NAB TV TechCheck

The Weekly NAB Newsletter for Television Broadcast Engineers

May 18, 2009

FCC Establishes Replacement Translator Service for DTV

The FCC has created a new Replacement Digital Television Translator Service which full-service stations may be able to use to restore reception in areas where their viewers have lost service as a result of the stations' transition from analog to digital service. In a Report and Order (R&O) dated May 8, 2009, the Commission's rationale behind creation of this new service and the specific rules governing it are presented, including the fact that stations can use these replacement translators only within their service areas and only to replace service lost as a result of their transition to digital transmission.

Service loss has resulted in part from unavoidable engineering changes that stations were required to make to avoid interference or other problems once they began broadcasting on their post-transition digital channels. Earlier this year, the Commission released a report showing coverage maps for all full-service TV facilities. These maps, prepared by Hammett & Edison, Inc., under contract to the FCC, show each station's estimated digital TV coverage after the DTV transition date as compared to its estimated analog coverage within each Nielson Designated Market Area (DMA). Highlighted in these maps (examples shown below) are areas of new coverage and areas where coverage is being lost as a result of the switch from analog to digital service (see the January 12, 2009 issue of *TV TechCheck* for additional information on the FCC's coverage map report).

Some of the particulars of the FCC's Report and Order are provided here:

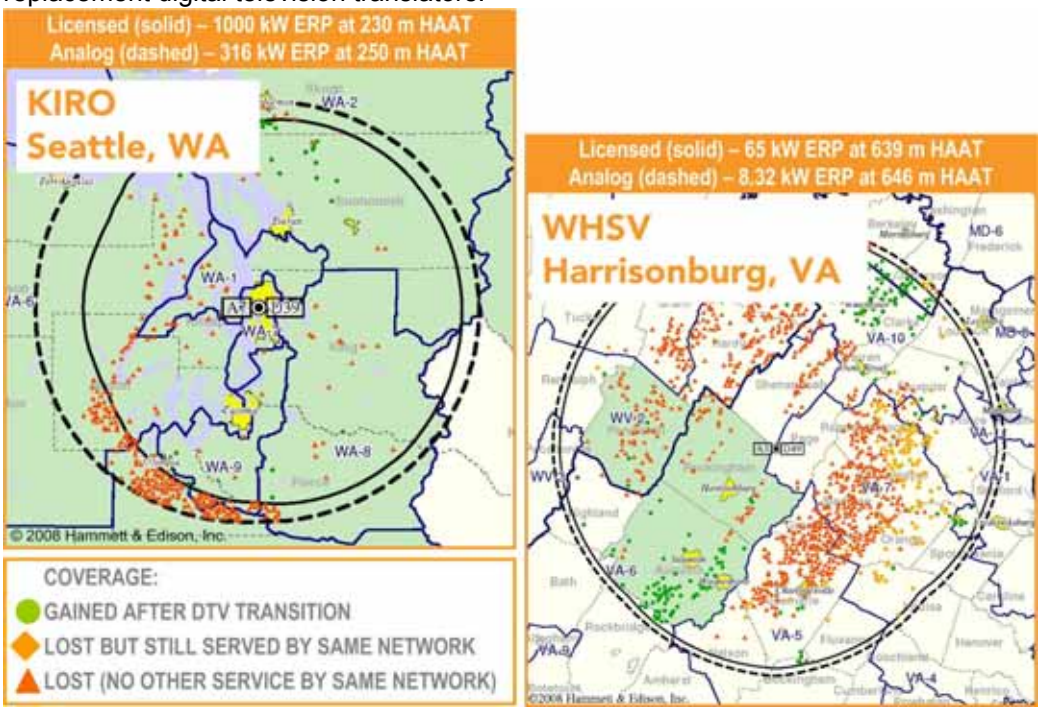
- The service areas of replacement translators will be limited to only those areas where an existing full-service television station is able to demonstrate a loss in service as a result of its transition to digital and de minimis extension areas where necessary to provide service to loss areas;

- Twenty (20) applications for replacement digital television translators have already been filed by 14 stations, as well as 8 requests for authorization of temporary replacement digital television translator facilities. All of these stations are listed in Appendix D of the R&O; coverage maps for two of these, from the FCC coverage map report discussed above, are shown below. Note that for KIRO, the lost coverage areas are primarily between the analog and digital coverage areas, while for WHSV, lost coverage is more centrally located;

- Applications for replacement digital television translators will have processing priority over applications filed by other low power television and TV translator stations, except displacement applications (with which they would have co-equal priority). Thus, replacement translator applications and low-power displacement applications will be processed on a first-come, first-served basis, and the earlier filed application will prevail. By contrast, a replacement translator application will receive priority over non-displacement low-power and translator applications even if the latter are first-filed. Applications for replacement translator stations, however, must provide the requisite interference protection to authorized

TV TechCheck will not be published on May 25 but will return on June 1.

analog and digital low power television, and TV translator facilities. Applications filed for full-service television and Class A television stations will continue to have processing priority over applications for replacement digital television translators.



- The Commission indicates that a Public Notice will soon be released to announce the initiation of first-come, first-serve licensing for new digital LPTV and (non-replacement) TV translator facilities which will be available for stations desiring to use translators to fill-in their protected service areas that are not receiving service due to terrain, engineering, or other limitations, and while stations, local governments, community groups, and others use translators to provide service outside the primary station's service contours, often in very rural or isolated areas.

- So as to provide full-service stations with the flexibility to employ the technical means they find most feasible to replace lost service, the Commission will not require stations to demonstrate that all other technical solutions are infeasible before authorizing a replacement translator (as some commenters had requested). The Commission does, however, encourage stations to consider other, potentially more spectrally efficient solutions such as maximization and DTS;

- All applicants for the replacement digital television translator service must submit an engineering study that depicts both the full-service station's analog service area, as well as its post-transition digital facility which does not serve that station's entire analog service area and therefore demonstrates an analog loss area. Since the Commission realizes that it may be impossible for some post-transition full service stations to site translators that replace analog loss areas without also slightly expanding their analog service areas, a *de minimis* expansion of their analog service area will be allowed upon a showing that it is necessary to replace service in their post-transition analog loss areas. The *de minimis* threshold will be established on a case-by-case basis, consistent with the approach taken in the distributed translator (DTS) proceeding (see the November 10, 2008 issue of *TV TechCheck* for additional information on DTS rules);

- Replacement digital television translator stations will be licensed with "secondary" frequency use status. These stations will not be permitted to cause interference to, and must accept interference from, full-service television stations, certain land mobile radio operations and other primary services;

- The Commission will assign to replacement translators the same four letter call sign as their associated full-service station. The Consumer Electronics Association (CEA) maintains that requiring replacement translators to take a different call sign than their full-service counterparts would result in a translator having to "replace the elements of the Program and System Information Protocol ("PSIP") in the digital bit stream it receives from the full-service station with alternative values specific to the translator." This would cause a

problem with the PSIP receiver response. CEA explains that ordinarily when a TV receiver "sees" duplicate transmissions on different frequencies, it should recognize the duplication, and create a channel lineup that shows the user one channel rather than two. CEA also claims that this functionality exists to "minimize consumer confusion, but it requires transmission of identical PSIP data, not just identical video data, for optimal receiver functionality."

An FCC news release on the DTV replacement translator R&O is available on the FCC's Website at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-290659A1.pdf and the full text of the Report and Order is available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-09-36A1.pdf.

NAB Satellite Uplink Operators Training Seminar
October 5 - 8, 2009 • Washington, DC

This four-day course is designed to instruct about uplink operational practices, which minimize the risk of satellite transmission interference. This is an important course since the FCC rules require that a trained operator be present at all times during transmissions, either an earth station site or designated remote control point. Go to http://www.nab.org/satelliteSeminar/ or Contact NAB Science & Technology Department at (202) 429-5346 or ccolerid@nab.org for information about the NAB Satellite Uplink Operators Training Seminar. If you are interested in sponsorship opportunities for this event contact NAB Advertising at (800) 521-8624 or advertising@nab.org.

TV TechCheck will not be published on May 25 but will return on June 1.