

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Maritime Communications/Land Mobile	)	
LLC's Form 603 Assignment of Authorization	)	File No. 0003767487 and 0003772497
Application to Big Rivers Electric	)	Call Sign: WQGF316
Corporation and Associated Requests for	)	
Waiver of Certain AMTS Rules of A-Block	)	
Geographic AMTS Mississippi River License	)	

To: Office of the Secretary  
Attn: Chief, Wireless Telecommunications Bureau.

Written Presentation Regarding BREC Waiver Request<sup>1</sup>

Supplement to Petition to Deny or Reply

Petitioners hereby file this written presentation ("Presentation") and supplement to their pending Petition or Reply regarding the BREC waiver request (the "Waiver") for the Application.

For the same reasons that the Commission has permitted and may consider the BREC presentation made during a meeting at the FCC Offices on June 11, 2009 (see the June 12, 2009 Letter from Joel S. Winnik at Hogan & Hartson, counsel to BREC, to the FCC's Secretary that evidences that meeting), Petitioners provide this written presentation and supplement. Exhibit 1 hereto contains an email from Mr. Scot Stone responding to Petitioners' request to also make a presentation of the sort that BREC was permitted. In that email Mr. Stone states in part, "...If your LLCs [Petitioners] choose to make a written presentation (which, as you note, would have to be served on the other parties) in lieu of requesting another in-person meeting, the information

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<sup>1</sup> The defined terms, including "Petitioners," used herein have the same meaning they have in the pending petition to deny proceeding.

in the written presentation would be considered to the same degree as the information presented at the in-person meeting [the BREC 6/11/09 meeting].”

On November 19, 2009 BREC sent a letter to the FCC regarding the Application, which was a “presentation” in this restricted proceeding. That by itself is good cause to allow this supplement (in addition to the good cause stated above). Petitioners responded to that letter, and thereafter, John Reardon for MCLM made written presentations to the FCC (that were impermissible ex parte) regarding the subject proceeding (as well as other restricted proceedings). The appropriate sanction for that provided in the ex parte rules is to disqualify MCLM and parties who may have been associated with that ex parte presentation from the proceedings subject of the presentation. However, at minimum, that is further good cause for accepting this instant presentation and supplement.

First: Petitioners point out here that in 2007 the FCC already decided in the AMTS rulemaking against allowing any increase in AMTS power limits because it would result in interference to “co- or adjacent channel services” ... “and adjacent channel interference.” In addition to applying to base station transmitters, the FCC’s decision also applies to ship transmitters (mobile units). There is no reason for the FCC to conclude otherwise at this time. See, *In the Matter of MARITEL, INC. and MOBEX NETWORK SERVICES, LLC; Petitions for Rule Making to Amend the Commission's Rules to Provide Additional Flexibility for AMTS and VHF Public Coast Station Licensees*, WT Docket No. 04-257; RM-10743, *REPORT AND ORDER*, FCC 07-87, 22 *FCC Rcd* 8971; 2007 FCC LEXIS 3765, May 9, 2007 Released; Adopted May 10, 2007 (Underlining added) that reads:

\* \* \* \* \*

24. Havens additionally requests clarification that, under Section 80.215(h) of the Rules, n106 [\*8986] "if, for a particular station, a licensee may use the stated 1000 watts ERP [effective radiated power] under the conditions stated that allow for it, then the licensee may achieve this 1000 watts ERP by any combination of power into the antenna and antenna gain." n107 As we understand Havens'

request, he seeks a clarification that would in effect allow AMTS licensees to operate without limitation as to transmitter power, as measured at the input terminals to the station antenna, provided that the ERP does not exceed the one thousand watt maximum specified in Section 80.215(h)(1).<sup>n108</sup> However, such operation could in fact violate Section 80.215(h)(5) of the Rules,<sup>n109</sup> which limits AMTS transmitter power, as measured at the input terminals to the antenna, to fifty watts or less. <sup>n110</sup> We therefore decline to provide the requested clarification.

<sup>n110</sup> See Warren C. Havens, Order, 18 FCC Rcd 26509 (2003) (Havens Forbearance Petition Order) (denying Havens' petition for forbearance from the power limit in Section 80.215(h)(5)). Havens filed a petition for reconsideration of the Havens Forbearance Petition Order on January 20, 2004. As our discussion supra underscores, we remain unpersuaded that AMTS licensees should be relieved of the Section 80.215(h)(5) transmitter power limit, whether through forbearance, "clarification," or otherwise. In particular, we find nothing in the petition for reconsideration of the Havens Forbearance Petition Order that would undermine the Commission's conclusion that Havens' petition for forbearance contained "no engineering information establishing that [the Commission] could forbear from applying the power limitation in section 80.215(h)(5) without it resulting in interference to other AMTS stations, or to other co- or adjacent channel services." See Havens Forbearance Petition Order, 18 FCC Rcd at 26510 P 4. We continue to believe that the fifty watt transmitter power limit in Section 80.215(h) is essential to protect AMTS and other stations from such co-channel and adjacent channel interference, notwithstanding the independent one thousand watt ERP limit in Section 80.215(h)(1). We therefore deny Havens' petition for reconsideration of the Havens Forbearance Petition Order.

The undersigned is the "Havens" referenced above. He had particular purposes in asking the above (for particular planned stations and equipment being sought) but it was denied. The FCC should not not grant to MCLM and BREC relief denied to Havens (granting to BREC is effectively granting to MCLM the subject waiver is a condition of the contract with MCLM).

Second: Granting the waiver would indirectly but effectively be a granting a waiver of the "freeze" on expansion of incumbent AMTS stations, put into effect before and for purposes of the geographic-license auctions of AMTS, as follows. The purpose of that freeze was to define the limits of incumbent-stations in the spectrum held and the geographic areas held—by service and interference contours ("Contours")--, so that the amount of geographic spectrum could be determined for the auction and resultant licensing. Said Contours are for purposes of

interference management, and that applies both to co-channels and adjacent-channels, as reflected above. While the subject waiver is of power levels for geographic spectrum for one AMTS block, and under current licensing MCLM holds the other block in alleged-valid incumbent station licenses,<sup>2</sup> Petitioners hold the other block in a geographic license and thus have adjacent-channel spectrum that is effected by the waiver: that effect is the same as the effect that would be caused if the waiver was of an incumbent station with the same block, and in that way, grant of the waiver would have the same effect as a waiver of the noted AMTS incumbent station freeze: it encroaches upon the geographic spectrum set by that freeze and sold to one of the Petitioners in auction 57. BREC did not seek a waiver of that freeze, and in any case its subject waiver should not be granted for the reasons of this paragraph, in addition to the other reasons given.

Third: Exhibit 2 hereto is an engineering analysis report by Dr. Douglas Reudink that supports Petitioners' facts and arguments in the Petition as to why the Waiver should not be granted.<sup>3</sup> In this report from Dr. Reudink, several typographical errors have been corrected and a small amount of text added by Petitioners to make the presentation more clear; however, none of the substance from Dr. Reudink was amended or expanded.

The immediately below in double indentation was provided by Petitioners to Dr. Reudink to assist him in his response.

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2 Petitioners have demonstrated, but not yet prevailed upon, the following: Mobex and MCLM have no valid AMTS incumbent stations along the subject Mississippi River corridor, and Petitioners, not MCLM have the qualified high bid in Auction 61 for the Mississippi area AMTS A-block license.

3 See previous filing by Petitioners that had an initial technical analysis by Dr. Reudink. Dr. Reudink is well known, including before the FCC. For convenience, his summary qualifications are: Chief Scientist at Adaptix, Inc. President and Chief Technology Officer for Metawave Communications Corp. Director of wireless planning at US WEST NewVector Group, Inc., 1991 to 1995. Director of Laboratories of the High Technology Center at The Boeing Company, 1986 to 1991. Prior to 1986, 20 years at the Bell Laboratories division of AT&T in various research and management positions. B.S. from Linfield College, Ph.D. from Oregon State University. In recent years, Dr. Reudink has been and is a consultant including to Petitioners.

The following paragraphs summarize the technical waivers requested by BREC:

To obtain Part 90-like coverage capabilities in BREC's operating territory, waivers of certain Part 80 power and antenna height rules are also needed. Specifically, BREC requests a waiver of § 20.215(h)(5)(i), which limits ship station transmitter output to 25 watts, with an ERP not exceeding 18 watts. BREC requires a limit of 50 watts (at the input to the antenna) for its mobile and fixed terminals, with an ERP not to exceed 100 watts.

BREC also requests a waiver of § 80.123(e)'s 6.1 meter antenna height limit. BREC expects to operate fixed telemetry stations which will require higher limits, not to exceed 100 feet. The above-referenced power and antenna waivers are needed because BREC requires ubiquitous coverage.

Providing BREC with the greater flexibility requested herein should not pose interference concerns. BREC understands the need to limit any harmful interference to TV reception and, in accordance with § 80.215(h)(2), a TV channel 10/13 interference mitigation plan is being filed in applies to stations with an antenna height less than 61 meters and located more than 169 kilometers from the antenna of a channel 13 TV station and more than 129 kilometers from the antenna of a channel 10 station.

To the extent § 80.123(e) could be interpreted to apply to base station antennas, BREC will require a waiver to permit heights of up to 400 feet. Likewise, co-channel AMTS licensees should not be affected. The only incumbent site-based licenses falling within 120 kilometers of BREC's planned sites are held by MC/LM, and these licenses will be surrendered for cancellation prior to the assignment of the partitioned area. Moreover, MC/LM will be the only geographic co-channel licensee to share a border with BREC, and BREC and MC/LM have worked closely to ensure that there will be no interference to either party after the partitioning. Accordingly, the purpose underlying the Part 80 power and antenna height limit rules would not be undermined by grant of the requested waivers.

Thus, Dr. Reudink's report, Exhibit 2, should be reviewed in light of the above details.

[The rest of this page is intentionally left blank.]

Respectfully,

*/s/ Warren Havens*

*[Filed electronically. Signature on file.]*

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Warren Havens,  
for each of Petitioners

Each Petitioner:

2649 Benvenue Ave., Suites 2-6  
Berkeley, CA 94704  
Ph: 510-841-2220  
Fx: 510-841-2226

Date: December 15, 2009

## Exhibit 1

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**From:** Scot Stone [Scot.Stone@fcc.gov]  
**Sent:** Monday, July 20, 2009 1:30 PM  
**To:** Warren Havens  
**Cc:** JSWinnik@HHLAW.com; d brown; jstobaugh@telesaurus.com  
**Subject:** RE: MCLM Assignment to Big Rivers Electric, of AMTS spectrum: petition to deny proceeding

Mr. Havens,

The in-person meeting was held at the request of one of the parties. Commission staff at no time indicated whether any information in addition to what was already in the record was necessary to resolve the pending matters. If your LLCs choose to make a written presentation (which, as you note, would have to be served on the other parties) in lieu of requesting another in-person meeting, the information in the written presentation would be considered to the same degree as the information presented at the in-person meeting.

I have no problem with your contemplated time frame. If the written presentation is limited to responding to information presented during the in-person meeting, I would not anticipate any reason to consider responsive pleadings.

Scot Stone  
Deputy Chief, Mobility Division  
Wireless Telecommunications Bureau

**From:** Warren Havens [mailto:warren.havens@sbcglobal.net]  
**Sent:** Monday, July 20, 2009 1:38 PM  
**To:** Scot Stone  
**Cc:** JSWinnik@HHLAW.com; d brown; jstobaugh@telesaurus.com  
**Subject:** Re: MCLM Assignment to Big Rivers Electric, of AMTS spectrum: petition to deny proceeding

Mr. Stone,

I am following up on the below.  
I copy here the alleged legal counsel of the other parties.

Dr. Reudink, the wireless engineer who submitted a technical showing in support of my LLCs position in this matter (with our Petition to Deny filings), will soon be available again to comment on the presentation made by the other parties at the in-person meeting you permitted. As you know, I arranged for that to be recorded by a court reporter, and we received the transcription.

What I request is that, in lieu of another in-person meeting (as I discussed below with you as my initial idea for equitable time and treatment), that you permit my LLCs with Dr. Reudink to present a response in writing and include that for consideration and comment in a decision, to the same degree you consider the presentation made by the other parties at the in-person meeting (and I assume that was permitted for that purpose of consideration and comment, otherwise, it would be a waste of Commission and the parties time: please correct me if that is not correct).

Permitting this in the circumstances would be more efficient.

If you permit this, I request until end of August 18 to submit the written response by filing on ULS and standard service on the parties.

If these other parties then seek to further respond and is is allowed, whether by another in-person meeting or solely in writing, I would ask for right to reply: the petitioner in a petition to deny proceeding has the reply right. There appears to be no limit to the pleading cycle, as counsel to the other parties and you interpret and apply the rules in this case (you and they take other positions on other cases). I disagree and do not waive my procedural, or my substantive objections, already raised, and intend to appeal any decision contrary to my LLCs position on that basis (and on other bases that may be appropriate).

Thank you,  
Warren Havens

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**From:** Scot Stone <Scot.Stone@fcc.gov>  
**To:** Warren Havens <warren.havens@sbcglobal.net>  
**Cc:** jstobaugh@telesaurus.com  
**Sent:** Wednesday, June 17, 2009 1:09:12 PM  
**Subject:** RE: MCLM Assignment to Big Rivers Electric, of AMTS spectrum: petition to deny proceeding

We can do this the afternoon of the 29th, 1st, or 2nd. Decide which you prefer, then follow the same procedure as Big Rivers counsel followed: an email requesting a meeting and cc'ing all the parties in order to afford them an opportunity to be present as required by Section 1.1202(b)(2). I will then respond to the chain.

**From:** Warren Havens [mailto:warren.havens@sbcglobal.net]  
**Sent:** Wednesday, June 17, 2009 3:10 PM  
**To:** Scot Stone  
**Cc:** jstobaugh@telesaurus.com  
**Subject:** MCLM Assignment to Big Rivers Electric, of AMTS spectrum: petition to deny proceeding

Mr. Stone,

This concerns procedure. It is not a "presentation."

I request, for Petitioners in the petition to deny proceeding referenced above, to make an oral presentation (with, in addition, interaction with FCC staff -- "entertaining" questions, as the Big River counsel stated in setting up the presentation meeting noted below), along with possible others with me that are expert in relevant areas. I do not believe FCC rules allow such a presentation, but since you have found otherwise and granted such a request to Big Rivers and MCLM, I request the same.

Please let me know what days and times are available, starting on June 29, and I will then coordinate with persons on my side as to a time they have.

If there are any FCC rules of any kind, and/or practices of any kind, that the FCC applies in cases like this, and that you have applied in the above-noted case of the oral presentation of Big Rivers and MCLM, let me know. I know of none, as I previously wrote. That is, FCC staff does what it wants to accept presentations and "entertain" questions, and interact on the substance, even after the pleading cycle has closed, as long as an email has been sent to the other parties (at an email that the sender believes may be received by the intended recipient, but is not given by the other parties for service purposes) a few days time before the presentation is made. In that regard, please identify (i) what you want and will allow: days, times, duration of the presentation, how other parties are to be noticed, and if email is all that is

required, whether any identification of planned topics of the presentation need to be explained to the other parties, and if so, by what date, etc., and (ii) how that is within said past FCC rules and practice.

Thank you,  
Warren Havens  
President  
Petitioner entities  
510 841 2220 x 30

## **Exhibit 2**

Below is Dr. Douglas Reudink's analysis.

Notes: (1) The below supplements the initial analysis of Dr. Reudink, and should be reviewed with that, and with the comments of Petitioners in this proceeding on their intended technology for their adjacent channel AMTS spectrum. (2) See also the information provided to Dr. Reudink that he considered in the below analysis, restated at the end of the text to this filing, above.

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### Interference increases in unbalanced adjacent band networks

The proposed waiver allowing more power and added height to mobiles and fixed repeaters in the A band would cause great harm to the B band spectrum holder, reducing the operating range and capacity of the B band operator. Some of these issues can be partially mitigated, but at very large monetary costs. Because the bands are adjacent, an increase in power and/or antenna height of an A repeater will correspondingly increase the blackout range for B band mobiles near an A repeater. Due to the more favorable propagation characteristics of 200MHz the operating range can be 30 miles. The out of band emission limits into the adjacent band are only -28dB. Another issue is that the B-band operator proposes to use high capacity modulation such as 64 QAM which is more vulnerable to interference. This additional interference due to A-band emissions into the B-band prevents usage of 64 QAM over very large areas.

The petitioners [BREC] did not mention the potential of adjacent channel interference. Especially important are out of band emissions that would be harmful to the licensed second operator in this region. I have made some straightforward interference calculations of the detrimental impact caused by an operator in an adjacent band transmitting at a higher power and using an increased antenna height. The decibel increase in power in going from 18w to 100w is

7.4dB. The well known antenna height-gain ratio which can be applied in this situation amounts to 6dB increase in gain for each doubling of antenna height. Using this ratio the increased ERP is expected to be 7dB for a 100 foot tower. Combining these two calculations results in an increase of 14.4 dB over the prior output and correspondingly increases both co-channel and adjacent channel interference.

Out of band emission limits are stated in Section 80.211(a) relative to the transmit power:

§ [80.211](#)(a) Emission limitations.

The emissions must be attenuated according to the following schedule.

(a) The mean power when using emissions H3E, J3E and R3E:

(1) On any frequency removed from the assigned frequency by more than 50 percent up to and including 150 percent of the authorized bandwidth:

at least 25 dB for transmitters installed before February 1, 1992,

at least 28 dB for transmitters installed on or after February 1, 1992;

(2) On any frequency removed from the assigned frequency by more than 150 percent up to and including 250 percent of the authorized bandwidth: At least 35 dB; and

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 plus  $10\log[10](\text{mean power in watts})$  dB.

The authorized bandwidth for AMTS is not stated specifically. Modern spectrally efficient modulations such as CDMA, OFDMA and TDCDMA seek to employ wide bandwidths to increase capacity. Likewise, the trend in radio technology to achieve greater capacity and coverage is toward lower antenna towers and reduced power and move to cellular coverage with frequency reuse. This waiver request moves in the opposite direction.

To quantify the harm caused by this waiver request, I calculate the interference before and after the propose increases using an assumed adjacent channel interference of -28dB.

A current option for the B-band system uses multilevel modulation which is more vulnerable to interference when operating at high throughput. A typical received power level at a distance of 4 miles might be -80dBm.

We can assume various propagation loss factors and calculate the impact of interference.

[Table 1](#) below shows the relative received power and the power of generated by an interferer both presently allowed and the interference level as a result of the proposed waiver. A propagation exponential loss constant of 2.5 is assumed.

[Table 1](#)

Range (miles)	Received power	Interference power	
		Current	Proposed
¼	-50	-78	-64
½	-57.5	-85.5	-71.5
1	-65	-93	-79
2	-72	-100	-86
4	-80	-108	-94
8	-87.6	-115.6	-101.6
16	-95.1	-123	-109
32	-103	-131	-117

It is well known that the so-called near-far effect means that for instance an A-band mobile emitting in the adjacent channels near a B- band base station can overwhelm a weak signal from a distant A-band mobile. Operators can normally minimize this impact with base station placement and channelization. However, the fact remains that out of band emissions cause harm and by allowing an increase in power and antenna height on adjacent band, the licensed band owner is forced to tolerate a significant reduction in service area and capacity.

The Table above clearly indicates that a mobile 16 miles from its home base station has trouble (meaning the interference power is comparable to the intended receive power) if a mobile is transmitting less than one mile from that base on the adjacent band. However, the problem is

far more serious with the proposed waiver. Now, there is significant interference if the adjacent “mobile” more likely a fixed relay station, is less than 4 miles from the B-band base station. To insure tolerable interference levels in the adjacent band, the high power mobile needs to be at least 10 miles from the adjacent operator’s base station.

Such restrictions in transmission are potentially possible with state-of-the art GPS and attendant software, but no such equipment has been developed.

A similar restriction could be imposed were a radio developed such that transmission was halted if the signal received from the adjacent band base station exceeded a predetermined threshold. Again no such radio is commercially available

[Table 2](#) below shows the relative received power and the power of the interference for a propagation exponential loss constant of 3.0 which represent a more rugged terrain. The table assumes an initial received at ¼ mile is -50dbm signal.

[Table 2](#)

Range (miles)	Received power	Interference power	
		Current	Proposed
¼	-50	-78	-64
½	-59	-87	-73
1	-68	-96	-82
2	-77	-105	-91
4	-86	-114	-100
8	-95	-123	-109
16	-104	-132	-118
32	-113	-141	-127

The impact on range in this example is to shrink the coverage area from 32 miles in the previous case to 16 miles. However, a mobile at 16 miles range has no chance of getting its signal heard if an A-band repeater is within a radius of 5 mile of the B-band base station.

Another way to look at the potential harm in this waiver request is to imagine the mobile as actually two transmitters. The primary powerful output is the desired A-band signal, the second output is the out-of-band interference into the B-band. Were the 14dB signal increase allowed for A-band, the interference power goes up proportionately. The interference spreads out over a wide area. For propagation constants defined by -2, -2.5, -3, -3.5 and -4 (the exponential power decrease with distance from the source), the spread out of interference power due to this proposal amounts to increases in the interfering radius by the corresponding multiplying factors 5, 3.7, 3,2.5, 2.25. The only way to mitigate this increase in adjacent channel interference is to require that the out of band emissions by the A-band operator maintain the current allowed levels. In other words require that the A-band adjacent band power be limited to -28 plus -14(-42 db) below the in band transmitter output power. Additional power restrictions would apply according to section 80.211.

[End of Dr. Reudink's analysis.]

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Declaration

I, Warren Havens, declare under penalty of perjury that the fact in this pleading are true and correct.

*/s/ Warren Havens*  
*[Filed Electronically. Signature on File]*

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Warren Havens

Certificate of Service

I, Warren C. Havens, certify that I have, on this 16<sup>th</sup> day of December 2009, caused to be served, by placing into the USPS mail system with first-class postage affixed, unless otherwise noted, a copy of the foregoing Written Presentation to the following:<sup>4</sup>

FCC Office of Inspector General  
Federal Communications Commission  
(via email only to: [kent.nilsson@fcc.gov](mailto:kent.nilsson@fcc.gov), [jon.stover@fcc.gov](mailto:jon.stover@fcc.gov) )

Dennis Brown (legal counsel for MCLM and Mobex)  
8124 Cooke Court, Suite 201  
Manassas, VA 20109-7406  
(Via mail and courtesy copy, not for purposes of service, via email to: [d.c.brown@att.net](mailto:d.c.brown@att.net)  
)

Sandra DePriest and Donald DePriest  
206 North 8<sup>th</sup> Street  
Columbus, MS 39701

National Rural Telecommunications Cooperative  
Attn: Jack Harvey  
2121 Cooperative Way  
Herndon, VA 20171

Big Rivers Electric Corporation  
ATTN Randall Hooper  
201 Third Street  
Henderson, KY 42419

Hogan & Hartson LLP (counsel for BREC)  
Joel S Winnik  
555 Thirteenth Street, NW  
Washington, DC 20004

*/s/ Warren Havens*  
*[Filed Electronically. Signature on File]*

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Warren Havens

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<sup>4</sup> The mailed copy being placed into a USPS drop-box today may not be processed by the USPS until the next business day.