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July 17, 1997

via FedEx

Mr. William F. Caton
Secretary
Federal Communications
Commission
1900 M. Street, NW
Washington, DC 20054

Re: Reply to Petitions for
Reconsideration in MM Docket
No.87-268

Dear Mr. Caton:

Attached are the original and 11 copies of my reply comments to some of the petitions for reconsideration and clarification filed in response the FCC's 5th and 6th Reports and Order in MM Docket No. 87-268.

If there are questions concerning this filing please contact the undersigned.

Sincerely,


John A. Lundin

enclosures

cc: Bruce Franca
Robert Eckert
Roy Stewart
Keith Larson
Barbara Kreisman
Gordon Godfrey

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BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC, 20054

In the Matter of Advanced)
Television Systems & Their)
Impact upon the Existing) MM Docket No. 87-268
Television Broadcast Service)

Personal Reply Comments of John A. Lundin
To the Petitions for Reconsideration of the
5th & 6th Reports and Orders

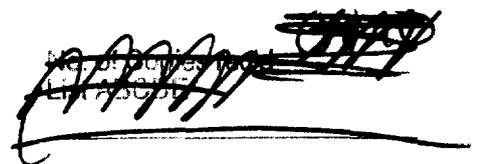
These personal reply comments are submitted on behalf of John A. Lundin a consulting engineering in the communications field. I have been practicing consulting communications engineering before the Federal Communications Commission (FCC) for more than 25 years. I have followed this ongoing proceeding and commend the FCC in its development of a plan for the monumental task of transitioning from analog (NTSC) to digital television (DTV).

It is apparent from the more than 200 petitions for reconsideration and clarification (petitions) filed with regard to the FCC's 5th and 6th Report and Orders (R&O), that some modifications and clarifications need to be made to the DTV standards. The purpose of my personal reply comments is to address an issue raised in some of the petitions for reconsideration, and suggest possible solutions.

Principal City Coverage

Some of the petitions expressed concern with the ability to receive an acceptable signal within the core market area where indoor antennas are likely to be more prevalent¹. Analog stations are required to provide a minimum signal level over the

¹ Petitioners include Hammett & Edison, Tribune, Media General, Univision, Paxson, and Sinclair.



principal community limits. This is referred to as the City Grade contour and equates to predicted signal levels of 74 dBu for low VHF, 77 dBu for high VHF and 80 dBu for UHF analog operations. Principal city coverage is basically the only FCC requirement for analog operations; there is no Grade B coverage requirement. The analog City Grade contour is 6 dB greater than the Grade A contour which is defined as being an acceptable quality signal to 70% of the locations for 90% of the time. In the new DTV rules however, the FCC only requires the noise limited f(50,90) contour to encompass the principal city. This essentially equates to modifying the principal city coverage requirement to the Grade B contour. It is curious that the FCC did not require a more reliable signal level for DTV principal city coverage. For instance a higher reliability signal such as the noise limited f(90,90) contour, or perhaps a higher f(50,90) noise limited signal level.

The following is a summary comparing sample analog city grade signals with possible higher reliability DTV noise limited (NL) signals. The first information concerns sample analog operations. The distances to the predicted City Grade and Grade B contours using the FCC's normal prediction method are given.

<u>Chan.</u>	NTSC		City Grade		Grade B	
	<u>ERP</u>	<u>HAAT</u>	<u>Signal</u>	<u>Distance</u>	<u>Signal</u>	<u>Distance</u>
2-6	100 kW	305 m	74 dBu	42.3 km	47 dBu	104 km
7-13	316	305	77	52.6	56	95.7
14-69	2500	305	80	51.2	64	77.0

The following table compares the distances of the sample analog city grade contours to the f(90,90) noise limited contours for DTV facilities which replicate the analog Grade B contour with the noise limited f(50,90) contour.

<u>Chan.</u>	DTV		DTV NL f(50,90)		DTV NL f(90,90)	
	<u>ERP</u>	<u>HAAT</u>	<u>Signal</u>	<u>Distance</u>	<u>Signal</u>	<u>Distance</u>
2-6	7 kW	305 m	28 dBu	104 km	28 dBu	82.3 km
7-13	14.8	305	36	95.7	36	76.4
14-69	73	305	41	77.0	41	57.9

The higher reliability DTV noise limited f(90,90) principal city signal for transmitting facilities replicating the analog Grade B contour will not be an additional burden to stations beyond the current analog requirement. As demonstrated, it should actually be a relaxation in comparison to the current analog requirement while maintaining a more reliable signal over the principal community.

If it is desired to refer to f(50,90) propagation instead of f(90,90), the following are possible f(50,90) signal levels for the samples given. First, the DTV f(50,90) field strength value is provided which corresponds to the distance to the analog City Grade contour.

<u>Chan.</u>	<u>DTV ERP</u>	<u>DTV HAAT</u>	NTSC	DTV f(50,90)	
			<u>City Grade</u>	<u>Signal</u>	<u>Distance</u>
2-6	7 kW	305 m	42.3 km	60 dBu	42.3 km
7-13	14.8	305	52.6	61	52.6
14-69	73	305	51.2	61.5	51.2

As indicated, something on the order of a 60 dBu f(50,90) signal corresponds to the distance of the analog city grade contour, regardless of the TV band.

Another possibility is to provide the f(50,90) field strength value corresponding to the distance of the noise limited f(90,90) signal.

<u>Chan.</u>	<u>DTV ERP</u>	<u>DTV HAAT</u>	DTV NL f(90,90)		DTV f(50,90)	
			<u>Signal</u>	<u>Distance</u>	<u>Signal</u>	<u>Distance</u>
2-6	7 kW	305 m	28 dBu	82.3 km	39 dBu	82.3 km
7-13	14.8	305	36	76.4	47	76.4
14-69	73	305	41	57.9	56	57.9

In this example, the DTV principal city f(50,90) signal would be 39 dBu for low VHF, 47 dBu for high VHF, and 56 dBu for UHF operations.

Until more is learned from actual field experience of DTV operations, it is believed a more conservative approach should be taken with regard to principal city coverage, than has been adopted in the FCC's current DTV standards. It is believed a more reliable (stronger) DTV signal, which will be more readily received on indoor antennas, should be provided to the principal community.

Respectfully Submitted,

A handwritten signature in cursive script that reads "John A. Lundin". The signature is written in black ink and is positioned above the typed name and address.

John A. Lundin
4603 4th Avenue NE
Bradenton, FL 34208

July 17, 1997