

AARC Repeater Conference Abstract

Facilitator: Eric Berman

Scribe: Phillip Nelson

440 Repeater Presenter: John Williams

2-meter Presenter: Tom Provenza

Net Representative: David Grimes

AAC ARES Representative: Mike Montrose

AARC Officers Present: Will Muzlera-Mooney; Kevin McGee; Dave Earnest; Greg Wilmer

There were other invitees present to provide input as needed.

The meeting consisted of three parts. Because of the referbacks during the meeting this is an abstract instead of minutes.

Eric opened the meeting and noted that the purpose was to address the repeater issues.

AARC Repeater History

John provided a history of the AARC repeaters, as follows, with comments:

He noted that the repeaters began when Holly became involved with the club. They put up the tower originally on the pedestal and replaced by a tower. The 440 repeaters were installed and the 220 repeaters added as well on the 105. ARES/RACES became involved and the 075 was put it onto a county tower. At one time there were three repeaters in Millersville. The Annapolis repeater was put on a county tower in Annapolis by both AARC and the Mobileers. After 9-11 the county began to provide some funding and we were able to move repeaters. The 075 repeater is 340 feet and covers the upper part of the county with a null towards the north.

There has been a problem with interference in the summer. Ducting has allowed people from Long Island to log onto the AARC system. Going to DMR may create issues as the repeater will be on all day long. We have System Fusion repeaters. Although we have WiresX, but we do not have it active. The Annapolis Fusion is not set up for WiresX. There was a discussion on Autopatch, which is a recommendation by the county to provide phone communications when the system is overloaded so it is still considered useful by AA EOPS.

Dave noted that there are problems with the link between the two 075 and 105 repeaters. About a third of the participants drop because of the link being dropped during the Holly Net. The repeaters are needed as part of emergency operations and Skywarn so it needs to be functional. John believes the issue to be overheating in the repeater cabinet. There is also interference on the 075 as another repeater or jamming is keying up the repeater.

There is a heat issue at the DMR site. The AC doesn't work at the site. The building contains only two of our repeaters and storage at the time.

Action Item: The need for an AC at the site is referred to the Board to purchase an AC unit for the site.

440 Repeater

Tom recommended that the 440 repeaters at Davidsonville and Millersville become Fusion repeaters. Wires repeaters would link the two repeaters. The Annapolis would revert to a dedicated analog repeater. The Davidsonville 440 would no longer be linked with the 2-meter repeaters. There would be no cost as we'd use equipment we already have. It can be completed quickly and the cavities have been tuned.

Action Item: referred to the Mobileers Board. There may be concerns about relocating the Fusion repeater from Annapolis to Millersville.

Action Item: referred to AARC Board for review.

2-meter Repeater

Tom presented a proposal to move the 075 repeater to Crownsville. The location would be approximately 400 feet AGL. There would be voting systems at the existing sites and possibly more locations in the future. The Crownsville site would be a Quantar/Quantro with three voting repeaters using the county Public Safety MPLS network.

The proposal has several hurdles to overcome. First, is obtaining permission from the county to use the Crownsville tower. Additionally, there would need to be coordination with T-MARC, the regional committee responsible for repeater coordination. The existing sites, and possibly more, would be voter repeaters.

Tom was asked about propagation and if it would affect the central region RACES, specifically as the Calvert EMA plan shows linking to the Davidsonville repeater in an emergency. Tom noted that propagation should be broad enough to not create a problem with changes.

The club has some voter repeaters which are not currently installed. Tom provided an estimate of \$10,000 to perform the upgrade, but there would also possibly need an estimated \$500 for the engineering study to assess the ability of the Crownsville tower to handle the repeater antenna.

Tom will provide MLC hardware and spares, Astro-TAC receivers and cable.

The club cost would include \$5,000 for tower work, \$3,000 for the antenna, and \$2,000 for other miscellaneous supplies.

Tom will do a mock-up demo and proof-of-concept.

Tom will be preparing a network diagram for a future meeting or Board presentation.

Note: There was a preliminary review and T-MARC determined they would object to moving the 105 to Crownsville so the 075 was chosen for relocation.

It was noted that WCAO was a source of interference with their digital sideband service.

It is expected that the plan could take at least 6 months to be implemented fully. Tom will present further information to the next Board meeting. Greg volunteered to be the Board contact.

Action Item: Recommend to the Board for reviewing the proof-of-concept at the May meeting.

Items to be completed: submit T-MARC coordination change request; seek county approval; installation.