The Walt Disney Company

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FEDERAL COMMUNICATIONS COMMISSION
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August 24, 1999

Hand Deliver

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th Street, S.W., Room TWB204
Washington, D.C. 20554

Re: Petition for Rulemaking: Indoor Sports and Entertainment Radio Service

Dear Ms. Salas:

We are transmitting herewith for filing with the Commission an original and four copies of the Reply Comments of The Walt Disney Company, on behalf of its wholly-owned subsidiary ABC, Inc., in opposition to the Petition for Rulemaking filed by the National Hockey League (RM-9682).

If there are any questions in connection with the foregoing, please contact the undersigned.

Respectfully submitted,

Diane H Davidson

Diane H. Davidson
Director, Government Relations

DHD/smk

Enclosures

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AUG 24 1999
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Petition for Rulemaking:	)	
Indoor Sports and Entertainment	)	RM-9682
Radio Service	)	
	)	

To: The Commission

Reply Comments of the Walt Disney Company, Inc. ("ABC")
In Opposition to Petition for Rulemaking

The Walt Disney Company, on behalf of its subsidiary ABC, Inc. (hereinafter "ABC"), hereby submits these reply comments in support of the comments filed by the National Association of Broadcasters ("NAB") that oppose the new service proposed by the National Hockey League ("NHL") in the above-captioned Petition for Rulemaking ("NHL Petition"). For the reasons outlined below, ABC concurs with NAB's conclusions that the NHL Petition should be denied.

ABC believes that the NHL Petition is unnecessary, and would create a spectrum-inefficient service very similar to low power FM that would be available only to event organizers. Indeed, it appears to ABC that the actual intent of the NHL[1] is to obtain a license with renewability that would lock up certain FM spectrum in order to protect NHL's

[1] See NHL Petition at paragraph 16.

proposed limited service against new or modified wide-area broadcasting services. The NHL acknowledges that there would not be competitive applications within this proposed service at any given venue because of control of the arena,[2] but the NHL ignores the likelihood that a broadcaster outside the stadium may need or desire a new or modified facility which could overlap with the area of the stadium. This raises interference concerns with respect to the full-service FM broadcasting service and, potentially, to any low power FM ("LPFM") service that could be adopted by the FCC.[3]

The NHL Petition does not provide any technical analysis addressing issues of co-channel operation with a full-service FM station, thereby ignoring the serious interference concerns that are raised by its proposal. It is also notable that while FM spectrum was specifically requested by the NHL, AM would work equally well for the proposed talk service, especially in a noisy arena, despite the fact that the sound quality of most AM radios is inferior as far as music programming is concerned.

Indeed, the technical quality of the tests done by the NHL leave much to be desired. The use of 100 feet of Belden RG59 coax to connect the FM transmitter to the antenna, loss admitted to be 82%, shows how little power was really radiated (100%-82%)x2 watts = 0.36 watts at the antenna. Requesting up to 10 watts of FM on this basis is ludicrous, and highly likely to cause interference outside the stadium. Moreover, the NHL Petition ignores the fact that every sports stadium is different. The possibilities range from a "convertible" stadium that decides to operate "with the top down" one night, thus providing essentially no attenuation, all the way to a steel fortress that allows no signals to travel through its walls. The "one size fits all" approach outlined in the NHL Petition is insufficient and spectrum-inefficient.

NAB suggests a much better alternative for providing a radio signal inside the hockey arena, proposing that the local radio station with the existing contract to broadcast the game could install an on-channel booster transmitter inside the arena to "fill" the "hole" in its own coverage. This requires no new frequencies, raises no allocation issues, and can even be done under Part 15. Best of all, since any interference caused would be by the station's booster to its own service area, the local station will, in its own self interest, take any steps necessary to minimize its own interference. This works particularly well at FM, where the "capture ratio" of the receiver can freely "select" the stronger of the main transmitter or the booster almost unnoticeably to the listener, so long as the audio program is identical and is delayed identically in time. In contrast, an independent operator would simply run at the maximum authorized power regardless of extenuating circumstances because there is no

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[2] See NHL Petition at paragraphs 12-14.

[3] The NHL proposal is, in effect, a very limited form of low power FM service. ABC has filed comments in opposition to the LPFM service currently proposed by the Commission in MM Docket No.99-25. ABC's opposition is due to serious interference concerns raised by the LPFM service in the form proposed by the FCC in that proceeding. If the FCC were to now grant the NHL Petition, to the extent that an LPFM service ultimately could be developed by the FCC that would not cause harmful interference to full service FM broadcasters, such a service would be compromised by interference from this NHL service.

incentive to minimize any resultant interference. The NAB approach provides a far more efficient use of spectrum than the service proposed by NHL.

ABC has experience in just this option, at its owned station WJR(AM), Detroit, in association with Detroit Redwings - National Hockey League - broadcasts in the Joe Louis Arena. Beginning in 1986, WJR experimented under special temporary authority ("STA") with transmissions in the Joe Louis Arena on the same carrier frequency as WJR, so that any interference would be from WJR to WJR, at power levels up to 8 watts TPO on AM frequency 760 kHz. Final measurements made in 1989 by WJR determined that the Arena provided so much attenuation at AM frequencies (76 dB) that the signal emanating from the transmitter in the building fell within the intentional radiator rules (then Part 15.7, now Part 15.209) outside the stadium, and further STA was not requested on that basis.

Because it is possible that these measurements were not filed with the Commission (copies of an internal report have been located at ABC but we have not located copies of any formal FCC filing), ABC now submits its 1989 internal memorandum documenting the measurements, along with documentation of FCC authorization, with these Reply Comments as Attachment A. In sum, ABC found that low power transmissions could be operated in the arena, by the local radio station holding the local exclusive contract for hockey broadcasts, on the same frequency as the primary station and with the power controlled such that interference between the in-stadium transmitter and the radio station primary transmitter would be limited to, in essence, the walls of the stadium for stadiums in which sufficient isolation exists. WJR listeners can hear the pre-game show in the parking lot from the WJR transmitter before entering the arena, resume listening inside the arena to the booster, and follow post-game activities on the way home, all from the same broadcaster.

Such operations could be established in other locations cooperatively between the NHL and their local broadcast outlet, without interference to or disruption of any other party, without creating interference problems, and also without raising contractual issues with respect to local broadcast sports rights. It should be noted that the NHL questionnaires seeking views of attendees were distributed in Washington, not in Detroit, where in-stadium Hockey broadcasts have been available for over 10 years. Doing in-stadium hockey broadcasts this way could conceivably require use of either AM or FM facilities, depending upon the venue. Such operations also offer the possibility of frequency agility in event of changes in the contract broadcast station, especially if other sports are involved, utilizing small and inexpensive equipment. This method is far more spectrum efficient and less costly than the NHL proposal that requires exclusive allocation of spectrum for such limited use.

Further, ABC has information to the effect that WWJ (CBS AM, Detroit) is currently doing the exact same thing described above inside the arena where the Detroit Pistons play basketball. Our information indicates that no interference complaints have occurred, which only makes sense because the responsible station can only interfere with itself and so will assure that objectionable interference does not occur in its own self-interest. This solution can be pursued in any shielded environment in which reception of a specific broadcast frequency is desired, raising no allocations or enforcement issues.

Conclusion

For the reasons stated above, ABC concurs with NAB that the NHL Petition should be denied.

Respectfully submitted,

By: Diane H Davidson

Diane Hofbauer Davidson
Director, Government Relations

The Walt Disney Company
1150 17th Street, N.W., Suite 400
Washington, D.C. 20036

Ken Brown
Manager, RF Allocations & Licensing

ABC, Inc.
46 W. 66th Street
New York, New York 10023

Attachment A

Reply comments of the Walt Disney Company, Inc. ("ABC") In Opposition to Petition for Rulemaking

WJR AM RADIO 76
Stands for Detroit

TO: Al Resnick

DATE: October 31, 1989

FROM: Ed Buterbaugh

INFORMATION COPIES:

SUBJECT: Joe Louis Arena L.P. Transmitter

Field intensity measurements were made on October 30, 1989 to determine the licensing requirements pertaining to the Low Power transmitter operating at the Joe Louis Arena in Detroit. This transmitter operates at 760Khz with a TPO of 8 watts into a shortened dipole antenna. This system is used to provide radio play by play coverage, of the Detroit Redwings Hockey games, to WJR listeners in the arena.

The test procedures used and the results of these measurements are as follows:

The carrier from the main WJR transmitter was turned off and the carrier from the L.P. transmitter was modulated with a 1Khz tone. Measurements were made on the floor of the arena and indicated a signal strength from the L.P. transmitter of between 7 and 10mv/m.

Measurements were then made outside the arena on all four sides of the structure. These measurements were taken at distances from the building varying between 10 meters and 30 meters and indicate no audible or measureable signal from the L.P. transmitter. The primary signal was that of a Cuban station which measured between 20 and 100uv/m. In addition, measurements made within 5 meters of the building were slightly audible at several locations but were not measureable and were well below the noise floor of approximately 20uv/m.

To determine the attenuation of the structure additional measurements were made using the signal from the main WJR transmitter. The results of these measurements are as follows:

Main WJR signal just outside Arena - 240mv/m
Main WJR signal in Arena - 40uv/m
Attenuation - 76db

Assuming the attenuation of the structure to be 76db at 760Khz this would place the theoretical signal strength of the L.P. transmitter at just over 1uv/m at the outside of the building. It seems apparent, from these measurements, that this particular application falls well within the limits of Sec. 15.7 and therefore may not require licensing.

Please let me know your thoughts on this matter.

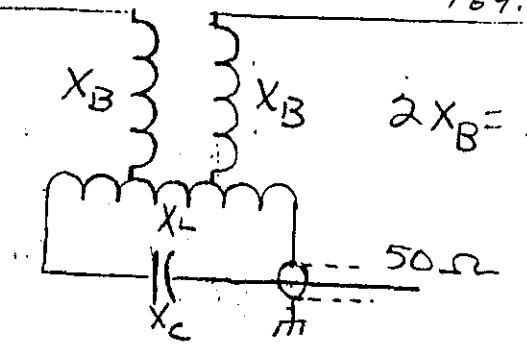
JR - Joe Lewis Arena

OVERAL LENGTH = 329 feet

$Z = 12 - jX_A$

164.5'

164.5'



$2X_B = X_A$

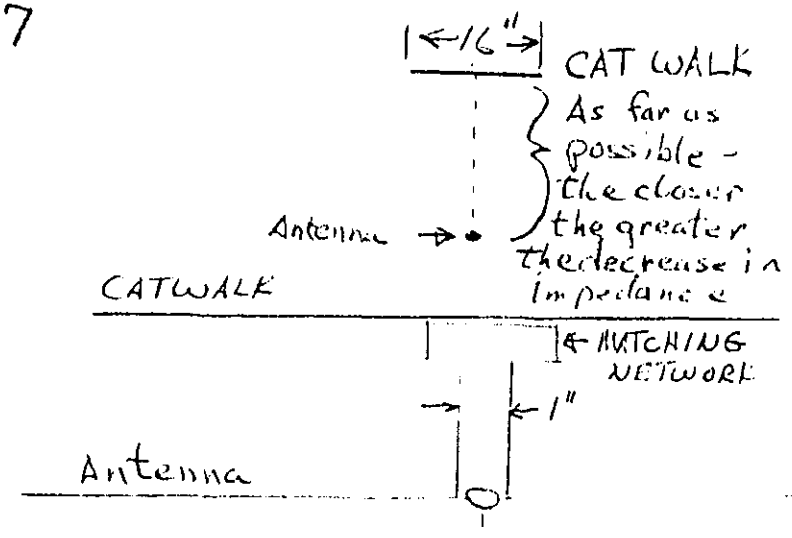
$X_C << X_L$

i.e. $X_C = 1\Omega$

$X_L = 100\Omega$

$N^2 = \frac{50}{12} = 4.17$

$N \simeq 2$



TELEGRAPHIC MESSAGE

NAME OF AGENCY	PRECEDENCE	SECURITY CLASSIFICATION
FEDERAL COMMUNICATIONS COMMISSION	ACTION: NL INFO:	
ACCOUNTING CLASSIFICATION COLLECT	DATE PREPARED 2/7/86	FILE
FOR INFORMATION CALL		
NAME AM BRANCH 7	PHONE NUMBER 632-7010	TYPE OF MESSAGE ☐ SINGLE ☐ BOOK ☐ MULTIPLE-ADDRESS

THIS SPACE FOR USE OF COMMUNICATION UNIT

MESSAGE TO BE TRANSMITTED *(Use double spacing and all capital letters)*

TO:

CAPITAL CITIES COMMUNICATIONS INC.
RADIO STATION WJR(AM) PHONE AND MAIL
3011 WEST GRAND BLVD.
DETROIT, MICHIGAN

REF. 8910-GT. RELET ENGR. 1/20/86. TEMPORARY AUTHORITY GRANTED TO OPERATE LOW POWER AM TRANSMITTER (NOT EXCEEDING ONE WATT) ON LICENSED FREQUENCY OF 760 KHZ FED INTO SHORTENED DIPOLE ANTENNA LOCATED INSIDE JOE LEWIS ARENA, DETROIT, MICHIGAN FOR PURPOSE OF RESTORING LICENSED COVERAGE SIGNAL TO ARENA SPECTATORS OTHERWISE LOST DUE TO RF SHIELDING BY ARENA. SUCH OPERATION IS LIMITED TO COVERAGE OF HOCKEY GAMES, ON THE AVERAGE OF TWICE PER WEEK, BETWEEN 7 P.M. AND 11 P.M. THROUGH THE END OF MARCH, 1986. THIS AUTHORITY MAY BE MODIFIED OR CANCELLED AT ANY TIME WITHOUT NOTICE OR RIGHT TO HEARING.

JOHN MORGAN, CHIEF AM BRANCH
MASS MEDIA BUREAU, FCC

GARY THAYER, ENGR

EIC DETROIT
CARL T. JONES
edr/asd/M

SECURITY CLASSIFICATION	PAGE NO.	NO. OF PGS.

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REVISED 11-80
GSA FPMR (41 CFR) 101-35.306

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14-103-06

WJR

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ACCOUNTING CLASSIFICATION COLLECT	DATE PREPARED 09-23-86	FILE
FOR INFORMATION CALL		
NAME AM BRANCH 7	PHONE NUMBER 632-7010	TYPE OF MESSAGE ☐ SINGLE ☐ BOOK ☐ MULTIPLE-ADDRESS

THIS SPACE FOR USE OF COMMUNICATION UNIT

MESSAGE TO BE TRANSMITTED *(Use double spacing and all capital letters)*

TO:

CAPITAL CITIES COMMUNICATIONS, INC.
RADIO STATION WJR(AM) PHONE AND MAIL
24 EAST 51ST STREET
NEW YORK, NY 10022

REF. 8910-GT. RELET ENGR. 9-10-86. EFFECTIVE 9-29-86,

AUTHORITY AND TERMS COMTEL 2/7/86 REINSTATED AND EXTENDED

THROUGH 3-31-87.

THOMAS N. ALBERS, CHIEF GARY THAYER, ENGR
AM BRANCH
MASS MEDIA BUREAU, FCC

cc: CARL T. JONES
EIC: DETROIT

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WJR

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cc: CARL T. JONES
EIC: DETROIT

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ACCOUNTING CLASSIFICATION COLLECT	DATE PREPARED 12-8-87	FILE
FOR INFORMATION CALL		
NAME AM BRANCH 7	PHONE NUMBER 632-7010	TYPE OF MESSAGE ☐ SINGLE ☐ BOOK ☐ MULTIPLE-ADDRESS

THIS SPACE FOR USE OF COMMUNICATION UNIT

MESSAGE TO BE TRANSMITTED *(Use double spacing and all capital letters)*

TO:

CAPITOL CITIES COMMUNICATIONS INC.
RADIO STATION WJR(AM) PHONE MAIL
24 EAST 51ST STREET
NEW YORK, NEW YORK 10022

REF. 8910-CT. RELST ENGR. 10/1/87 EXPERIMENTAL TEMPORARY AUTHORITY GRANTED TO OPERATE LOW POWER AM TRANSMITTER (NOT EXCEEDING EIGHT WATTS) ON LICENSED FREQUENCY OF 760 KHZ FED INTO SHORTENED DIPOLE ANTENNA LOCATED INSIDE JOE LEWIS ARENA, DETROIT, MICHIGAN FOR PURPOSE OF RESTORING LICENSED COVERAGE SIGNAL TO ARENA SPECTATORS OTHERWISE LOST DUE TO RF SHIELDING BY ARENA. SUCH OPERATION IS LIMITED TO COVERAGE OF HOCKEY GAMES, ON THE AVERAGE OF TWICE PER WEEK, BETWEEN

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TELEGRAPHIC MESSAGE

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ACCOUNTING CLASSIFICATION COLLECT	DATE PREPARED 12-8-87	FILE
FOR INFORMATION CALL		
NAME AM BRANCH 7	PHONE NUMBER 632-7010	TYPE OF MESSAGE ☐ SINGLE ☐ BOOK ☐ MULTIPLE-ADDRESS

THIS SPACE FOR USE OF COMMUNICATION UNIT

MESSAGE TO BE TRANSMITTED *(Use double spacing and all capital letters)*

TO:

7 P.M. AND 11 P.M. THROUGH THE END OF MARCH, 1988. THIS AUTHORITY MAY BE MODIFIED OR CANCELLED AT ANY TIME WITHOUT NOTICE OR RIGHT TO HEARING. NECESSARY THAT YOU SUBMIT A REPORT INDICATING AMOUNT OF SIGNAL LEAKAGE OUTSIDE ARENA RESULTING FROM USE OF EIGHT WATT TRAMSMITTER.

THOMAS N. ALBERS, CHIEF
AM BRANCH
MASS MEDIA BUREAU, FCC

GARY THAYER, ENGR

cc:
EIC-DETROIT
Carl Jones
GT:yel

SECURITY CLASSIFICATION

PAGE NO.	NO. OF PGS.
2	2

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

IN REPLY REFER TO:

December 21, 1988

Capitol Cities Communications, Inc.
Radio Station WJR(AM)
24 East 51st Street
New York NY 10022

Ref. 8910-MB. Relet Engr. 12/5/88 experimental temporary authority granted to operate low power AM transmitter (not exceeding eight watts) on licensed frequency of 760 KHZ fed into shortened dipole antenna located inside Joe Lewis Arena, Detroit, Michigan for purpose of restoring licensed coverage signal to arena spectators otherwise lost due to RF shielding by arena. Such operation is limited to coverage of hockey games, on the average of twice per week, between 7 p.m. and 11 p.m. through the end of March, 1989. This authority may be modified or cancelled at any time without notice or right to hearing. Necessary that you submit a report indicating amount of signal leakage outside arena resulting from use of eight watt transmitter.

Thomas N. Albers
Chief, AM Branch
Mass Media Bureau, FCC

May Bradfield
Comms. Analyst

EIC-Detroit

cc: Carl Jones

MB:afr/asd/mmb/wjr

RECEIVED
DEC 28 1988
S.A.W.

New Rule

[Code of Federal Regulations]
[Title 47, Volume 1, Parts 0 to 19]
[Revised as of October 1, 1997]
From the U.S. Government Printing Office via GPO Access
[CITE: **47CFR15.209**]

[Page 654]

TITLE 47--TELECOMMUNICATION

CHAPTER I--FEDERAL COMMUNICATIONS COMMISSION

PART 15--RADIO FREQUENCY DEVICES--Table of Contents

Subpart C--Intentional Radiators

Sec. 15.**209** Radiated emission limits; general requirements.

(a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permItted under other sections of this part, e.g., Secs. 15.231 and 15.241.

(b) In the emission table above, the tighter limit applies at the band edges.

(c) The level of any unwanted emissions from an intentional radiator operating under these general provisions shall not exceed the level of the fundamental emission. For intentional radiators which operate under the provisions of other sections within this part and which are required to reduce their unwanted emissions to the limits specified in this table, the limits in this table are based on the frequency of the unwanted emission and not the fundamental frequency. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

(d) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

(e) The provisions in Secs. 15.31, 15.33, and 15.35 for measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are

to be measured, and limiting peak emissions apply to all devices operated under this part.

(f) In accordance with Sec. 15.33(a), in some cases the emissions from an intentional radiator must be measured to beyond the tenth harmonic of the highest fundamental frequency designed to be emitted by the intentional radiator because of the incorporation of a digital device. If measurements above the tenth harmonic are so required, the radiated emissions above the tenth harmonic shall comply with the general radiated emission limits applicable to the incorporated digital device, as shown in Sec. 15.109 and as based on the frequency of the emission being measured, or, except for emissions contained in the restricted frequency bands shown in Sec. 15.205, the limit on spurious emissions specified for the intentional radiator, whichever is the higher limit. Emissions which must be measured above the tenth harmonic of the highest fundamental frequency designed to be emitted by the intentional radiator and which fall within the restricted bands shall comply with the general radiated emission limits in Sec. 15.109 that are applicable to the incorporated digital device.

(g) Operation in the frequency bands allocated to TV broadcast stations:

(1) Perimeter protection systems operating under the provisions of this section in the frequency bands allocated to TV broadcast stations, as shown in part 73 of this chapter, shall contain their fundamental emissions within the frequency bands 54-72 MHz and 76-88 MHz. Further, the use of such perimeter protection systems is limited to industrial, business and commercial applications.

(2) Biomedical telemetry devices operating under the provisions of this section in the frequency bands allocated to TV broadcast stations, as shown in part 73 of this chapter, shall contain their fundamental emissions within the frequency band 512-566 MHz. Further, the marketing and the use of biomedical telemetry devices operating under this paragraph shall be limited to hospitals.

[54 FR 17714, Apr. 25, 1989; 54 FR 32339, Aug. 7, 1989; 55 FR 18340, May 2, 1990]