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Colonel Snead/51449/mf

AMSEL-NL-D

AN/PRC-6
19 AUG 1966

Brigadier General Robert D. Terry
1st Signal Brigade (USASTRATCOM)
APO San Francisco 96307

Dear General Terry:

We have recently received a copy of the ARCOV Report covering Vietnam requirements and are reviewing it in detail to initiate ECOM actions where appropriate. In some instances, however, the recommendations are quite general and we do not have adequate information or basis on which to start action.

I am particularly concerned with the indications of dissatisfaction with the AN/PRC-6 and the resulting recommendation for its replacement. As you know, the Squad Radio is now in production and quantities should be arriving in Vietnam for issue, initially on a limited basis for evaluation with plans for full TONE issue. While this should provide much better performance than the AN/PRC-6, we are aware that the Squad Radio's design was strongly influenced by concern over the crowding of the FM Band, and the resulting power output and range may not fully satisfy all conditions there. For this reason, we are undertaking a special development of a power amplifier for the transmitter with a goal of 10 db increase in output for increased range. This, however, is some time away from production and the resulting power output of up to 5 watts may create frequency interference problems.

There do appear to be several alternatives if a more immediate "fix" is required for greater range in radios for squad use than that provided by the Squad Radio. Special issue of the PRC-25, with the advantages of no crystals and full FM Band coverage for netting with airborne FM and the AN/VRC-12, might be considered. My Aide has indicated that a 30 - 40 mc commercial AM radio, the Halli-crafter HT-1A, has been used by Special Forces. It is approximately the same weight as the PRC-6 and uses crystals, but it was satisfactory for short ranges (3-5 km) on the integral telescoping whip under normal conditions and for ranges up to 15 km with special doublets cut to frequency and carried in a small pouch fabricated locally. It does require considerably more careful treatment by the operator and will not net with airborne or ground military FM sets. This latter may be an advantage if frequency crowding is a problem.

Brigadier General Robert D. Terry

It would be most helpful to us if you consider these, and any other ideas which may better meet requirements not satisfied by the Squad Radio, and state them formally to DA. If you can present these in terms of frequency band, size, weight and battery requirements, preferably based on existing equipment, the need should come to us faster from DA/CDC as a clear requirement with approval to take action.

I, of course, hope that the Squad Radio satisfies most, if not all, of the complaints on the AN/PRC-6. We will continue on the amplifier development, however, and will be alert to any shorter term requirements you may identify to Department of the Army.

A second, and somewhat simpler, problem presented in the ARCOV Report is the recommendation for a reduction in the weight of the RC-292 Ground - Plane Antenna. A development effort has been in process on this, as well as on an extended height inflatable tree-top antenna without the limitations on cable length inherent in the Ground-Plane Antenna. We have some inputs on this from Mr. Berman's recent trip to Vietnam, which indicate that the greater problem with the RC-292 arises from its use without the mast by patrols which elevate it in trees by rope with resulting high loss in cable lengths in excess of 50 feet. The inflatable tree-top antenna now being tested there through ACTIV, with further tests scheduled on improved models, does not have this limitation on length of feed. It would help us if you could provide to DA/CDC follow-up details on the RC-292 item in the ARCOV Report, similar to those discussed on the PRC-6 replacement, specifying the intended application of the lightweight replacement. If it is to be used under present TO&E authorizations no lower than company level and with acceptance of the 35 foot mast height limit, the current lightweight development is applicable. If use by patrols with rope elevation greater than 50 feet of coax is anticipated, the coax loss will impose problems and the flexible tree-top antenna may be a better solution. We are concerned that past difficulty in satisfying rigorous testing of the less rugged ground plane resulting from weight reduction efforts will continue to delay acceptance and type classification. It appears to us here that both the lightweight RC-292 replacement and the flexible tree-top antenna may be required for your broad span of applications. If this is so, and the ACTIV tests support the tree-top antenna approach, a statement of this to DA/CDC should provide the basis for our further action on both the RC-292 and the tree-top antenna.

Sincerely,

W. B. LATEA
Brigadier General, USA
Commanding

cc: AMSEL-CG
-CS (SEA)
-NL-D (record cy)
Cmd Rtg File (Dupe) ✓
ECOM Cen File