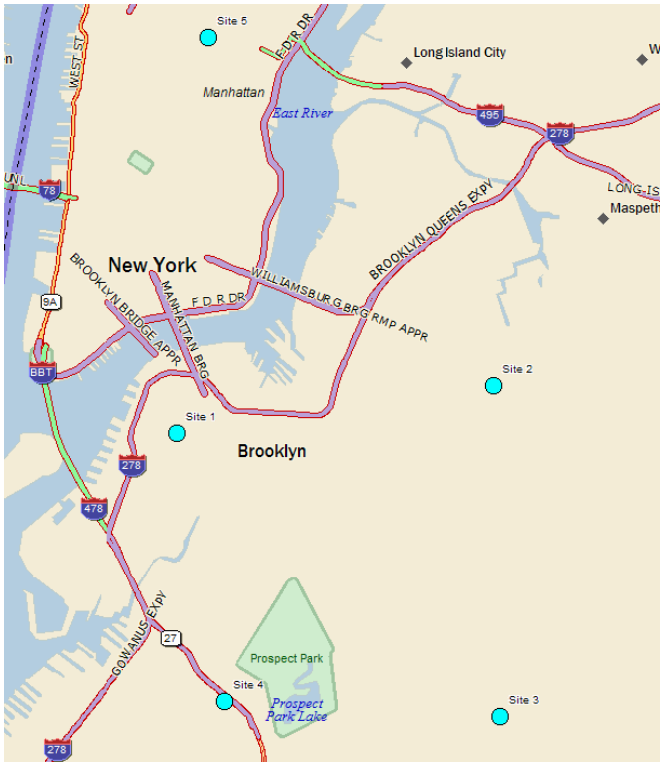
FCC Considers Rules for DTS at November 4 Meeting – NYC Broadcasters Submit Results of DTS Field Measurements

On November 4, 2008, having allowed interim Distributed Transmission Systems (DTS) operations since 2004, the FCC is scheduled to adopt rules to fully authorize DTS. On November 4, 2005, the Commission released a *Clarification Order* and *Notice of Proposed Rulemaking* (MB Docket No. 05-312) that clarified the guidelines for stations' interim use of DTS and initiated a rulemaking to establish rules for the future use of DTS by digital television stations. (See *TV TechCheck* from November 14, 2005.)

DTS allows a DTV station to employ multiple on-channel, synchronized transmitters distributed within a station's service area, enabling broadcasters to fill gaps in service coverage in order to, for example, provide coverage to areas previously blocked by terrain.



DTX Transmitter sites (light blue dots)

The current action by the FCC on this issue appears to have been at least partially stimulated by a desire on the part of the Commission to provide possible solutions for the station coverage replication gaps "discovered" during the Wilmington N.C. early DTV shut-off test a notion attributed to FCC Chairman Kevin Martin in announcing the November 4 action. Also, and perhaps more importantly, on September 15, 2008 the Metropolitan Television Alliance (MTVA) submitted a report on the installation and testing of three DTS systems in New York City. This project was undertaken as an alternative solution to the reconstruction of a large tower for NYC broadcasters.

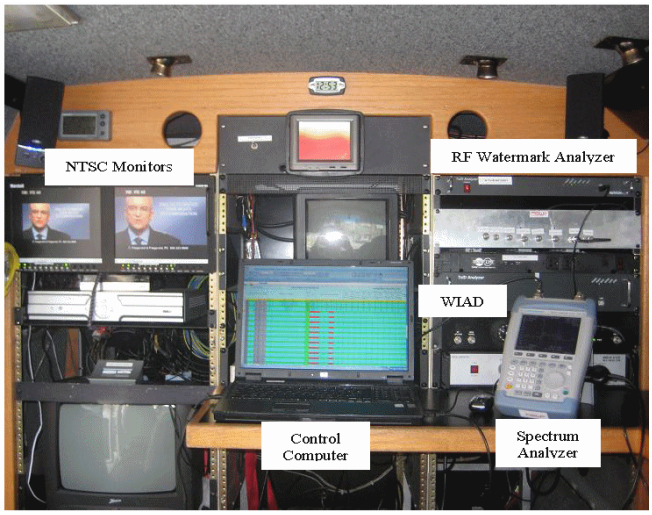
The MTVA retained the services of John F.X. Browne & Associates, P.C., to design the prototype DTS network. Axcera, LLC was selected to handle the detailed system design of the prototype network, and to implement and support the prototype network on a turnkey basis. The firm of Meintel, Sgrignoli, & Wallace, LLC (MSW) was retained to characterize the receive system aspect of the project, develop a field test plan, and perform the actual field measurements.

The study sought to determine whether a DTS network consisting of on-channel transmitters could be deployed as a system of "gap-fillers" (i.e., filling in the discontinuities in service due to transmitting antenna deficiencies) without receiving or causing significant interference from/to the signals of the "main" transmitters. An important related concern was whether the DTS network low power transmitters would actually provide a sufficiently strong signal to assure good service. A corollary concern was whether an off-channel model (i.e., using a channel for the DTS other than the channel being used by the primary transmitter) would be viable. A field testing program was developed to evaluate these issues.

The prototype DTS network built in Brooklyn and Queens consisted of:

- Four 1 kW ERP DTS sites with transmitters operating on ch. 12, 33, & 65
- WPIX-DT Channel 33 on Empire State Building (ESB)
- Channel 12 Experimental DTV station on ESB
- Both Indoor and Outdoor measurements were taken

The 128 page report submitted to the FCC tabulates all of the pertinent measurement results. Among other things, the study showed that the average improvement with the DTS signals complementing the main signals was 6 dB (the equivalent of increasing the main transmitter power by a factor of 4, e.g. from an ERP of 250 kW to 1 MW). The report also showed that the average improvement in indoor reception capability with the DTS enhancement was 33% within the network's primary service area. The conclusions of the study report are clearly positive with respect to an on-channel DTS system deployment and also demonstrate that a stand-alone (off-channel) model would provide the desired indoor service capability.



The FCC action is set to occur exactly three years from when this proceeding was begun. Thus, on November 4, two historic votes will take place that will set the tone for the future, one by the American people for the future leadership of this country, and one by the five FCC Commissioners for the future options of television broadcasters. Let's hope the right decisions are made in both cases.

A copy of the report is available on the FCC's ECFS system. All of these documents can be obtained by going to the FCC's Electronic Comment Filing System (ECFS) Web page (http://gullfoss2.fcc.gov/prod/ecfs/comsrch_v2.cgi) and entering "05-312" into BOX 1 on this page, then clicking on "Retrieve Document List" at the bottom of the page. Look for a letter filed by Metropolitan Television Alliance, LLC on September 11, 2008.