Alice Springs Telecoms

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Abstract
Two papers from the Journal in 1939 and 1990 respectively contrasting the telecommunication facilities and lifestyles at Alice Springs.

Introduction
The original paper (Dale, 1939 [5]) was published prior to the Second World War and provides a lively account of the telecommunications facilities radiating from Alice Springs. It describes the establishment of the overland telegraph and the increasing importance of this remote town and challenges faced by the local inhabitants. The second paper (Leahy, 1990 [6]) fast-forwards nearly 50 years and details the telecommunications facilities at Alice Springs in 1990. The author is obviously proud of the advances in technology and amenities of the region. He closes with the words “The area still suffers from floods and droughts and these can be trying times. However, when all is taken into account there are not too many places I’d rather be than a ‘Town Like Alice’?”. It is a pleasure to reprise these two historic papers.

References

The Historical Papers

Alice Springs and its Telecommunications Facilities — Then and Now

Part I: Alice Springs and the Overland Telegraph Line

At a recent National meeting of the Telecommunication Society of Australia it was suggested that, on occasions, a suitable article from earlier journals could be reprinted, together with an update of the items covered. This is the first such article and deals with Alice Springs, the Overland Telegraph Line and the hazards faced by PNG staff in the 1930s, and Alice Springs today with its modern telecommunications services.

R.C.M. Dale (Reprinted from TJA, February 1939)

The name “Alice Springs” is really a misnomer, because the deep pool of water after which the place is named is not a “spring”, but a soak. The town, a panorama of which is given below, is in the centre of the continent on the Overland Telegraph Line between Adelaide and Darwin. The locality was given its name by a party engaged on the construction of the Overland Telegraph Line in 1871 when they sighted the big, deep waterhole in the bed of the dry creek or river now known as the River Torc. The ‘Torc’ only flows after each rain, and at this place there is a large outcrop of granite rocks. The swirling of the quickly flowing water keeps this big hole washed out and leaves it full of water. Quite good soakage water can be obtained anywhere in the creek at about six feet down, and this soakage keeps the hole full of water, and because the hole does not dry out, it was probably thought by the party that there must be a spring at that place. There are, however, many springs in the MacDonnell Ranges, but none at the particular spot after which the old Telegraph Station was named.

Although the continent was crossed for the first time by the explorer (McDouall Stuart) in 1862, less than ten years later a telegraph line had been completed practically along the route taken by him. In the late 1860s there was great rivalry between Queensland and South Australia as to who should have the honour of linking their telegraph system with the cable being laid from Singapore to Darwin. Each wanted the other Australian colonies to support the project from their particular point of view. When in June, 1870, no agreement had been arrived at and the Cable Company seemed to favour the land line being constructed from Darwin to Brisbane, the South Australian Government, evidently realising that some drastic action was necessary if they were to have the line in their State, made an offer to the Cable Company to build a telegraph line from Adelaide to Darwin (1,975 miles) and have it completed by the time the Company had completed their cable, this being estimated at eighteen months from the time of the offer. The offer, which meant that the telegraph line had to be
constructed at the rate of 110 miles per month. It was accepted, and heavy penalties for non-completion of the line in the time were provided for in the agreement. Actually it was not until about the middle of August that year that the construction was commenced. The route was divided into three sections — from Port Augusta to longitude 27 deg. S. (about 60 miles north of where Oodnadatta is now, a distance of 550 miles), from 27 deg. S. to 19 deg. 30 min. E. (approximately where the present town of Stony Creek is, about 570 miles), and thence to Darwin, approximately 650 miles. The first section was in more or less settled country and avoided very little difficulty, the northern section had some difficulties but not very great, but the centre section was in practically unknown country and therefore was the most difficult. Each section was subdivided into many sub-sections, and a party allotted to construct each sub-section. A small exploring party went ahead of each main party and marked out the route to be taken. The equipment of each party included 15 horse wagons, 17 bullock drays, one bullock wagon, five express wagons, 165 horses and 200 bullocks. A depot was established at the Finke River (about 830 miles from Adelaide) for the provision of fresh meat for the men working on the adjoining sections, and 2,000 sheep were sent there. It must be remembered that all the material, provisions, etc., had to be hauled from either Port Augusta or Darwin by horse, bullock vehicle, or camel, and some idea of the difficulties experienced can be realised by the fact that it took Hawes’s party, who constructed one of the central sub-sections, eight months to reach the beginning of their section.

It was far too big a job to be done in the time, and when the period had expired (December, 1871), there were still many gaps in the line. A delay had also occurred in the cable construction, and although not far off completion, the cable was not completed on the contracted date. A compromise was reached regarding the infliction of penalties, which were considerably reduced but not entirely abolished, and the South Australian Government redoubled its efforts, but it was not until 22nd August, 1872, that the last gap was closed and telegraphic communication established between Australia and England. The total cost of the line was £57,000.

The original line was a 7½ mm stranded iron wire conductor, and although most of it was removed and replaced by a 400 lb. G.I. conductor many years ago, there are still some small sections of the original wire in use.

During October, 1938, it became necessary to remove a small piece of the original wire in connection with the operations of the Telephone Office at Finke, and it was found that the old wire was in perfect condition and not showing any signs of deterioration. Several types of insulators appear to have been used. One type was of porcelain, about 4 inches across at the bottom, but having a metal top, two inches in diameter, screwed on to the porcelain. A metal plate bolts on to the metal top, and two holes, through which a wire could be passed were formed when the plate was screwed down. Apparently only one hole was used, but the tightening of the bolt held the wire firmly between the plate and the metal top of the insulator. There were thus no tie wires necessary with this type. Another type is similar to the present day masonry line insulators, a little smaller, but completely covered with a metal arbour. The metal arbour is shaped exactly like the insulator, and the wire was tied to this similarly as is done on present day porcelain insulators. The porcelain was set into the arbour by a kind of cement, and a thread was provided in the porcelain for the spindle. A number of these insulators are still to be seen lying along the line, and although over 66 years old, do not show the slightest sign of rust or deterioration.

Old type insulators used on the original ‘Overland Telegraph’ Line and a piece of the original fine wire. The two outer insulators are the metal armoured type and the hole through which the wire was passed can be seen in the top of the centre insulator.

In many instances the line did not take a direct route between various points, but followed creeks and watercourses. The reason for this was that most of the poles were cut from the timbers growing along these watercourses, and also that it was necessary to follow them in order to obtain water. However, the white ants soon showed their presence, and although there are some of the original bolts still to be seen besides the present iron poles, most of the wooden poles had very short lives, perhaps only a few years’ duration. In 1880, a 479 ft. copper conductor was added that the line was fully iron-poled. During the erection of the copper wire and the final iron poles, the line route was considerably straightened, now following a more direct route and not keeping to the watercourses. No more wires have been added since then, but the methods of telegraphy used have kept abreast of the times and enabled the growing volume of traffic to be handled satisfactorily.
Originally the messages were repeated by hand at several stations along the route, and in between these stations were many others at which linemen were located. These latter were placed at points where water could be obtained, and varied in distance from 95 to 180 miles apart. As the country became opened up and telegraph systems improved, it became possible to abolish many of these stations, and one by one they have passed out of the Department's control. Some are now police stations, some are cattle station homesteads, and others railway stations. Today the only repeater stations apart from Port Augusta, in the circuits, are Alice Springs on the Cooper line and Marree, Powell Creek and Alice Springs on the iron. Besides these the only other stations remaining in the Department's hands are Tenant Creek, Daly Waters and Katherine.

In time hand repeating gave way to 'pole changer' repeaters, and about 1926 relay repeaters were installed at all three repeater stations. But recently the BFO repeaters have been replaced (on the copper circuit) at this station by Creed 1927 type, and although Alice Springs is the only repeater between Darwin and Port Augusta (1773 miles) no difficulty was experienced in working Creed duplex at 100-120 words per minute. Creed working has now given way to the Teleprinter, and I understand that this is the longest physical in Australia on which Teleprinter working is done. In these areas during summer, an amount of foreign current is noticeable, sometimes as much as 6 m.A. Providing it remains steady, it can be overcome by adjustments to repeater and home station receiving relays, but occasionally the foreign current will vary from spacing to marking or vice versa within a few minutes, and continue doing this for hours, and then Teleprinter working becomes very difficult.

Nearby the pool which the first party had mistaken for springs, the Alice Springs Telegraph Station was built. For many years it was a lonely outpost, receiving its mail only once every six weeks or two months. At first it came by packs and camels from Port Augusta, later from Marree, still later from Oodnadatta. And in 1927 the railway line was completed to Stuart Town, two miles south of Alice Springs Telegraph Station. Although Stuart Town was surveyed in the late 1890s, it did not take shape until the completion of the railway. With the growth of the town it became necessary to establish a post office, and in 1932 the new post office opened in what was originally Stuart Town, but which now had its name changed to 'Alice Springs'. Business has continued to grow, and the town is now quite a busy Grade 2 office. Some idea of the town's growth can be gauged from the population, which increased from 395 in June, 1936, to 700 at June, 1938. There is also a quite large outback population served by the office. Many substantial buildings have been erected in the town and many more are in the course of erection. Including a large business house, hospital, and other Government buildings. The streets are well made and properly kerbed, and thousands of ornamental trees have been planted along them. The town is dependent on the pastoral and mining industries, and these, especially the latter, are growing steadily. Many creeks are found in the surrounding country, including wolfram, tin, mica, gold, silver-lead, and other base metals.

The climate is certainly hot, but it is a clear heat, and it is seldom that we do not have a cool night. In the winter many fruits are experienced, some so severe that I have seen limbs of quite big shrubs covered with ice because the frost had caused the bark to break and had frozen the sap where the bark had split. Citrus fruits, vines, vegetables and most flowers do remarkably well, but the stone fruits do not thrive, principally because of the frosts. The town nestles in between mountain ranges, and is becoming popular as a tourist resort. Most of the better scenic attractions are, however, some miles out, but they are well worth visiting, and there are people who claim that our Stanley Chasm is quite equal to the famous Grand Canyon of Arizona.

Some lengthy mail services radiate from here – that to Tennant Creek being 141 miles, Birdum 657 miles, and Hucitta 502 miles. Motors are used on all these services, but in the wet season (November to April) packhorses are used on the Powell Creek–Birdum
to carry the water away. The next day was spent in trying to build up a contingency under the truck with timber cut from the sparse mulga nearby. Although the weather was very hot (the shade temperature at Alice Springs being over 100), they had to wait until the water had drained away before they could move, and they were disappointed when, after going only a few yards, they sank again and were no better off than they had been 24 hours earlier. It meant doing the same thing over again, and it was not until two days later that they got out of this hole. Usually a good supply of provisions is carried, but as the patrol had finished and they were returning home and anticipated replenishing at Finke the evening they first got bogged, the supply carried was not large, and so, after the second day, although they still had plenty of good water, the only foodstuffs remaining were tinned pineapple and for two days they lived solely on this. On the evening of the third day they managed to get out of the second boghole; but on examining the surrounding country decided to wait at least another day before attempting to go any further. They were thoroughly tried out after cutting scrub, digging trenches to carry water away and attempting to get the truck out of bogs. On the evening of the fourth day they managed to reach Finke (10 miles away) but not before some more anxious moments had been spent in crossing other bad patches of country.

The Alice Springs' Line Foreman's district extends from Oodnadatta to Taylor's Crossing (about 26 miles north of Barrow Creek), a distance of 510 miles. The whole section is patrolled by him twice each year, usually just before and just after the wet season. The portion north of Alice Springs (203 miles) mostly follows fairly well defined tracks or bush roads, but on the southern section to Oodnadatta (305 miles) there are very little of even tracks, and he just follows the telegraph line, whether it be through sand-hills, over gibber plains and clay flats or across creek and watercourse beds. Some of these plains a few days after a rain appear to be quite dried up and firm, but beneath a thin crust is a real quagmire. In October, 1934, the Line Foreman and his assistant were returning from the patrol to Oodnadatta and about 120 miles north of there were passing over what appeared quite firm and dry ground, when all of a sudden the truck broke through the crust and straight away dropped until it was resting on the running boards. Immediately water began to ooze through, and in a few seconds was almost flowing from where the crust had been broken. It took them until midnight that night digging drains

View in Palm Valley near Alice Springs: This particular variety of palm is not found anywhere else in the world.
19th February, 1938, from two to five inches of rain fell from Alice Springs to Oodnadatta. Rivers ran bankfull, and at one time the Alberga was flowing 10 feet above the railway bridge and over half a mile wide. Communication with Adelaide was completely cut off for several days, and the train service was not restored until six weeks later. Miles of railway line were washed away and many sections of the telegraph line carried away in the floods. Where the telegraph lines crossed the Alberga there were two 28 ft. iron beam poles, but after the water had subsided they were found in different places about a quarter of a mile downstream, one end of each just showing through the mud and the other end under between six and seven feet of mud and silt. Some food supplies were brought to Alice Springs by aeroplane, but by the time the train service had been restored, there were many items which were unprocuorcal in the town, despite that rationing had been resorted to.

When the waters had subsided sufficiently to allow movement, Mr. E. Colson, of Bloods Creek Telephone Office, the nearest resident to the Alberga River, offered to attempt repair to the line, and set out on camels to do the job. Progress was slow, as it is a fair day's ride to do 30 miles by camel, especially in wet country, and stoppages were frequent in order to clear debris away from the lines. In addition, many detours had to be made to get across creeks and rivers which were still flowing. and he estimated that to traverse the 100 miles of line from his house to Oodnadatta, he travelled (66) miles. At the Alberga crossing he and three natives worked most of one day in water up to their arm-pits, rigging up temporary supports for the line. These were tripods about 10 feet high, and were constructed from timber cut from the trees growing nearby. Insulators were tied on to them, and the lines in turn tied to the insulators. Altogether it took eight days to travel and repair the 105 miles of line between Bloods Creek and Oodnadatta.

On the south side of the Alberga no wire was left on the poles which were washed out and bent all shapes for a quarter of a mile, the wire evidently having been caught and carried away by debris which was washed down. Many miles of railway line and two bridges were washed away, and it took nearly five months to repair the permanent way. It is interesting to note that none of the railway bridges carried away have been replaced. Instead, the line is laid on a built-in rock foundation in the bed of the creek or river. Excavations are made to some depth in the river bed and stone or rock firmly packed therein and the line laid on top of the stones. This method was first tried out when the Finke bridge carried away about six years ago, and has proved to be quite effective for, at the most, the damage amounts only to a short length of railway line being twisted instead of an irreparable costly bridge.

Still, with all nature's vagaries, there are many who do not wish to leave here. The town is complete with most of the modern comforts, including an excellent electric lighting and power service. We have three air mails each week, a remarkably well built office which keeps cooler in summer than some southern offices I have worked in, and last, but not least, a good-hearted public to converse with.
of the original carriages and other pieces of rolling stock and run regular daily trips on this portion of the original track which follows in part the old telegraph line.

Other Attractions
During the year there are many other attractions beside the various scenic attractions in the surrounding areas. These attractions include rodeos, race meetings and Bangalow mists. Most of them occur during the tourist season.

Every second year the Central Australian Masters Games are held. The third such games is to be held in 1996. Approximately 3000 masters athletes are expected to compete in 26 sports this year. Many of the athletes will be coming from overseas.

Community Spirit
On Christmas day 1974 Cyclone Tracy hit Darwin. The eleven thousand people then in The Alice rallied strongly behind their ‘Top End’ brethren, raising 105,000 dollars’ worth of money in three days, quite a considerable sum at that time. The townspeople mobilised all the town services including communications to help. A flood of refugees headed ‘down the track’ and the town’s facilities were overwhelmed, however, with everyone doing their bit, all the problems were overcome and Tracy became Northern Territory history.

THE FORTIES, FIFTIES AND SIXTIES

Expanding Transmission Facilities
During the Second World War Alice Springs served as a staging camp for the armed services and there are still many people today with fond memories of those times. Some of these people returned to The Alice after the war to give the district along with its communications a steady growth pattern through the forties. Compared with today’s communications, facilities were rather sparse and somewhat primitive.

Heavy reliance was still placed on the telegraph and there was very limited capability ‘transmission north and south was provided by open wire lines with multi office trunks and if repeaters where required. In the forties/forties the installation of 3 channel carrier systems expanded the trunk capacity to Adelaide, Darwin and the outside world. Improved access was also provided to many of the little outstations along the track such as Finke, Oodnadatta and Lenah Creek to the south; Tribune Barrow Creek and Tennant Creek to the north.

The advent of 12 channel systems and 2f signalling during the fifties and sixties expanded communications in Alice Springs considerably.

The HF Radio Telephone Network
In the early sixties the Weapons Research Establishment asked the then P&M’s Department to arrange for communications to several remote homesteads to assist their organisation in tracking rookeries during hatching programmes from Woermers. Thus was born the HF Radio Telephone Network. In the Northern Territory two separate areas were set up, one based at Alice Springs and the other in Katherine. Each of these areas was ultimately served by five networks with a capacity of 20 customers on each network being manually connected to the PSTN. At its peak there were approximately 80 customers connected in each area. In conjunction with the Royal Flying Doctor Service these networks provided some communication to the majority of remote stations and communities in the Northern Territory.

The development of the Digital Radio Concentrator System (DRCS) and the commencement of Telecom Australia’s Rural and Remote Programme (ERRAP) in 1986 is aimed at providing remote areas with direct access to the PSTN. As the implementation of the programme has progressed, the decline of the HF Radio Telephone network has resulted. This decline is such that in 1989 Alice Springs became the sole Northern Territory base and some networks have been switched off. It is expected that the last HF customer service will be switched off towards the end of 1992.

Switching Automation
In 1964 automation struck the town with the installation and commissioning of a 1000 line ARF group. There had been a 3 type RAX installed in the Gap area for a short time before the ARF Installation but that was recovered. An additional 1000 lines was installed shortly afterwards to cater for increased town growth which was well above the national average six thousand being the population in 1967.

The then Manual Assistance Centre housed in the Post Office had outgrown its area and an additional area was added to the Post Office to house the expanded MAC which increased to seven boards.

THE SEVENTIES AND EIGHTIES

Continued growth stretched facilities to the limit such that in July 1974 construction of a new exchange building commenced. At the time of Cyclone Tracy local communications consisted of 2,000 lines of ARF plus two co-located ARFs (1,000 lines) and the MAC. There were no STD facilities at the time.

Installation work in the new building was completed towards the end of 1973. A new MAC (type ATM 103) and 2000 lines of ARF was the initial equipment to allow for the recovery of co-located ARF s and growth. During the ensuing years existing equipment was transferred from the old premises to the new and installation of a solar powered microwave transmission system commenced between Alice Springs and Tennant Creek.