CMBE

ENGINEERING STATEMENT

Prepared For

dms Broadcasting

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This report is in response to the email received by dms Broadcasting from Mr. David Archbold on Wednesday May 18th, 2005 regarding the David Maxson Report on "Interference on the FM Band."

We will present this report in "laymans'" language where possible to help non-technical readers make informed judgments; and we will relegate highly technical or detailed discussion to footnotes for those who wish to read them.

It is our desire to expedite the successful resolution of these complex technical and legal issues. We re-pledge the support of our resources for the benefit of the public good.

As outlined in the email to licensees dated April 26th, 2005 from Mr. Greg van Koughnett, the David Maxson tasks were as follows:

"His first task will be to seek to alleviate the problems caused by turning up the dms transmitters on 4 April. [1]

His second task will be to address the lesser interference problems that pre-existed the dms transmissions, both those that appeared as a result of Ivan, and those which pre-date Ivan. [2]

His third and final task will be to help the ICTA and the Government Telecommunications Office plan future uses of the FM band, in an attempt to minimize the chances that such interference issues will arise in the future."

dms Broadcasting is mostly concerned at the moment with the first task, so we will primarily address it in this report; we will have further comments about the other issues in future communications.

[1] To our knowledge the primary problem is reports of "interference" to Radio Cayman's signal in the vicinity of the dms Broadcasting transmission tower.

[2] We have seen no documentation of such problems, nor recommendations that address them.

After careful review of the David Maxson report, we note that Broadcast Signal Labs and CMBE, Inc. concur on many important points particular to the dms Broadcasting/Radio Cayman interference issue:

1. The dms facility meets international technical standards for spurious emissions.[3] Changing the dms filtering system is *not* required.
2. The installed dms antenna change from the original design is *insignificant* and there is little else that can be done with antenna design to substantially reduce the blanketing effect.[4]
3. The Radio Cayman signal in the George Town area near the dms transmitters is affected by "blanketing" from the dms transmitters.[5]
4. Potential blanketing areas exist at most transmission sites no matter where they are located.[6]
5. All radios have difficulty "picking up" weaker, more distant stations' signals.[7]
6. At the Radio Cayman studios and vicinity including Glass House and the police station, the Radio Cayman signal is arriving from about eight miles away and is substantially weaker than *every other radio station currently on the air* except 89.9. [8]
7. Building a master antenna site is the best overall *long term* solution to solving island-wide coverage and service issues.[9]

[3] *See* Broadcast Signal Lab Executive Summary, Page 3 § 4 and Broadcast Signal Lab Report Page 6 § 4
[4] *See* Broadcast Signal Lab Report Page 9 § 4&5
[5] *See* Broadcast Signal Lab Executive Summary, Page 1 § 5
[6] *See* Ibid and Broadcast Signal Lab Report Page 17 § 3
[7] *See* Broadcast Signal Lab Executive Summary, Page 2 § 6
[8] *See* Broadcast Signal Lab Report Page 5 § 4 and Page 16 Table 1
[9] dms presented this idea at the initial interference meeting at ICTA

According to the measurements in the Broadcast Signal Lab report, Radio Cayman provides the minimum signal under ITU recommendations for service to a city, and does not provide adequate signal under FCC regulations for service to substantial portions of George Town.[10]

dms Broadcasting has designed and installed three facilities which meet or exceed FCC regulations and ITU recommendations; which were installed according to the manufacturer's directions, and which have been verified by independent engineers to be substantially operating according to the terms of their licenses and ICTA mandates.

dms Broadcasting acted in good faith to build facilities designed to serve George Town and the entire Grand Cayman Island with superior signal. We agree with the general concepts proposed by Broadcast Signal Lab regarding the ultimate FM broadcast service design. We believe that such a plan is a good goal, but is not practical as an *immediate solution* given the current situation.

In light of the above we hereby propose what we believe is an immediate, affordable, practical and fair plan to resolve items 1 and 3 on the ICTA task list.

[10] The FCC specification for the signal level adequate to serve a city is a minimum of 70 dBµ. This is intended to insure that adequate signal exists for penetration of buildings and to overcome man-made radio frequency noise which can limit a radio's ability to receive a weaker signal. Table 1 of the Broadcast Signal Lab report shows that 105.3, does not provide 70 dBµ signal to much of George Town.

dms Broadcasting Recommendations

Phase 1 - instant solution. dms Broadcasting will provide use of its backup transmitter and antenna on a new temporary frequency[11] so that Radio Cayman can immediately serve George Town with an adequate signal until Phase 2 and/or 3 is implemented.

Phase 2 - short term solution. 105.3 moves to the dms tower and is combined into the dms filter system and existing antenna. This insures good reception in George Town and provides adequate coverage of the whole island. The existing Radio Cayman site will serve as a backup site for Radio Cayman in case the George Town tower fails.

Phase 3 - long term solution. A new master antenna system is designed and built at a site which serves all of George Town with ITU/FCC specified city grade coverage and which also serves the entire island with ITU/FCC specified rural coverage. [12]

[11] We propose that 107.9 be used as the temporary frequency since it is already allocated and not yet built. Using this frequency will encourage Radio Cayman to move to phase 2 or 3, and minimize the burden on dms Broadcasting, since even regular wear and tear on the dms backup transmitter is a real operating cost. If 107.9 is not approved, we will suggest alternate frequencies on which the dms equipment can operate.

[12] Alternatively, an "antenna farm" can be established at an appropriate location where all or some of the broadcasters can build their own facilities. This is a less technically attractive solution, but may be more practical in a competitive environment.

Reasons why this plan makes sense are:

- No more practical, concrete short term or immediate plan has been presented to date.
- Improving the signal level of Radio Cayman in George Town in the short *and the long term* serves the public more than penalizing other broadcasters and their listeners.
- Radio Cayman is experiencing blanketing problems from transmitters other than dms.[13] Moving them closer will reduce those problems.
- It is our understanding the Radio Cayman initially requested permission to use the government tower and this was not approved.
- Tower sites simply do not exist yet as alternatives for relocating any of the facilities at the present time. This plan uses existing technology already in place – and allows for implementation of long term goals.
- The business and technical issues involved in long term solutions require substantial resolution time.
- This plan can be implemented immediately by ICTA and it resolves the instant issues while future plans are put in motion.

Regards,

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[13] *See* Broadcast Signal Lab Report Page 15 § 1 and Page 17 § 2