

**ENGINEERING EXHIBIT**

**AMERICAN BROADCASTING COMPANIES, INC.,  
TELEVISION STATION WABC-TV, FACILITY ID 1328  
CHANNEL 7 – 64.6 KW (NTSC) – 491 METERS HAAT  
CHANNEL 45 – 164 KW (DTV INITIAL ALLOTMENT) – 491 METERS**

**NEW YORK, NEW YORK**

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### **ENGINEERING STATEMENT**

#### **Introduction**

The American Broadcasting Companies, Inc is the licensee of television station WABC-TV/DT, New York, New York.

WABC-TV is licensed to operate on channel 7 under the terms of its license, which are contained in FCC File Number BLCT-19800730KG and specifies an ERP of 64.6 KW at 491.0 m HAAT. These facilities were destroyed in the attack on the World Trade Center.

WABC-DT was granted an Initial allotment on channel 45 that specified operation with 164 KW at 491 Meters HAAT at the World Trade Center. WABC-DT commenced operation of DTV facilities at the World Trade Center and filed an Application for License, BLCDDT-20010710ABU, to cover the Modified Construction Permit, which bears FCC File Number BMPCDDT-20000508AAS and specified operation with 182.4 KW and an HAAT of 448.0 meters. These facilities were destroyed in the attacks of September 11, 2001.

After the events of September 11, 2001, WABC-DT operation at the Empire State Building was initially authorized through an STA. Since then, WABC-DT has filed an application for an Auxiliary Antenna License to operate from facilities at the Empire State Building. These facilities are described in BXPCDDT-20040803ACD, and have since been built, and are operating under automatic program test authority while the associated application for license, FCC File Number BXLCDT-20051012ACE which was accepted for filing on October 13, 2005, remains pending.

In Round One of the channel election process, WABC-TV selected channel 7 as its post-transition DTV channel. In the Round One process, the facilities that WABC-DT would operate on channel 7, 3.2 KW at 491 m HAAT, were found to cause 2.8 percent new interference to a DTV allotment on channel 8 held by WNJB, New Brunswick, New Jersey.

Channel 8 was originally allotted to WMBC, Newton, New Jersey. WNJB obtained channel 8 for use in New Brunswick through a channel swap with WMBC, and WMBC then used the former WNJB Initial Allotment, channel 18 as its DTV channel.

WNJB first applied for a DTV construction permit in 1999, and the application bears FCC File Number BPEDT-19990625KE. The requested facilities were subsequently modified per BMPEDT-20000425AAM (the CP-mod facility). WNJB certified this facility in its channel election filing BCERET-20041103AFF, when channel 8 was elected for WNJB post-transition operation.

Because WNJB elected its DTV allotted channel, the Round One channel election process did not compute interference that it generated. Other stations that elected a channel other than their DTV allotment were granted or denied operation on their elected channel based on an interference criterion 0.1 percent.

## **Discussion**

The FCC determined that the channel 7 replication facilities of 3.2 KW at 491 meters on channel 7 would exceed the 0.1 percent interference criteria, and the FCC disapproved WABC's election of channel 7 on June 23, 2005.

Since that time WABC and WNJB have been involved in several meetings with each other and the Commission's Staff in an attempt to reach a solution that would be acceptable to the parties.

WABC feels that the best opportunity to continue serving its viewers is to use channel 7 for its post transition DTV operation. WABC viewers have become accustomed to receiving WABC on channel 7 and an installed base of VHF antennas exists in the WABC-TV service area. WABC also faced the prospect of co-channel interference from two stations on its DTV allotment channel. The conclusion was reached that advancements in technology can possibly help to solve some of the adjacent channel interference problems in the future, but the likelihood of advancements with similar benefits for co-channel interference situations is much smaller.

These two considerations were important in reaffirming WABC's choice of channel 7 for its post transition operation.

In the Seventh Further Notice in Docket 87-268 the Commission showed channel 7 in Appendix B as the proposed allotment for WABC.

WABC agreed not to object on technical grounds to a move by WNJB to a facility nearer to WABC, specifically, the Four Times Square Building, if the FCC allows WABC to use channel 7 for its post transition operation.

The NJBPA operates WNJB, and three other NTSC television stations with associated DTV facilities to serve the residents of New Jersey.

In the Comments filed by NJPBA on behalf of WNJB in response to the FCC's Seventh Further Notice, NJPBA made statements, which, without additional information can lead a reader to an incorrect conclusion.

WABC believes that adjacent channel interference can occur in situation where transmitters are located close to each other, even in areas where Longley-Rice techniques predict little or no interference. This is particularly true where highly urbanized areas are involved, and the high-rise building topology cannot be incorporated in the calculations. Generally, some interference can be predicted in situations where adjacent channel transmitters are located close to each other, even when only the effects of average terrain are considered. There is some reason to believe that operation of closely spaced adjacent channel transmitters in a highly urbanized environment will increase the instances where interference can be found.

Most engineers are interested in solving problems, not just moving them around. There is no large body of operating experience from which a conclusive expectation can be drawn in this case. In spite of these apprehensions, WABC decided that it was in the best interest of furthering the digital transition and the DTV channel election process to not oppose the efforts of WNJB to build a facility that they feel serves the WNJB viewers best. In doing so, WABC reaffirms its belief that a greater opportunity to improve the plight of adjacent channel stations will evince from advancements in technology to solve these problems as experience in operating grows, which will help to identify and quantify these problems, and as improvements are made in DTV tuners and demodulators that incorporate advancements to solve the problems that have been identified.

The WNJB comments note that the post-transition operation of WNJB on channel 8 will bear 9.72 percent interference to its modified CP operation. Other stations contribute to this interference, notably co-channel stations in Lancaster, Pennsylvania and Binghamton, New York.

Interference to WABC likewise is generated by WNJB on channel 8. According to calculations in the Engineering Statement supporting the WNJB move to 4 Time Square Building, WABC would improve from 0.9 percent to 0.42 percent, for a gain of approximately 90,000 persons. After the total interference at 0.9 percent of 174,312 persons, WABC still shows a loss of 84,312 persons to interference.

The facilities allotted to WABC in the Round One channel election process were 3.2 KW at 491 m HAAT. The ERP value of 3.2 KW is found in 48 allotments on channels 7 through 13, many with relatively large HAAT parameters. This ERP value is a minimum that the Commission assigns in many cases, and is far from a maximization value. It does allow WABC to replicate its present NTSC service, which is precisely what WABC has been attempting to do with its DTV operation from the start.

The WNJB Modified CP DTV facilities far exceed the WNJB NTSC service. As an example, WNJB shows a DTV service gain in population of 24.3 percent from operation of its Modified CP facility over its baseline population. From the population values calculated by the FCC in the December 21, 2004 Table 1, WNJB shows a population of its NTSC baseline of 13,018,296. When the DTV population of the Modified CP DTV facility of 16,186,175 is divided by the baseline, the increase is 24.3 percent. The increase is greater yet for the facilities specified in the application for construction permit at 4Times Square, where the population served is 19,271,773 persons or a gain of 48 percent above the population served by the WNJB NTSC facilities.

This gain of 48 percent is not found without the loss of a large portion of viewer population in New Jersey. Although the number of persons with coverage is greater, when consideration of the NTSC service population, a loss of over 15,000 persons is found.

Exhibit 2 consists of a small table that shows the loss in each county. This table shows that a loss of over 115,000 persons who presently receive WNJB TV can be expected in Pennsylvania compared to the proposed 4 Times Square DTV facility. Exhibit 1 is a map that shows where the losses occur. The losses were calculated after loss to terrain, and as such include only those viewers who have an expectation of receiving a Grade B NTSC signal or a Noise Limited Signal or greater. The population that is lost to terrain is not counted here.

Exhibit 3 shows the predicted coverage contours of WNJB's NTSC Grade B, and the DTV noise limited contours the WNJB-DT modified CP facility in New Jersey as well as the proposed facility at 4 Times Square. This exhibit provides an illustration of the relative areas within the various contours and also illustrates that a move of transmitter location to the northeast will, when of sufficient distance, cause loss of service in the direction opposite the move, or the southwest.

WNJB's presently authorized DTV coverage contour encompasses about 15 counties in New Jersey. With the move to 4 Times Square, nine New Jersey counties will suffer a loss of coverage from WNJB-DT – comparing the Modified CP facility to the proposed 4 Times Square facility – and three counties will gain DTV viewers while three counties will remain unchanged. Depending on allowance for interference, but always considering losses to terrain, the loss of DTV service to New Jersey viewers can be as large as 539,000 persons. Other calculations show a lesser loss of some 450,000 persons. Some of these viewers that would be abandoned by the WNJB DTV and NTSC signal are served by other NJPBA NTSC and DTV signals such as WNJT and WNJS.

### **Conclusion**

WABC appreciates the difficulties of developing a site for television broadcasting purposes. In order that WNJB can take advantage of either opportunity to serve their viewers WNJB should be able to build either facility – the allotted facility described in the modified CP application BMPEDT-20000425AAM or the facility described in BMPEDT-20070125ACC. In a similar fashion, WABC also needs the assurance that it can build its post-transition replication facility on channel 7. This can be done through a waiver of the 2.8% new interference that the allotment of channel 7 to WABC-DT generated, per Round 1 calculations to WNJB-DT, channel 8. WABC will have the assurance that it needs to develop its site to best serve its viewers and WNJB will be unfettered by any site location restriction if the Commission considers WABC and WNJB to be co-located for administrative purposes. In this manner, both WABC and WNJB can construct a facility to best serve their viewers and not be burdened by site restrictions.

In spite of predicted interference from the WNJB Modified CP facility and the unknown and unpredictable behavior of adjacent channel interference mechanisms from nearby adjacent channel transmitters in highly urbanized areas, WABC believes that grant of the waiver of the 0.1 percent interference criteria will enable WABC to build its facility and be unencumbered by WNJB's construction schedules.

### **Certification**

I certify that, on behalf of the American Broadcasting Companies, Inc., licensee of WABC-TV and permittee of WABC-DT, I have prepared the information contained in this Engineering Statement or reviewed information that has been supplied by others, and that after such preparation and review, I have examined it and found it to be accurate and true to the best of my knowledge and belief.



Signed: \_\_\_\_\_

Alfred E. Resnick, P. E.

Dated: February 26, 2007

Writer's telephone: 703 569-7704



**PREDICTED COVERAGE CONTOURS**

**WNJB-DT CH. 8, NEW BURNSWICK, NJ**  
**(BPRM-20060223ABU APP.)**  
 11.24 kW, 296 m HAAT, 312 m RCAMSL, NON D-ANT

**WNJB(TV) CH. 58, NEW BURNSWICK, NJ**  
**(BLET 19860618KE LIC.)**  
 1320 kW, 223 m HAAT, 281 m RCAMSL, NON D-ANT

**Predicted Noise Limited Contour**  
 F(50,90), 36 dBu

**Predicted Grade B Coverage**  
 F(50,50), 64 dBu

**Predicted Principal Community Coverage**  
 F(50,90), 43 dBu

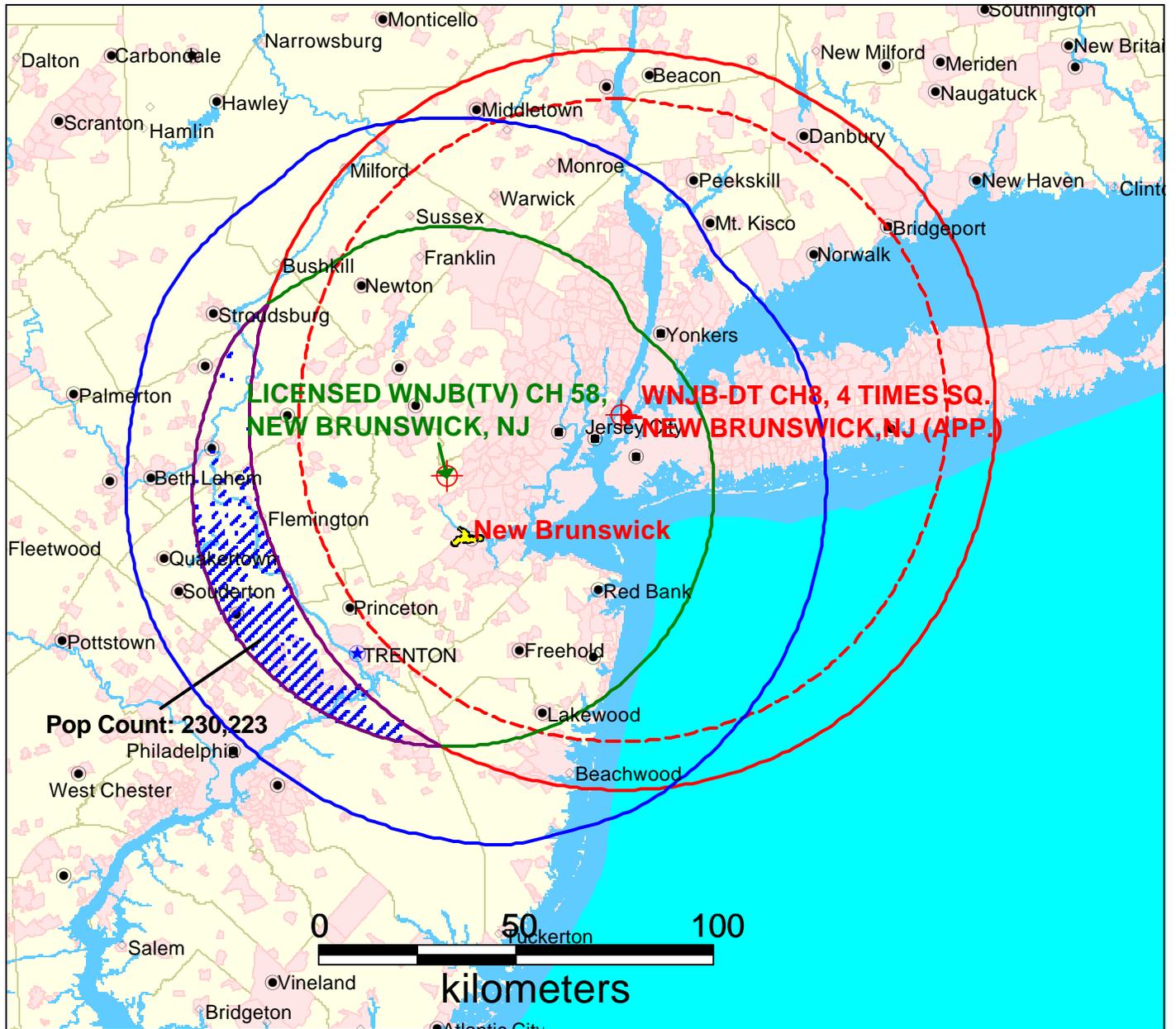
FEBRUARY 2007



EXHIBIT 2  
February 2007

<b>County</b>	<b>Population</b>
Bucks, PA	214,548
Burlington, NJ	12,296
Hunterdon, NJ	2,614
Northampton, PA	647
Warren, NJ	118
Total Pop Count	230,223

Net Pop Count within WNJB(TV) CH58 (LIC.) Grade B,  
which is not covered by WNJB-DT BMPEDT 20070125ACC



**PREDICTED COVERAGE CONTOURS**

**WNJB-DT CH. 8, NEW BURNSWICK, NJ**  
 (BPRM-20060223ABU APP.)  
 11.24 kW, 296 m HAAT, 312 m RCAMSL, NON D-ANT

**Predicted Noise Limited Contour**  
 F(50,90), 36 dBu

**Predicted Principal Community Coverage**  
 F(50,90), 43 dBu

**WNJB(TV) CH. 58, NEW BURNSWICK, NJ**  
 (BLET 19860618KE LIC.)  
 1320 kW, 223 m HAAT, 281 m RCAMSL, NON D-ANT  
 Predicted Grade B Coverage  
 F(50,50), 64 dBu

**WNJB-DT CH. 8, NEW BURNSWICK, NJ (CP MOD)**  
 20.2 kW, 212 m HAAT, 278 m RCAMSL, 32754 D-ANT  
 Predicted Noise Limited Contour  
 F(50,90), 36 dBu

FEBRUARY 2007