

# WILL WIRELESS TELEPHONY SOLVE EMERGENCY COMMUNICATION?

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The idea germinated one night in 1942 at the Cole Hut on Mt. Bogong. Mick Hull and myself were yarning in front of the fire when the subject of isolation during a ski trip cropped up. It was all too easy to visualise the difficulties and delays involved in summoning aid to a badly injured skier on such a mountain as Bogong. No doubt my companion's thoughts were vividly centred on his own experience on that same mountain in 1936, an experience which conceived the very hut in which we were warmly sheltering.

Added and tragic point to our meditations was to be given, almost a year later, when three others perished on Mt. Bogong, as did Cleve Cole in 1936.

However, on that night it was decided that some form of communication with settled areas should be established, both as a partial insurance against future tragedies and to facilitate medical aid and transport for badly injured skiers. In the case of injury it was estimated that up to thirty-six hours could be saved if the journey out to summon help could be eliminated. That thirty hours may mean life or death. Moreover, the scheme would be a very useful check on skiers' movements. This check would conceivably eliminate the inevitable present delay of many days before it is discovered that a party is lost.

It is inevitable that greatly increased numbers on our snow-fields, before long, in New Zealand and New South Wales, as well as Victoria, will include a higher proportion of inexperienced skiers than hitherto. This being so, it is imperative that controlling bodies give more thought to safety facilities.

With these facts in mind, much thought has been given to a means of establishing rapid communications in Victorian alpine areas. For success any project must satisfy the following main requirements:

- (a) Reliability.
- (b) Simplicity of operation.
- (c) Be inexpensive.

Reliability is, of course, the first main essential. A system inappropriate to the terrain or subject to frequent breakdowns through inferior apparatus or design, is worse than no system at all. When reviewing a system, much thought

must be given to climatic conditions. For example, relative humidity and maximum and minimum temperatures have a pronounced bearing on the quality desirable in the actual equipment. Direction of prevailing winds and maximum velocities encountered are also necessary as fore-knowledge. Much assistance on meteorological data has been obtained from local government authorities. The need for simplicity of operation is self-evident, and, to protect the pockets of most Ski Clubs, the system must be relatively inexpensive.

Two methods present themselves—line or underground telephone and radio. So far as Victorian conditions are concerned, telephone lines can be promptly eliminated, except for very short distances. The expense of overhead lines suitable for withstanding extreme weather conditions would be prohibitive. Underground lines, though probably more reliable are costly in the extreme.

Wireless telephony, then, promises the solution. Having in mind the purpose of the equipment, it would be extremely foolhardy to rush in and instal the first available equipment without due trial.

Utilising wireless, the problem resolves itself into four main parts, viz., Aerial construction and type, transmitter-receiver, power supply, and, lastly, organisation.

The type of aerial to be used depends on many technical factors, and is out of place in an article of this nature. However, it should be emphasised that whatever aerial is chosen must be physically strong. The data on wind velocities and direction of prevailing winds is useful for design purposes.

The selection of a suitable transmitter-receiver and the question of power supply are closely associated. Where generated power is available there is no problem. But in other circumstances much thought must be given to the most suitable source. Dry batteries can be made to serve, but their use is limited by three factors—exhaustion, shelf-life, and operating efficiency at low tem-

peratures. Annual replacements would be necessary, and it is fortunate that, though low temperatures decrease the efficiency, they increase a battery's shelf-life considerably. As alternatives, local facilities can be exploited. For example, in certain localities it is possible to use water power to drive a small generator. Again, wind power is a consideration, and it is probable that means can be found to eliminate "icing-up," and save failure of the equipment. The last method is pedal generators. In certain localities these must be used, with perhaps an emergency dry battery for use by skiers who may be weakened or injured, and are thus unable to operate the generator. The equipment must of necessity be low powered, efficient, and compact; it is not portable, but designed for fixed station sites. However, there is no reason why small pack sets of limited range should not be used as auxiliaries by search parties once the main stations have been established.

A scheme of this nature must have a simple but efficient organisation behind it if maximum benefits are to be derived. This, in turn, depends on the aims and scope, which can be itemised in the case of the scheme being investigated by the S.C.V. as follows:

- (1) To contact medical aid in the event of illness or injury to members of a ski party.
- (2) To maintain a check on the safe arrival of ski tourers.
- (3) To expedite and co-ordinate the work of search parties.
- (4) To provide a means for ascertaining weather and snow conditions on a proposed travel route.
- (5) To notify hut parties of urgent and vital news.

It is essential that some form of control station having telephone facilities (i.e., with the lowlands) be established. This station should have permanent winter residents, and maintain a daily standard schedule of listening and transmitting times. Three schedules daily, of fifteen minutes each, would be adequate, say at 8.30 a.m., 12 noon, and 8 p.m. These times would be used to fulfil the aims of items 1, 4 and 5 above. To derive benefit from item 2, the following procedure is sug-

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