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ENGINEERING EXHIBIT
APPLICATION FOR MODIFICATION OF
TV TRANSLATOR CONSTRUCTION PERMIT
NEW YORK TIMES MANAGEMENT SERVICES
STATION W26CV, MANSFIELD, PENNSYLVANIA
CH 26z 0.640 KW

The instant Engineering Exhibit has been prepared on behalf of New York Times Management Services (hereafter, NYTMS), and is in support of a minor change application to modify the outstanding construction permit for television translator Station W26CV, Mansfield, Pennsylvania. The outstanding construction permit bears FCC File Number BNPTT-20000830BAZ. The permit specifies operation on Channel 26 with zero frequency offset, and maximum effective radiated power of 0.175 kW with a directional antenna. The specified antenna is a Bogner, model B8UB.

NYTMS has been advised, by the owner of the tower on which the antenna was planned to be mounted, that the 470 pound weight of the antenna is excessive. The tower already supports several other antennas. Accordingly, the instant application seeks to substitute an antenna of lesser weight that will be satisfactory to the tower owner and still permit compliance with FCC interference protection requirements and service objectives. The instant minor modification application seeks continued operation on Channel 26, with zero frequency offset, but with maximum peak visual effective radiated power of 0.640 kW.

A Dielectric, Model TLP8-E, "off-the-shelf" directional antenna with the main lobe oriented 285° true will be used. An electrical beam tilt of 1° is proposed. The maximum power gain for the antenna is 31.2. A transmitter with an oscillator that is sufficiently stable to permit satisfactory zero frequency offset operation, will be employed.

A 38.1-meter length of Andrew, 1/2" diameter (type, LDF4-50A), coaxial cable will be used to transfer energy from the transmitter to the antenna. The transmission line efficiency at Channel 26 is 62.9 %. With the transmitter peak visual power output set at

32.6 watts, a maximum peak visual effective radiated power of 640 watts will be achieved at a bearing of 285° true at a depression angle of 1° below the horizontal plane.

As for the underlying construction permit proposal, the instant modification seeks a waiver of FCC Rule 74.707. This Rule requires use of the FCC's prediction methodology for demonstrating protection to other translators. However, using the FCC's prediction methodology, the instant proposal does not satisfactorily protect translator station W26CY, Canisteo and Hornell, New York. In the interest of brevity, the Canisteo community reference will be used instead of the dual Canisteo and Hornell reference, when appropriate. Station W26CY is authorized for operation on Channel 26 with zero frequency offset. Under Rule 74.707, a 45 dB, desired to undesired (D/U) signal strength ratio is appropriate for this co-channel protection consideration.

As indicated on the accompanying Figure 1 the W26CY, desired 74 dBu, F(50,50), signal strength contour is overlapped by the proposed W26CV undesired 29 dBu, F(50,10), contour. Rule 74.707 permits a waiver of the need to use the FCC prediction method by using an alternate showing that demonstrates that interference is not likely to occur. A terrain based Longley-Rice analysis to support the waiver request and terrain profile graphs are permitted. Information is provided herein which demonstrates that terrain barriers effectively isolate the W26CV, Mansfield and W26CY, Canisteo operations. Figure 2, Sheets 1, 2, and 3 are terrain profiles drawn from the proposed W26CV site toward the W26CY protected 74 dBu, F(50,50) contour. The profiles show that terrain barriers effectively isolate the W26CY protected service area from the proposed W26CV operation.

The terrain profiles shown in Figure 2 were drawn from elevation data available in the U.S.G.S. 3 arc-second terrain elevation database. The contours of Figure 1 were calculated using the algorithm developed by EDX. The algorithm replicates the FCC's propagation curves in determining the distances to contours.

In addition, Longley-Rice calculations have been performed; first, without the proposed StationW26CV operation included in the calculation, and then, again, with the proposed Station W26CV operation included in the calculation. The noise-free, interference-free, service provided by W26CY was unchanged without, and with, W26CV. The implication is that no interference to W26CY is to be expected from the proposed W26CV operation.

The Longley-Rice calculations that were made employed the FCC's "tv_process_lptv" program as implemented by Techware. No changes were made in the default settings. The results obtained, coupled with the terrain profile studies of Figure 2, support the waiver request.

The proposed 74 dBu, F50,50) contour for W26CV is predicted to be overlapped by the undesired contours from several stations (W26BZ, Victor, NY; W26CY, Canisteo, NY; and W26AT, Williamsport, PA). NYTMS recognizes the overlaps and agrees to accept any interference that may occur. In actuality, no interference is expected due to intervening terrain barriers.

Consideration has been given to environmental concerns. Since the proposed W26CV translator site is used by other translators, only the matters relating to human exposure to radio-frequency radiation (rfr), from among the various items of environmental interest that are mentioned in Section 1.1307 of the FCC Rules, merit attention.

The proposed W26CV antenna is a Dielectric, Model TLP8-E with a 1° electrical beam tilt. The vertical plane radiation pattern for the antenna reveals that the maximum relative field radiation at any steep depression angle below the horizontal plane does not exceed 23 % of the maximum that occurs at the 1° beam tilt angle.

Using OET Bulletin 65 calculation procedures, and assuming the aural effective radiated power to be 10% of the peak visual effective radiated power of 640 watts, the equivalent plane wave power density from the antenna to a target that is two meters above ground level at the tower base turns out to be 0.00091 mW/cm^2, or only 0.3 % of the maximum permissible exposure (MPE) of 0.36 mW/cm^2 that is allowed at Channel 26 (545 MHz) for general population exposure at uncontrolled locations. Based on the foregoing result, no question arises of possible overexposure of the public to rfr at uncontrolled locations due to the proposed operation.

As to worker exposure concerns, all work on the tower that would place a worker close to an antenna, requires prior coordination with the tower owner for terminating excitation to the antenna so as to prevent worker overexposure to rfr. NYTMS will adhere to this requirement.

Based on the foregoing analysis, compliance with the FCC's adopted Standard regarding rfr exposure will be achieved. An environmental assessment is not required.

I declare under penalty of perjury that the foregoing is true and correct. Executed on November 15, 2005.

Bernard R. Segal, P.E.

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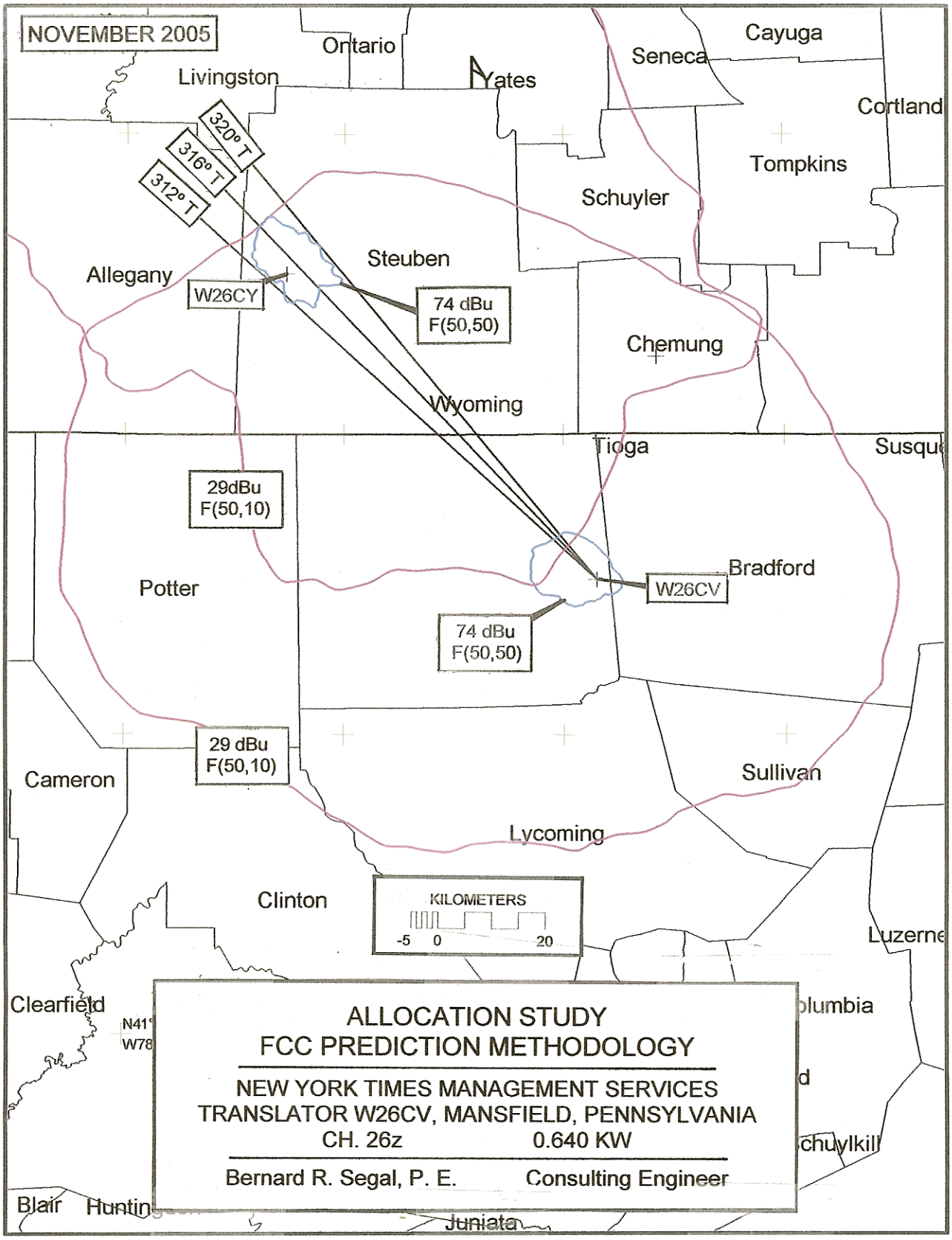
FIGURE 1


NOVEMBER 2005
Ontario
Livingston
Yates
Seneca
Cayuga
Cortland
Tompkins
Schuyler
320° T
316° T
312° T
Steuben
Allegany
W26CY
74 dBu
F(50,50)
Chemung
Wyoming
Tioga
Susque
29dBu
F(50,10)
Potter
Bradford
W26CV
74 dBu
F(50,50)
29 dBu
F(50,10)
Cameron
Sullivan
Lycoming
Clinton
KILOMETERS
-5 0 20
Luzerne
Clearfield
N41°
W78
lumbia
d
chuylkill
Blair
Huntin
Juniata
ALLOCATION STUDY
FCC PREDICTION METHODOLOGY
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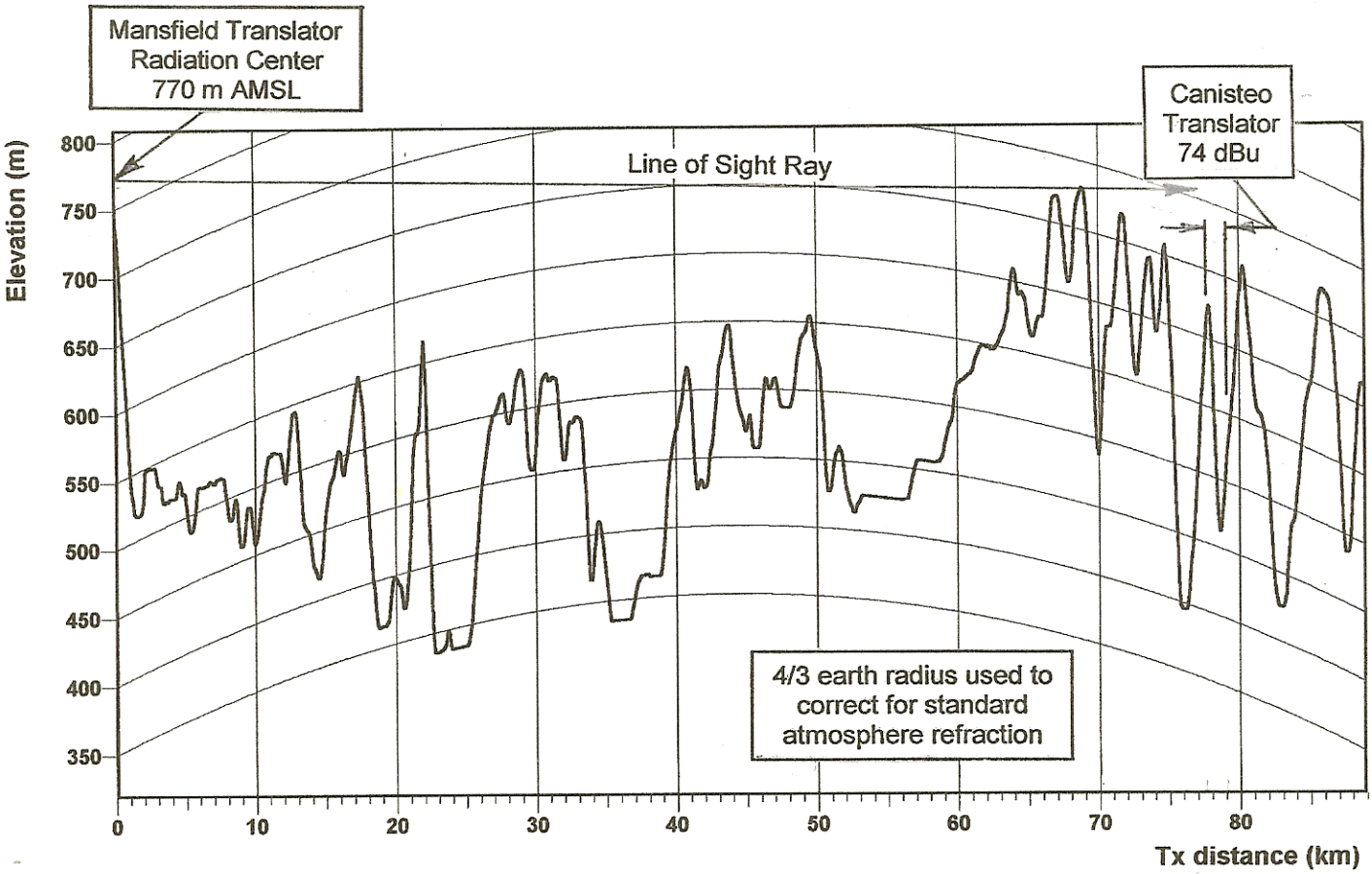
NOVEMBER 2005



312° TRUE TERRAIN PROFILE FROM W26CV TO W26CY, CANISTEO, 74 DBU CONTOUR

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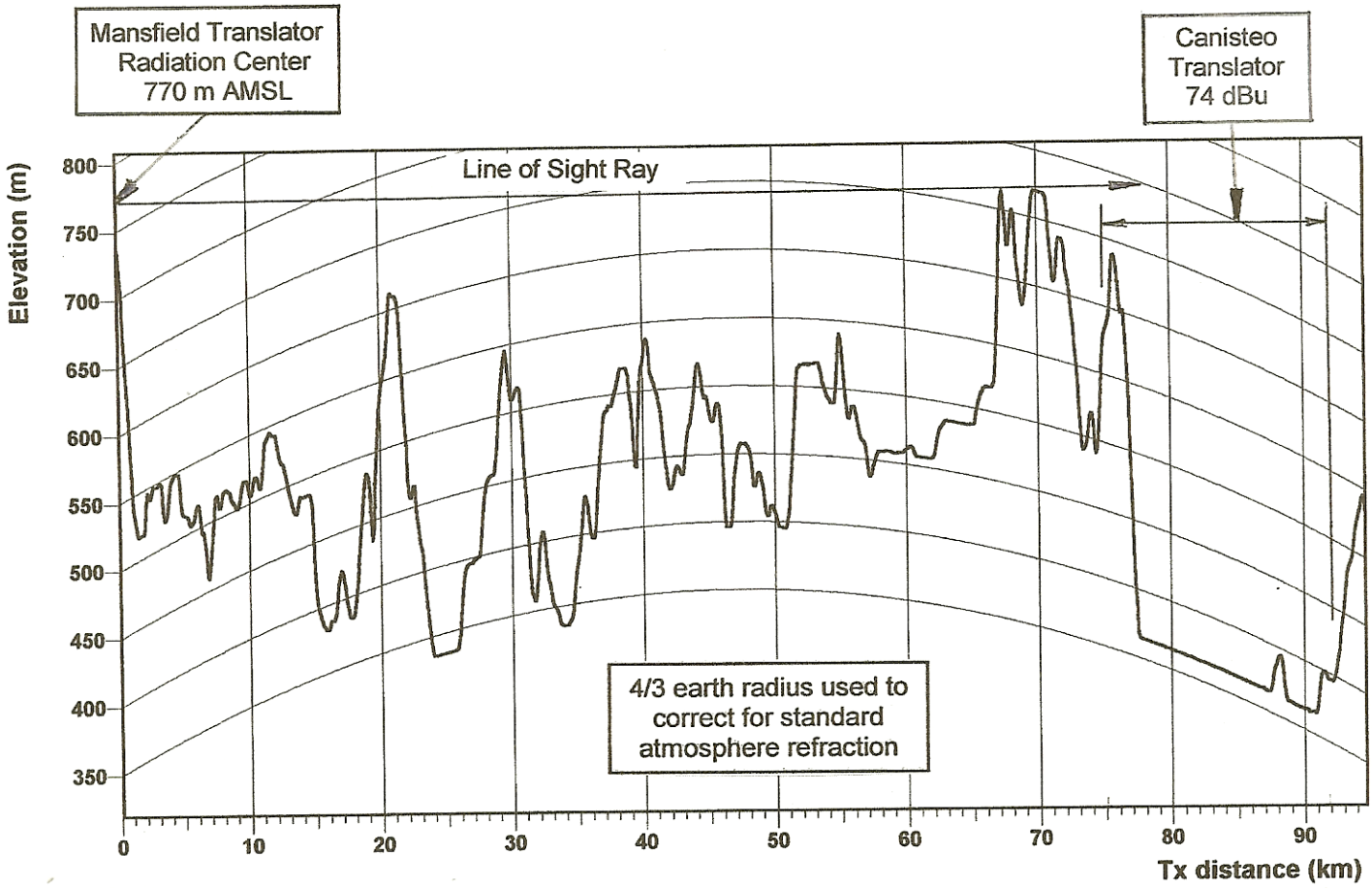
NOVEMBER 2005

FIGURE 2
SHEET 2 OF 3



316° TRUE TERRAIN PROFILE FROM W26CV TO W26CY, CANISTEO, 74 DBU CONTOUR

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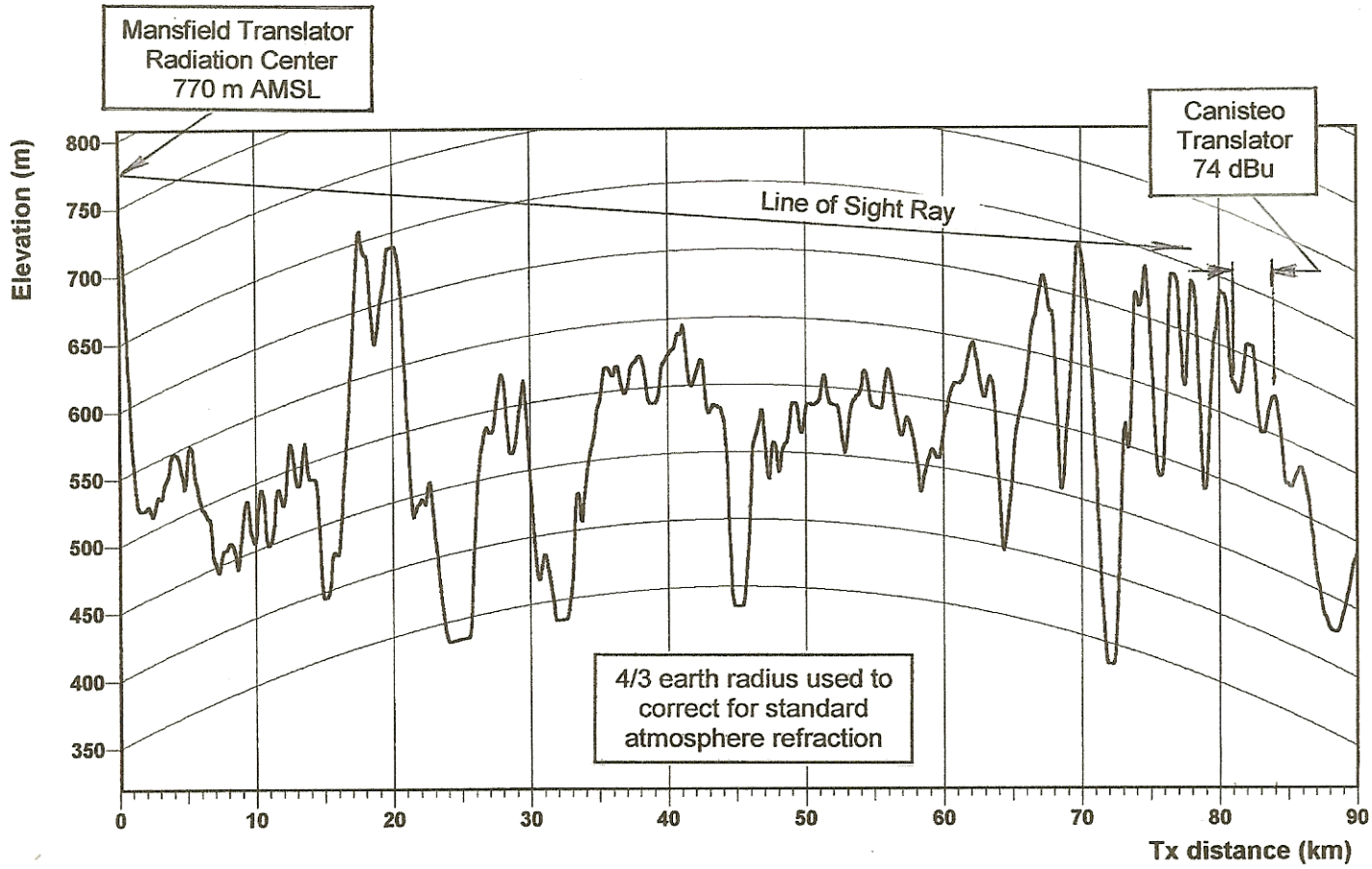
NOVEMBER 2005

FIGURE 2
SHEET 3 OF 3



320° TRUE TERRAIN PROFILE FROM W26CV TO W26CY, CANISTEO, 74 DBU CONTOUR

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