

WatchTV, Inc.
FRN 0020-4975-90
Experimental DTS Application
Channel 38

DESCRIPTION OF EXPERIMENTAL PROGRAM

This application is one of four applications requesting authority for WatchTV, Inc. (WTV) to experiment with new television technologies, by implementing the new ATSC 3.0 technical standard at four Class A television stations which transmit from a common site in Portland, Oregon. The application is configured as a request for a new Distributed Transmission System (DTS) STA because that is the only way that multiple transmitter sites can be entered in LMS.

This application will use the channel occupied by KKEI-CD, Facility ID 71078, Channel 38, which is licensed to WTV. Since the experimental applicant and the licensee of KKEI-CD are the same, consent by KKEI-CD has obviously been given.

The objectives of the experiment are as follows:

1. To learn more about the propagation characteristics of ATSC 3.0 by implementing the technology in a geographic area with much more uneven terrain than exists in the Washington-Baltimore area, where Sinclair Broadcast Group, Inc. conducted its recent experimental operations.
2. To explore the capacity of the ATSC 3.0 platform to deliver multiple data services along with television programming in multiple formats, including Ultra-HD (4K).
3. To explore the benefits of a multi-frequency network for multiplying the data capacity of the ATSC 3.0 technology. Previous experiments have focused on single-frequency networks using only one television channel. WTV's experiment will use four channels. WTV's program will be the first experiment of which it is aware in which spectrum will be available to test spreading data across multiple TV channels while each channel is also transmitting single-channel video content.
4. To explore the benefits of distributed antenna systems by transmitting simultaneously from three transmitter sites initially, with the possibility that a request will be filed at a later date to add more sites.
5. To explore the robustness and capabilities of a multi-frequency system to deliver video and other content to mobile receivers.

WTV is not only using its own resources in this project but also is also being supported by an established manufacturer of broadcast transmitters for the U.S. market. The KKEI-CD broadcast transmitter is aging and needs replacement in any event. WTV has been able to acquire a software-defined transmitter that can transmit in both the ATSC 1.0 and ATSC 3.0 formats, which makes it usable not only for the experiment but also for conventional ATSC 1.0 operation until such time as the Commission authorizes ATSC 3.0 on a permanent basis.

WTV will welcome interested industry parties, including manufacturers, broadcasters, content purveyors, software developers, and others, to observe and to join in the testing process. WTV has obtained a limited number of receivers, which will be made available to observers and participants. These receivers are too expensive to provide to members of the general public at this time; so no receivers will be sold, leased, or given by WTV to members of the general public. However, as the development of ATSC 3.0 progresses, less expensive receivers may become available in the marketplace to anyone who wants to

acquire them. Nothing will prevent anyone who obtains an ATSC 3.0 receiver on his or her own from receiving WTV's signals.

Sinclair Broadcast Group, Inc., which has been a leading advocate for experimentation with new technologies, has expressed to WTV its support for WTV's experimental project and has offered to assist where it can be helpful.

While this application is being filed as a request for a new experimental DTS license rather than experimental authority for licensed stations because LMS will not allow an experimental DTS application to be filed under an existing Class A Television Facility ID number, the experiment will take place using only main site facilities and frequencies that are already licensed to WTV for broadcast use. In addition to using KKEI-CD's Channel 38, separate applications are being filed to use the facilities and channels of three other stations licensed to WTV, all at Portland, Oregon:

KORS-CD, Facility ID 71069, Channel 16, 482-488 MHz
KOXI-CD, Facility ID 71074, Channel 20, 506-512 MHz
KORK-CD, Facility ID 71079, Channel 35, 596-602 MHz

All spurious emissions on all channels will be confined within the limits applicable to ATSC 1.0 transmissions. Because ATSC 3.0 is an OFDM-based system, the potential for interference to other stations transmitting ATSC 1.0 facilities will be less than the potential from the existing licensed ATSC 1.0 facilities of the four stations. The emission mask at all three transmitter sites will be stringent.

KKEI-CD and the other three stations will all continue to transmit from their present shared licensed transmitter site ("Skyline"), which is Site #1 in the application. Distributed transmitting locations will be established at two other locations, one at 30303 NE Spud Mountain Rd., Camas, WA 98607 ("Spud Mountain"), which is Site #2, and the other at 24424 Bald Peak Rd., Hillsboro, OR 97123 ("Bald Peak West"), which is Site #3 in the application.

This application proposes to continue use of the licensed antenna now used by KKEI-CD at Skyline. The facilities at DTS Site #2 and Site #3 have been designed to ensure that the 51 dBu contour of the station from both DTS sites will be confined well within the predicted 51 dBu contour of the station from its licensed facilities at Site #1. A map showing the service contours of KKEI-CD as an experimental facility from each of the three sites is included with this exhibit. Thus there will be no expansion of the 51 dBu service area and no need for a waiver of the current freeze on Class A service area expansion that is in effect pending announcement of a new channel plan after conclusion of the Incentive Auction.

KKEI-CD is a Class A station, which has local and children's programming obligations. WTV is the licensee of a fifth station in Portland – KOXO-CD, Facility ID 71080, operating on Channel 41. KOXO-CD will continue to transmit in the ATSC 1.0 format. The local and children's programming from both KOXO-CD and KKEI-CD will be broadcast by KOXO-CD/Channel 41, so that the programming required of Class A stations will continue to be provided to members of the public who use ATSC 1.0 receivers.

Prompt processing and grant of this application is requested, as the experimental transmitters are available to Watch TV now, so the experiment can commence promptly upon receipt of authorization from the Commission.

Figure 1
51 dBu (50-90) Contours of Licensed Class A Station KKEI-CD,
Portland, Oregon and Proposed Experimental Facilities located at Spud
Mountain and Bald Peak West

