



EXHIBIT #1
ENGINEERING STATEMENT

Concerning the Application of
1400 Inc.
To Build an FM Translator Station at
Hinckley, Minnesota

File BNPFT 20030312APM

August 2003

This engineering statement supports the application of the 1400, Inc. of St. Paul, Minnesota to build a new FM translator station on channel 226 to serve Hinckley, Minnesota. Channel 226 has been listed by the FCC as a "singleton" assigned to the applicant and available for application filing. The proposed site is located 9.54 kilometers to the northeast of the singleton site. Page #4 shows that the coverage of the proposed 60 dBu substantially overlaps the coverage proposed in the singleton application.

Under the instant proposal, the off-air audio signal of primary station WSCD, channel 225, Duluth, will be delivered to a Crown 100R translator unit. This unit will deliver 0.06 kW to the input of a Shively single-bay 6810-1 antenna. The antenna has a power gain of .45 resulting in an effective radiated power of 0.027 kW, polarized circularly. This station will be diplexed with Hinckley translator CH 248

A total of 12 evenly spaced radials were used to determine the antenna height above average terrain. The highest radial of the 12 was used to determine the maximum effective radiated power. The USGS 30 arc-second terrain elevation database was employed to determine the elevations along the radials that were averaged using the required four-point interpolation method. The resulting averaged radial antenna heights were employed using the Commission's own TVFMINT algorithm to project the distances to signal contours. A tabular listing of the distance to the 1 mV/m contour can be found on page #3 of this exhibit. A coverage map can be found on page #4.

Exhibit #12 is an allocation study showing that no overlap interference is caused station licenses, construction permits and applications. Page #1 of this exhibit is a tabular study showing the proposed translator's relationship to all stations, construction permits and applications having a frequency and distance relationship. Page #2 of this study is a narrative explaining the abbreviations and conventions used in the channel printout. There are no contour overlaps with licensed stations, construction permits or with pending applications.

Exhibit #16 is an RF hazard statement showing that workers and the general public are protected from radio frequency emissions.

The proposed station is located 252.1 kilometers from the US border with Canada and the 34 dBu does not extend past 60 kilometers in any direction. The proposed facility is not within the critical distance to any AM station. The proposed facility is okay with respect to FCC monitoring stations, Table Mountain and the West Virginia Quiet Zone.

The applicant requests "unattended operation". The translator can be turned off in cases of an emergency by the staff at the applicant's headquarters in Saint Paul, Minnesota.

Page #5 of this **Engineering Exhibit** is a statement of the qualifications of the preparer.

Doug Vernier

Doug Vernier, Telecommunications Consultants

N. Lat. = 45 58 36 W. Lng. = 92 53 47

HAAT and Distance to Contour - FCC Method - 30 Arc Sec.

Minnesota Public Radio, Hinckley, MN

Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5	34-F1
000	321.0	44.0	0.0270	-15.69	1.000	4.92	23.13
030	310.4	54.6	0.0270	-15.69	1.000	5.52	25.85
060	307.1	57.9	0.0270	-15.69	1.000	5.68	26.61
090	297.4	67.6	0.0270	-15.69	1.000	6.09	28.61
120	282.1	82.9	0.0270	-15.69	1.000	6.74	31.97 *
150	286.6	78.4	0.0270	-15.69	1.000	6.55	30.95
180	292.5	72.5	0.0270	-15.69	1.000	6.30	29.65
210	296.3	68.7	0.0270	-15.69	1.000	6.14	28.84
240	299.5	65.5	0.0270	-15.69	1.000	6.00	28.19
270	311.5	53.5	0.0270	-15.69	1.000	5.46	25.59
300	325.3	39.7	0.0270	-15.69	1.000	4.64	21.89
330	328.1	36.9	0.0270	-15.69	1.000	4.46	21.08

Ave El = 304.83 M HAAT= 60.17 M AMSL= 365

* Highest HAAT Radial

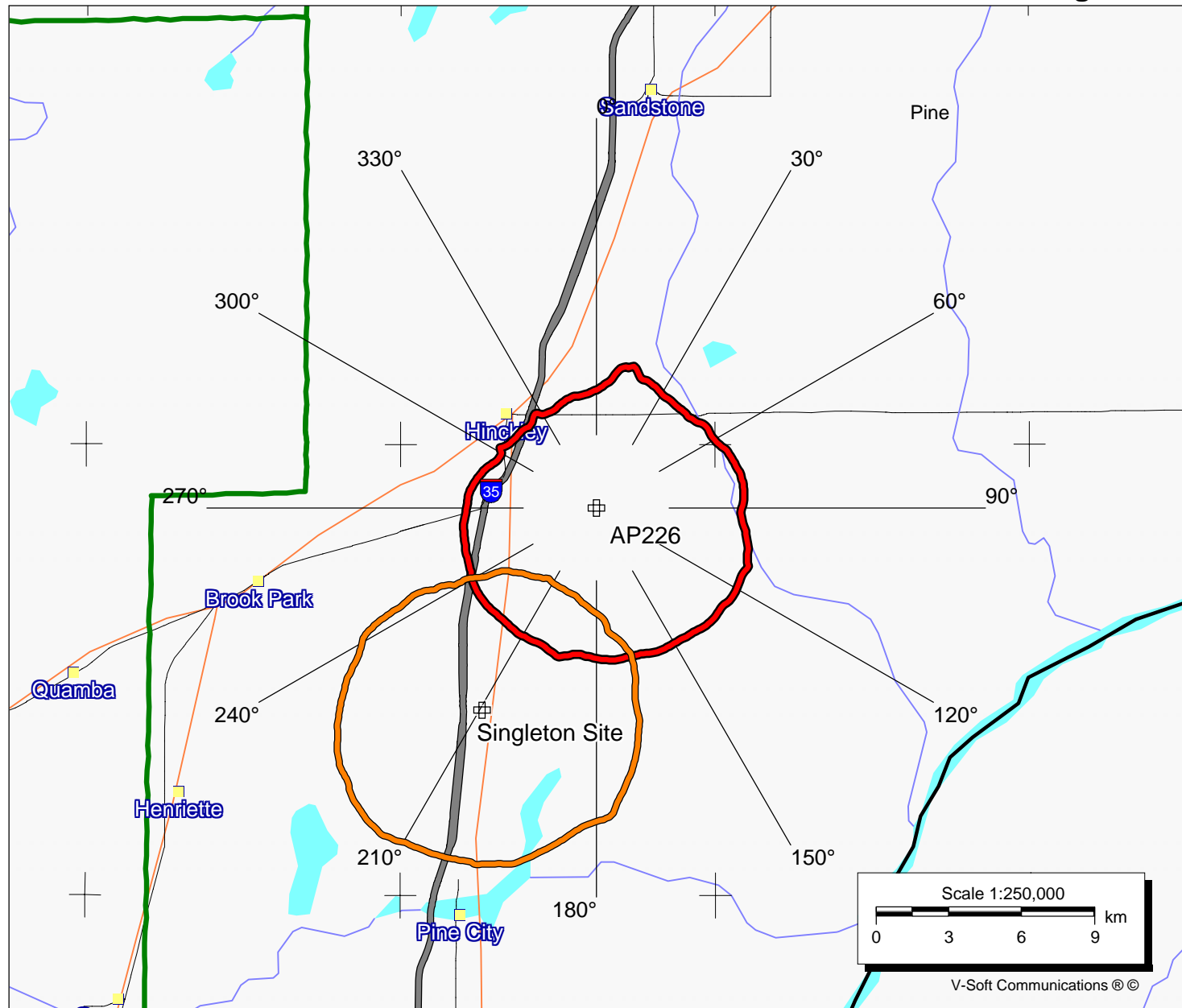
60 dBu Coverage

AP226

Latitude: 45-58-36 N
Longitude: 092-53-47 W
ERP: 0.027 kW
Channel: 226
Frequency: 93.1 MHz
AMSL Height: 365.0 m
Elevation: 304 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: FCC

Singleton Site

Latitude: 45-54-07 N
Longitude: 092-57-25 W
ERP: 0.027 kW
AMSL Height: 367.0 m
Elevation: 299.0 m
Horiz. Pattern: Omni
Vert. Pattern: No



Declaration:

I, Douglas L. Vernier, declare that I have received training as an engineer from the University of Michigan School of Engineering. That, I have received degrees from the University in the field of Broadcast Telecommunications. That, I have been active in broadcast consulting for over 30 years;

That, I have held a Federal Communications Commission First Class Radiotelephone License continually since 1964. In 1985, this license was reissued by the Commission as a lifetime General Radiotelephone license no. PG-16-16464;

That, I am certified as a Professional Broadcast Engineer (#50258) by the Society of Broadcast Engineers, Indianapolis, Indiana. (Re-certified 10/2000.)

That, my qualifications are a matter of record with the Federal Communications Commission;

That, I have been retained by 1400, Inc. Saint Paul, Minnesota, to prepare the engineering showings appended hereto:

That, I have prepared these broadcast engineering showings, the technical information contained in same and the facts stated within are true of my knowledge;

That, under penalty of perjury, I declare that the foregoing is correct.



Douglas L. Vernier

Executed on August 25, 2003