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TO BE KEPT UNDER LOCK AND KEY AND NEVER TO BE REMOVED FROM THE OFFICE
UNLESS TRANSMITTED IN ACCORDANCE WITH THE REGULATIONS

2601/005

CTO WIRELESS COMMUNICATIONS

The following notes are intended to supplement the information and conclusions contained in a paper entitled "CTO Wireless Communications" issued 22 Oct 56 in [redacted]

2. They are based on documents supplied to DSB by GCO Singapore from the beginning of 1954.
3. The MCP interest in wireless is two-fold
 - a) the reception of foreign broadcasts and
 - b) intercommunication among themselves (and possibly with outside bodies)

It is not always possible to segregate evidence as bearing on one or the other of these aspects, for example batteries are necessary both for operating broadcast receivers and vibrator type transmitters. As far as possible however, this paper deals with the intercommunication aspect only.

Training

4. There has been frequent mention of the training of operators and captured documents dealing with training and training manuals, have been sighted.
5. The earliest mention is of a training course for three operators conducted by [redacted] the wife of [redacted] in the early days of the emergency. A student of this course ([redacted]) said in late '55 that he and his colleagues were at the time of the course the only operators the MCP possessed. At least a dozen other operators have since been mentioned as trained or undergoing training.
6. Training usually includes mor.se training, Q code and sometimes theory. The highest speed to be aimed at is given as 15-20 WPM - mention has been made of operating a station at 12 WPM. The Q code, of which several copies have been seen, is largely international, though a few special meanings have been allotted. The significant thing is that the code, which operators are exhorted to memorise, contains a host of signals which would be very rarely needed.
7. Theory training is elementary - probably too elementary to be of any use in an isolated situation. Small pamphlets have been seen which give the impression of having been prepared especially for jungle training.
8. No coherent W/T or R/T procedure has been sighted.
9. The origins of W/T knowledge would appear to be in special operational army training given in [redacted] in 1941 or in Force 136. One gains the impression that these originally and probably imperfectly trained operators have passed on their knowledge, unreinforced by practical experience, from mouth to mouth, each time with a loss of detail until, like a game of whispers, the output bears little resemblance to the input.
10. For instance, [redacted] must be at least one step removed from Army training. She trained [redacted] in 1948(?) who later trained three operators, of whom [redacted] said "None of them succeeded in learning anything." [redacted], whose original training is not known, attempted to train [redacted], inspiring the SCM in [redacted] to say in August 1955 "The progress by [redacted] ... is still poor. The main reason is ... the work he is doing for the Propaganda Department ... the best thing would be a change in method and it was decided that for two months he first learn to operate and at the same time try to learn the theories." [Our Services usually give courses of from 6 to 12 months to wireless operator trainees].

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11. The general impression gained is that strenuous and continuing attempts have been made to train up a force of operators but that the training standard is too low to achieve reliable results. This applies not only to training in the operation of equipment but to training in its maintenance as well.

Equipment

12. Although much equipment has been captured, rarely indeed is any of it serviceable. The CTs have on occasions referred to equipment still in their possession, as being unserviceable.

13. There appear to be three main sources of equipment - wartime leftovers of or of occupation, postwar captured military sets and ordinary commercial type broadcast receivers purchasable in centres of population. It is almost axiomatic that the former must by now be completely unserviceable, yet it is still being cherished, hidden and lugged around the jungle. Some cannibalised parts have been seen which certainly have no value as W/T components, although possibly worth carrying for the scraps of metal which they contain.

14. Although morse keys have been seen and referred to on several occasions it was not until April 1956 that a lone mention was made of a microphone. Nowhere in the training manuals sighted has there been reference to R/T procedure, and it must be concluded that the MCP have always accepted W/T as the normal method of transmission.

15. There have been references to the ordering and supply of spare-parts - in September 1956 an especially large order was placed - and from these it is only too apparent that those involved have little technical background of any value. For example - "Buy 6 bottles of what is commonly called 1st grade battery water (BATTERY ACID WATER)". In answer to this demand, some 22 bottles of distilled water were purchased in and passed into the jungle. About a year later "electrotype bottles" were recovered from a camp in Kelantan situated beside a waterfall! [Mountain water and jungle rain water are probably every bit as satisfactory for use in batteries as that sold in as "distilled" water].

16. There is a single reference to keeping a listening watch for a CT transmitter, on a commercial receiver. From all the evidence, this appears to be an attempt to listen to a C.W. signal on a broadcast receiver, where normally it would not be audible.

Technical Standards

17. From the foregoing paragraphs on training and equipment it must be concluded that the technical standards of the MCP both in operating and in maintenance, are not of a sufficiently high level to crown their labours with success. This situation is to some extent appreciated by the CTO themselves - referring to the need of a higher power source than dry batteries for transmitting, writes "The most difficult problem would seem to be the problem of getting someone to operate the machine".

18. Although there is a continuous history, since the beginning of the emergency, of MCP interest in wireless, there is little evidence of real co-ordination of effort - "We are now doing our level best to succeed in flashing and the other side should continue to carry on according to the scheduled dates. (I wonder if the dates are correct. The best thing is to make an enquiry about these dates again)".

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Conclusion

19. The MCP technical radio standards are not at present high enough to overcome the difficulties of maintaining guerilla jungle w/T communications nor are their present training methods likely to alter this position. With the facilities normally available to them and in the face of present difficulties of surface communication, this situation could scarcely be remedied even by the most strenuous measures, under twelve months .

Future Policy

20. From all the evidence available, including that in the foregoing paragraphs, it must be concluded that, up to the present time, W/T intercommunication has played no significant part in MCP operations, and will continue that way unless radical steps are taken by the CTO, to improve their technical and operating skills.

21. Should reliable communications be established, this fact is bound to be revealed either by a falling off in courier traffic, or by direct reference in the traffic itself.

22. However, there is no reason to suppose that the DSB policy of relying on general search at its intercept stations in the Far East and particularly at [redacted] and [redacted] will not also be successful in revealing the new situation. (Fortunately, voice search is not considered necessary. If ever required, special arrangements would be necessary.)

23. From our knowledge of the efficacy of general search, we had arrived at the conclusion three years ago that no significant transmissions existed, although there was always the lingering doubt that a highly sophisticated network might have eluded us. The value of the evidence which has become available to us lately has been not only to confirm our beliefs, but to banish the bogey of MCP subtlety in W/T communication and to give us some fairly positive identification features e.g. mention has been made of the intention to transmit in five letter groups.

24. DSB has operated five reconnaissance parties into the Federation, ostensibly to search for short range communications. Although some theoretical evidence, not in itself conclusive can be adduced to substantiate the need for such parties, recent test signals transmitted on low power from [redacted] on MCP quoted frequencies, have been picked up at four DSB sites, including [redacted] and [redacted]

It is, therefore, extremely doubtful whether such parties are warranted, since, in splitting up our meagre resources, some efficiency, if not actual watchkeeping time, is inevitably lost. However, where the evidence seems particularly favourable we should always consider the desirability of sending a party to a site favourable for interception.

25. It is therefore concluded, that DSB's present methods, amended as necessary by studying as full a flow of collateral intelligence, particularly of intercepted courier material, as the Federation feel able to supply, remain as adequate protection against the future efforts of the MCP to develop W/T communications, whether external or internal.

29th April, 1957.

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