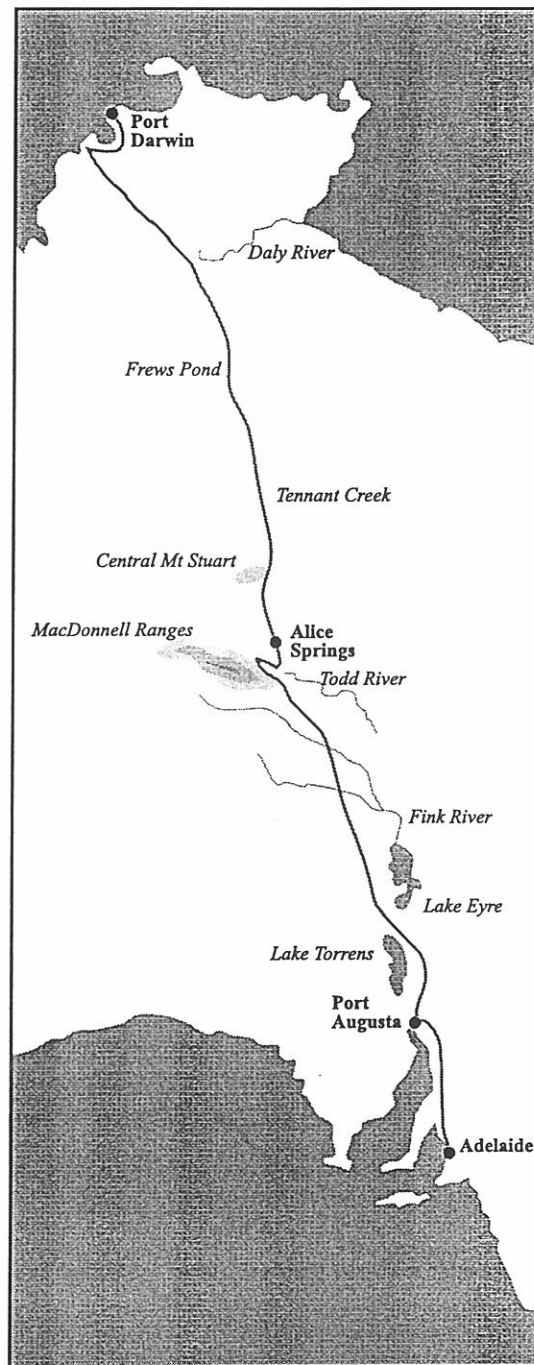


**NOMINATION OF
THE OVERLAND TELEGRAPH
FOR AN
HISTORIC ENGINEERING MARKER
AT DARWIN, ALICE SPRINGS, AND ADELAIDE**



**By the South Australian and Northern Territory Divisions
The Institution of Engineers, Australia**

Date: 27 April 1999

NOMINATION OF THE OVERLAND TELEGRAPH FOR AN HISTORIC ENGINEERING MARKER

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Attachments

Australia's Overland Telegraph Line 1870–1872

“The earth has been girdled, as it were, with a magic chain, which enables us to converse with our friends in England, and brings us within speaking distance of every important post in Europe, Asia and America.”

*Sir Hercules Robinson, Governor of New South Wales,
at the celebratory banquet in Sydney on 15 November 1872*

Prepared by the Engineering Heritage Branch, South Australian Division
The Institution of Engineers, Australia

27 April 1999

HISTORIC ENGINEERING MARKER: THE OVERLAND TELEGRAPH, ADELAIDE TO DARWIN, 1872 STATEMENT OF SIGNIFICANCE

“What tongue however eloquent, what pen however facile can do justice to the value of that thin streak of wire during the long period when on it alone was suspended the whole telegraphic communication between this continent and the wider world of Europe, Asia, Africa, and America.”

Obituary of Sir Charles Todd in *South Australian Advertiser*, 31 January 1910

THE TYRANNY OF DISTANCE

In the early days of the Australian colonies, there was a strong reliance on communication with England, Europe, and the rest of the world. This was where the markets were for rapidly-expanding trade and this was the source of news “from home”. Commercial investments spanned the globe and security (in the wake of the Crimean and Franco-Prussian Wars) was an issue of concern. The line of civilian and military government also stretched back to England¹, with the Westminster Parliament and Courts being the ultimate decision makers.

No wonder the colonists took a keen interest in the speed of electric telegraphy. Prior to this, messages took months to arrive by sea: even the fastest steamer took about 50 days. Once the telegraph line between Melbourne and Adelaide had been completed, cables and newspapers were brought ashore at Adelaide and transmitted to Melbourne and thence up the eastern seaboard. But a direct link with the rest of the world would clearly revolutionise the way business was done and enable personal communications to be greatly improved.

“THAT THIN STREAK OF WIRE”

In 1863 the British Government decided to hand over responsibility for the Northern Territory to the South Australian Government, giving it jurisdiction over land which spanned the continent from north to south. The South Australian Government was quick to see the opportunity in having the closest landfall to the telegraph lines that were expanding from Europe through India and Asia. The route would also open up the centre of the continent for pastoral and mining interests. The Government’s resolve was further shored by a proposal to build a telegraph line to Moreton Bay in Queensland which would hand the competitive advantage to the eastern colonies.

The South Australian Government therefore sought a Superintendent of Telegraphs and appointed Charles Todd to take charge not only of lines within the state but of the ultimate prize — a connection to England. South Australia’s bid for the line was strengthened by the existing connection to Melbourne and also by its willingness to build the overland connection itself.

The construction of the line required no particular innovation in technical principles or practice. Instead, it was a project management feat of almost heroic proportions involving the coordination of a number of separate construction stages over the 3200 kilometre route that were carried out under extremely tough and isolated conditions. An enormous quantity of material had to be shipped around the coastline of Australia and hundreds of men worked against a virtually impossible deadline. The task was completed in less than two years. That it was achieved at all makes this one of Australia’s greatest engineering feats.

HISTORIC ENGINEERING MARKER: THE OVERLAND TELEGRAPH, ADELAIDE TO DARWIN, 1872 COMMEMORATIVE PLAQUE NOMINATION

Name of Work: The Overland Telegraph, Adelaide to Darwin

Years of Construction: 1870 – 1872

15 September 1870	First pole ceremonially sunk at Port Darwin
19 November 1871	Undersea cable completed: Australia now linked to the rest of the world
22 May 1872	Todd sends first telegram across Australia from Port Darwin to a temporary station on Elsey River; then by horse to Tennant Creek; then by telegraphy to Adelaide
22 August 1872	Patterson joins the line near Frews Ironstone Ponds
20 October 1872	Overseas line restored; Adelaide and hence Melbourne and the eastern colonies are now connected to the world
22 October 1872	First overseas commercial and ceremonial messages received in Adelaide

Location

This nomination proposes three markers:

(1) Parliament House, Darwin

The proposed location of the marker is inside Parliament House in Darwin. The submarine cable came ashore within a few metres of the current site of Parliament House and this was where the original cable station, overland telegraph terminus, and post office buildings were constructed in 1871-72. From these buildings, Australia gained its first swift communications with the outside world.

(2) Telegraph Station, Alice Springs

The proposed location of the marker is on a granite boulder in the grounds of the Alice Springs Telegraph Station, outside a new visitors centre which is due for completion in June 1999. The station stands adjacent to the spring which was found during surveying of the line and named after Sir Charles Todd's wife, Alice. The spring was one of the main bases for the original survey and construction and the Telegraph Station then became one of the most reliable repeater stations in the line.

(3) General Post Office, Adelaide

The proposed location of the marker is the Adelaide General Post Office. The first messages from overseas were received here in the Telegraph Room which was housed in an extension built while the line itself was under construction. Originally owned by the Post Office, Telegraph and Observatory Department of South Australia, the Adelaide General Post Office is now owned by Australia Post.

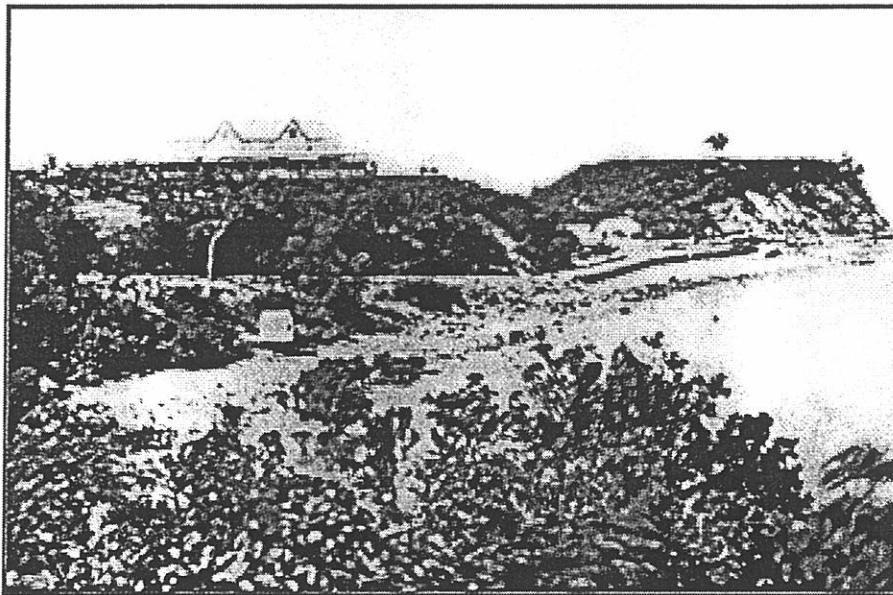
Darwin Plaque:

HISTORIC ENGINEERING MARKER
THE OVERLAND TELEGRAPH, ADELAIDE TO DARWIN, 1872

THE 3178 KILOMETRE LINE WAS BUILT IN LESS THAN TWO YEARS AND JOINED ON 22 AUGUST 1872. IT LINKED AUSTRALIA TO AN UNDERSEA CABLE FROM INDONESIA THAT CAME ASHORE AT PORT DARWIN. THE PROJECT WAS UNDER THE DIRECTION OF SIR CHARLES TODD, KCMG, MA, FRS, FRAS, FRMS, FSTE, SUPERINTENDENT OF POSTS AND TELEGRAPHS. COMMUNICATION BETWEEN AUSTRALIA AND THE REST OF THE WORLD COULD NOW HAPPEN IN HOURS RATHER THAN WEEKS.

THE FIRST TELEGRAPH MESSAGES FROM OVERSEAS WERE RECEIVED NEAR THIS SITE ON 22 OCTOBER 1872 VIA THE UNDERSEA CABLE BROUGHT ASHORE ON 7 NOVEMBER 1871.

DEDICATED BY
THE INSTITUTION OF ENGINEERS, AUSTRALIA, 1999
[CO-SPONSOR, DARWIN]



The proposed marker site has several significant aspects. The submarine cable came ashore within a few metres of the current site of Parliament House and this was where the original cable station, overland telegraph terminus, and post office buildings were constructed in 1871/72.

The buildings were in use for many years until they were all but destroyed during the World War II bombing of Darwin in 1942 in which 240 people died. A memorial plaque in the floor of the Reception Hall of Parliament House marks the site of this tragedy while a remnant of the original post office wall stands just off from the Hall, in the entrance to the library.

This very direct link to the OLT is added to by the site's present significance — a very grand and prominent structure which is visited by hundreds of people, both residents and tourists, each year.

Alice Springs Plaque:

HISTORIC ENGINEERING MARKER THE OVERLAND TELEGRAPH, ADELAIDE TO DARWIN, 1872

THE 3178 KILOMETRE LINE WAS BUILT IN LESS THAN TWO YEARS AND JOINED ON 22 AUGUST 1872. IT LINKED AUSTRALIA TO AN UNDERSEA CABLE FROM INDONESIA THAT CAME ASHORE AT PORT DARWIN. THE PROJECT WAS UNDER THE DIRECTION OF SIR CHARLES TODD, KCMG, MA, FRS, FRAS, FRMS, FSTE, SUPERINTENDENT OF POSTS AND TELEGRAPHS. COMMUNICATION BETWEEN AUSTRALIA AND THE REST OF THE WORLD COULD NOW HAPPEN IN HOURS RATHER THAN WEEKS.

THE FIRST TELEGRAPH MESSAGES FROM OVERSEAS WERE RELAYED THROUGH THIS STATION WHICH WAS FIRST LINKED TO ADELAIDE ON 3 JANUARY 1872.

DEDICATED BY
THE INSTITUTION OF ENGINEERS, AUSTRALIA, 1999
AUSTRALIA POST (SA/NT BRANCH)



The proposed marker site is on a granite boulder in the grounds of the Alice Springs Telegraph Station, outside a new visitors centre which is due for completion in June 1999. The station stands adjacent the spring which was found during the original surveying of the line. This permanent water hole was discovered by a survey party led by W W Mills on 11 March 1871 and named after Sir Charles Todd's wife, Alice. The spring was one of the main bases for the survey and construction of the line and then the Telegraph Station became a major link in the OLT as one of the most reliable repeater stations. The site today consists of a number of the original stone buildings – the station and office, barracks and horse stables. The new visitors centre will complement these and also be home to the Todd Collection of memorabilia on loan from the Alice Springs Archive. It is one of the main tourist destinations for visitors to the red centre of Australia.

Adelaide Plaque:

HISTORIC ENGINEERING MARKER
THE OVERLAND TELEGRAPH, ADELAIDE TO DARWIN, 1872

THE 3178 KILOMETRE LINE WAS BUILT IN LESS THAN TWO YEARS AND JOINED ON 22 AUGUST 1872. IT LINKED AUSTRALIA TO AN UNDERSEA CABLE FROM INDONESIA THAT CAME ASHORE AT PORT DARWIN. THE PROJECT WAS UNDER THE DIRECTION OF SIR CHARLES TODD, KCMG, MA, FRS, FRAS, FRMS, FSTE, SUPERINTENDENT OF POSTS AND TELEGRAPHS. COMMUNICATION BETWEEN AUSTRALIA AND THE REST OF THE WORLD COULD NOW HAPPEN IN HOURS RATHER THAN WEEKS.

THE FIRST TELEGRAPH MESSAGES FROM OVERSEAS WERE RECEIVED IN MORSE CODE IN THIS BUILDING ON 22 OCTOBER 1872 VIA THE OVERLAND TELEGRAPH LINE.

DEDICATED BY
THE INSTITUTION OF ENGINEERS, AUSTRALIA, 1999
AUSTRALIA POST (SA/NT BRANCH)



The proposed marker site has several significant aspects. The first stage of the building was completed while Todd, the Postmaster General, was overseeing the completion of the telegraph line and opened on 6 May 1872. The first floor housed the telegraph room in which the first messages from overseas were received. It remained the centre of telecommunications until the Eastern Extension Australasia and China Telegraph Company opened their own branch office in Victoria Square in 1893.

In the yard behind the building, Todd and the men of the Overland Telegraph construction party assembled on 15 November 1872 and marched along King William Street to the Exhibition Grounds as part of a day-long celebration of the telegraph's completion.

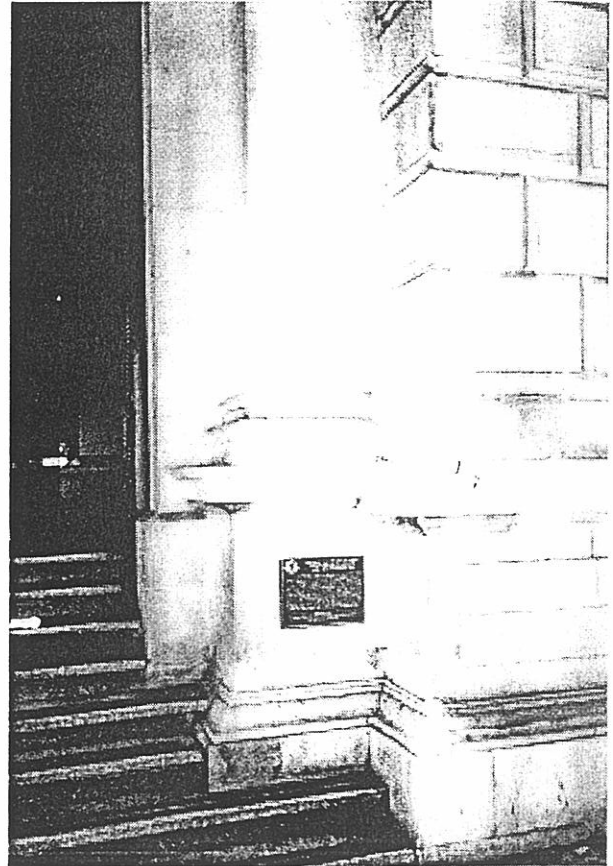
The foundation stone for the first stage of the GPO, with its distinctive Victoria tower, was laid by the Duke of Edinburgh on 1 November 1867. Todd marked the occasion by giving Adelaide's first public demonstration of electric light by operating an arc lamp from the tower.

Alternative positions for the plaque

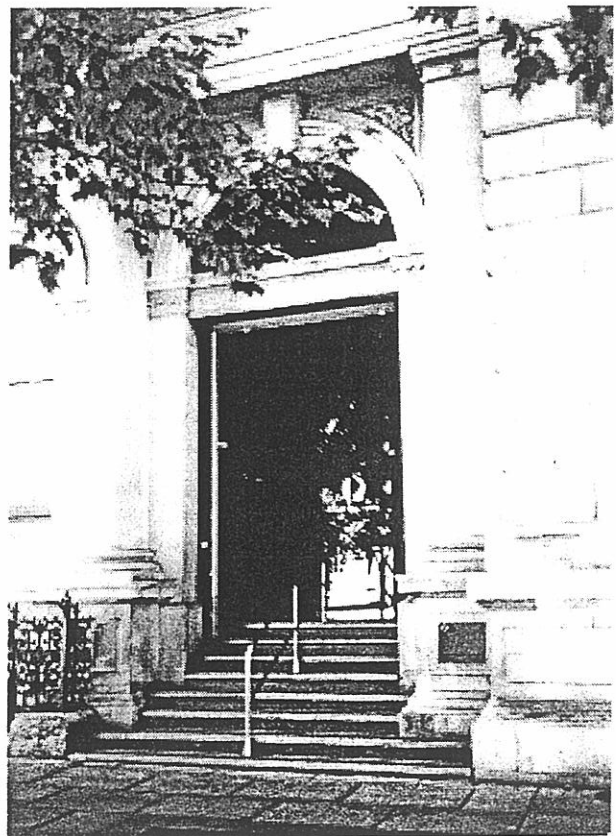
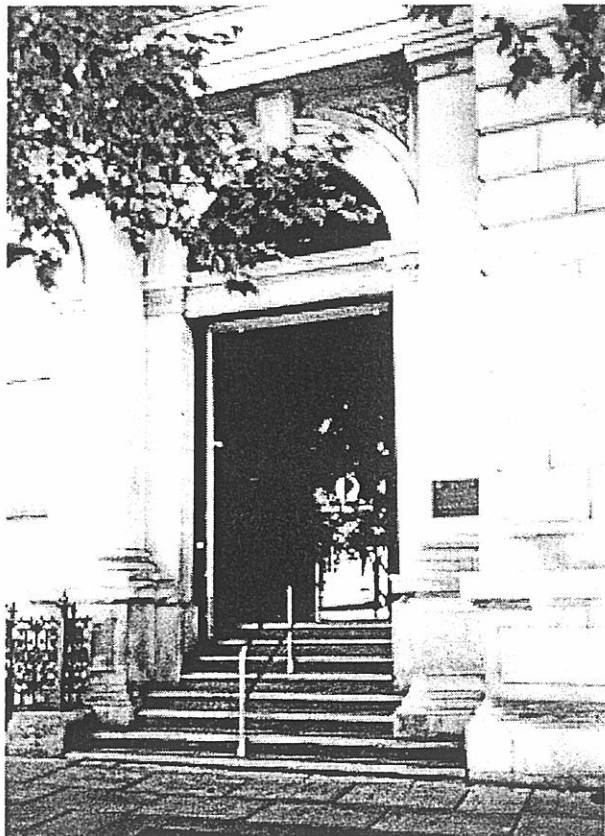
(Fixing methods involve adhesives, not mechanical fasteners)



1. Covers existing holes in the facade but may be too high for viewing from footpath



2. Better viewing from footpath; occupies new position on the sandstone facade



HISTORIC ENGINEERING MARKER: THE OVERLAND TELEGRAPH, ADELAIDE TO DARWIN, 1872 ENGINEERING HERITAGE SIGNIFICANCE

Technological/Scientific Value

The technology had already been established by others and the components were commercially available. Its significance lies in the length of the line and the achievement of a major communication link over vast distances under extremely harsh conditions.

Historical Value

Very significant. This was the first telegraph connection between Australia and Europe and hence to the rest of the world. It also linked inland communities to the rest of the continent. First major users were newspapers and commercial interests.

Social Significance

Very significant. The line connected Australia to the rest of the world and ended its relative isolation. Newspapers were able to report major international events almost as they happened while commercial interests could maintain effective communication with their markets. The availability of the Overland Telegraph is credited with an increase of a quarter of a million pounds in the value of South Australia's primary produce in the first year alone. The survey and construction of the line also opened up Central Australia and the Northern Territory to pastoral and mining industries which remain significant to this day.

Demonstration of Custom, Process, or Function

A relatively simple construction provided significant social and commercial benefits.

Association with Important People

Sir Charles Todd, KCMG, MA, FRS, FRAS, FRMS, FSTE, Superintendent of Posts and Telegraphs, planned and managed the construction of the line. John MacDouall Stuart established that a route from Adelaide to the Indian Ocean was possible in 1862.

Landscape or Environmental Value

Not applicable.

Contribution to Setting

Not applicable.

Original Integrity

All the original wooden poles were replaced with metal within a few years and several new sections were built to straighten out the route. A second line of copper was strung over the whole route in 1898. Of the 11 original repeater stations, Alice Springs is the best preserved.

Important Stage in Development

A major development in the nation's communications.

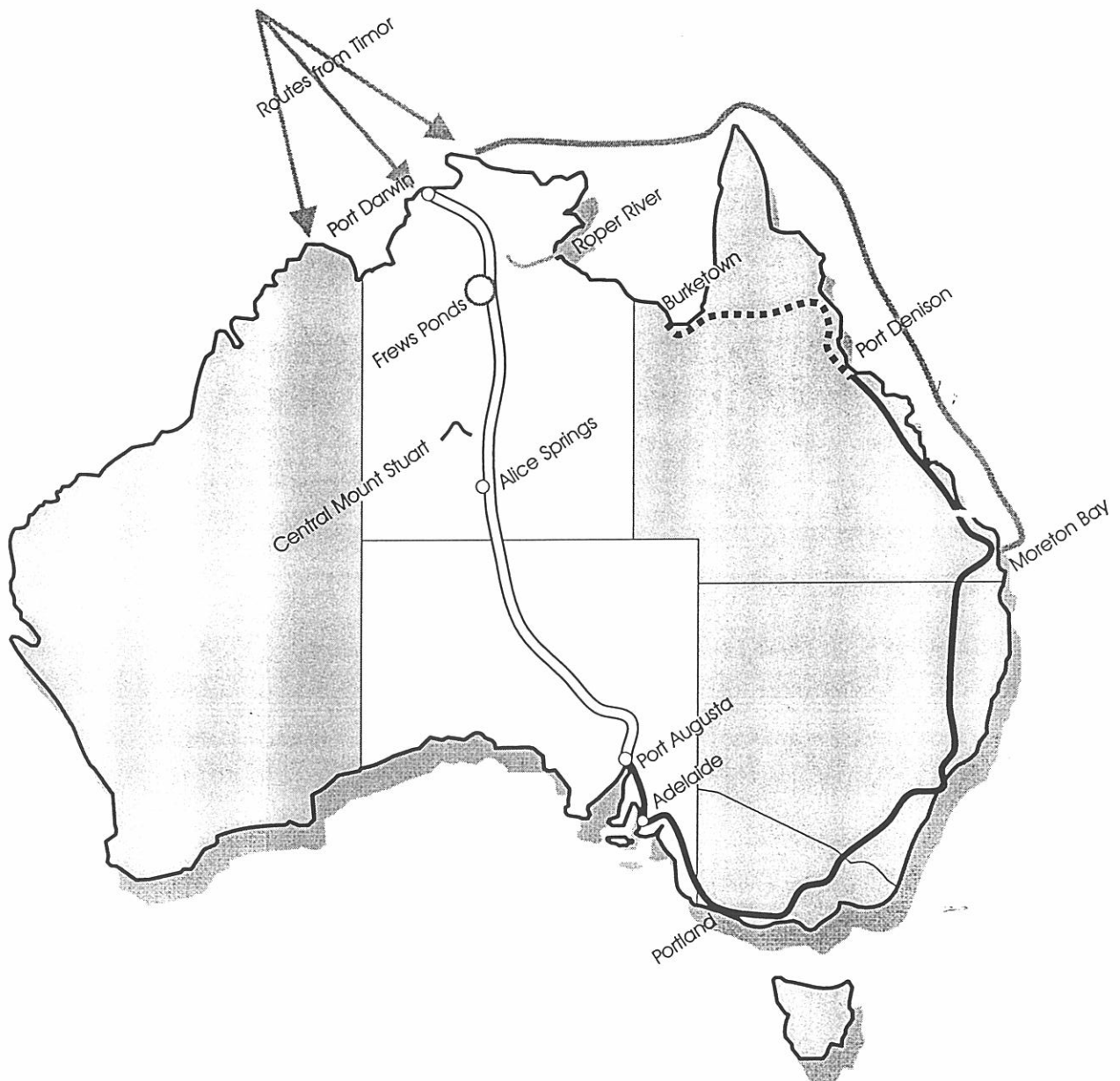
Demonstrates Technological Change

Consolidated the key role of telecommunications in commerce and community affairs.

Unique or Intact

Major pioneering engineering project across minimally explored country.

HISTORIC ENGINEERING MARKER: THE OVERLAND TELEGRAPH, ADELAIDE TO DARWIN, 1872 SIGNIFICANT LOCATIONS



Port Darwin

Termination point of undersea cable from Timor

Roper River

Closest supply point for ships from Adelaide

Frews Ponds

Site of final connection of the Overland Telegraph

Central Mount Stuart

Site of Todd's communications with Adelaide

Alice Springs

Site of telegraph station named after Todd's wife

Port Augusta

Starting point for the southern section

Adelaide

Site of General Post Office

Portland

Interconnection point between SA and Victoria

Moreton Bay

Possible termination point of overseas cable

Port Denison

Northern extent of Queensland telegraph system

Burketown

Rival starting point for the land line

HISTORIC ENGINEERING MARKER: THE OVERLAND TELEGRAPH, ADELAIDE TO DARWIN, 1872 KEY DATES IN THE CONSTRUCTION

8 June 1870	Port Augusta to Port Darwin Telegraph Bill introduced
16 June 1870	Bill received assent
7 July 1870	John Ross appointed to survey and plot the route from Mt Margaret
20 August 1870	Work team leaves Port Augusta by ship for Port Darwin
15 September 1870	First pole ceremoniously sunk at Port Darwin
March 1871	Torrential rain and supply problems interrupt work on the Northern section
August 1871	Patterson arrives in Port Darwin to resume work on the Northern section
August 1871	Telegraph Construction and Maintenance Company brings the underseas cable ashore at Port Darwin
19 November 1871	Australia now linked to the rest of the world
1 January 1872	Penalties of L70 apply for every day the transcontinental line is incomplete
27 January 1872	Charles Todd goes into the field to restart work from Roper River
April 1872	Weather permits works to commence
22 May 1872	Todd sends first telegram across Australia from Port Darwin to a temporary station on Elsey River; then by horse to Tennant Creek; then by telegraphy to Adelaide
24 June 1872	Undersea cable between Port Darwin and Java fails
22 August 1872	Patterson joins the line near Frews Ironstone Ponds
20 October 1872	Overseas line restored; Adelaide and hence Melbourne and the eastern states are now connected to the world
22 October 1872	First commercial message received followed by congratulatory messages from the Lord Mayor of London to the Mayor of Adelaide
15 November 1872	Celebratory dinners in Adelaide, Sydney, and London

CHARLES TODD: KEY DATES

7 July 1826	Born at Islington, UK
5 November 1855	Arrives in Adelaide with Alice Gillam Todd (nee Bell)
June 1893	Awarded KCMG
January 1905	Retires from SA Public Service
29 January 1910	Dies at Semaphore; buried North Road Cemetery, Nailsworth

HISTORIC ENGINEERING MARKER:
THE OVERLAND TELEGRAPH, ADELAIDE TO DARWIN, 1872
SIR CHARLES TODD
KCMG, MA, FRS, FRAS, FRMS, FSTE

Charles Heavitree Todd was born at Islington in the UK on 7 July 1826 and educated at Greenwich. In December 1841 he joined the Greenwich Observatory as an astronomical computer and in 1854 took charge of the new galvanic department. On 10 February 1855 he accepted an offer from the South Australian Government, relayed by the Colonial Office, to become Government Astronomer and Superintendent of Telegraphs. He married Alice Gillam Bell and the couple left England in July, arriving in Adelaide on 5 November 1855.

The following June, Todd met with Samuel Walker McGowan, the Victorian Superintendent of Telegraphs. (The Canadian McGowan had seen an opportunity in the news of Victoria's gold discoveries and had arrived in Melbourne in 1853 equipped with several sets of Morse instruments and plans for electric telegraphy.) They issued a joint report in August recommending that the two cities be linked by telegraph: the Victorian line would be extended to the South Australian border and Todd would build a 480 kilometre line from Adelaide to join it. Their report also raised possibility of connection to India and thence England. The Adelaide-Melbourne line completed in July 1858.

Following completion of the Overland Telegraph in 1872, Todd continued as South Australia's Postmaster-General and became an honoured figure on the world scene. He was elected a Member (the class now known as Fellow) of the Society of Telegraph Engineers on 10 December 1873 and served as Honorary Secretary and Treasurer of the South Australian branch from 1881 to 1906. (The Society became the Institution of Electrical Engineers in 1881.)

In 1886, Todd was made an honorary MA of Cambridge University and in 1889 was elected a Fellow of the Royal Society. He was also a Fellow of the Royal Astronomical Society and the Royal Meteorological Society.

Todd's competence as an astronomer is often overlooked. Whilst at Greenwich, he was one of the first to observe the planet Neptune. He established a small but excellent observatory in Adelaide and twice observed the transit of Venus (in 1874 and 1882). In 1868, Todd marked the position of the 141st meridian (South Australia's eastern border): in 1911, a check of Todd's obelisk using more sophisticated instruments showed it to be at 141° 0' 3.9". He organised meteorological observations throughout the state and, with his network of telegraph stations and their connections with other states, became a pioneer in publishing weather maps.

He was also a pioneer of the use of electricity in Australia, giving the first demonstration of electric light in Adelaide during the Duke of Edinburgh's visit in 1867. He was instrumental in introducing electric light to Parliament House and the Government Printing Offices, and many reports referred to him as the "Government Electrician". He also took part in the first demonstrations of wireless telegraphy with his son-in-law, later Sir William Bragg.

With Federation in 1901, there could only be one Postmaster-General for the whole of Australia and Todd's title was therefore changed to Deputy-Postmaster-General. The South Australian Government delayed introducing a Bill for the compulsory retirement of public servants at age 70 to allow Todd to remain in office as long as he wished. Todd retired in January 1905 aged 78, after 63 years as a public servant in England and South Australia.

He died at Semaphore on 29 January 1910 and is buried beside Alice at the North Road Cemetery, Nailsworth.

HISTORIC ENGINEERING MARKER: THE OVERLAND TELEGRAPH, ADELAIDE TO DARWIN, 1872 TECHNICAL DETAILS

The Overland Telegraph used the closed-circuit Morse system. The principles were well established and already in use on most of the other telegraph lines in Australia. The unique feature of the Adelaide to Darwin line, however, was its length.

The major components of the system were the sending key, the receiving relay and sounder, the interconnecting line, and the batteries.

The Morse Key

The Morse key is still used to send Morse code by radio (“wireless” telegraphy). It’s basically a switch which sends pulses of current over the line by being turned on and off. (In other words, it was part of a binary signalling system and therefore relatively tolerant of interference and signal reduction.) The key is normally closed and current flows around the circuit — which is why Patterson received a shock when he first attempted to join the line.

The Main Batteries

The Overland Telegraph batteries were made up of Meidinger cells consisting of a lead plate in a copper sulphate solution and a zinc cylinder in a magnesium sulphate solution. Although quite large, each cell only produced about 1.5 volts so a large number were required to produce the operating voltage of about 120 volts. Maintaining the batteries was virtually a continuous job and accounted for most of the time of the station personnel.

The Line

The original Overland Telegraph line was No 8 SWG galvanised iron. Poles, seven metres long, were to be cut from native timber along the route and were placed about 80 metres apart: prefabricated iron poles, imported from Oppenheimer and Co in Germany, were used where timber was not available. The line was carried on insulators mounted on pin holders driven into the top of the pole. Every second pole carried a lightning conductor.

Auxiliary Equipment

The receiving relay was an electromagnet which switched the local circuit. This drove the sounder — a much bigger electromagnet which produced an audible click. The local batteries which powered this circuit were made up of Leclanche cells (graphite and zinc electrodes in a sal-ammoniac solution).

Repeater Stations

The considerable length of the line and the inevitable losses in it meant that repeater stations were required where an operator would receive and retransmit the Morse signal. The repeater stations on the Overland Telegraph line and their distance from Adelaide were:

Beltana	571	Tennant Creek	2179
Strangways Springs	877	Powell Creek	2361
The Peake	1023	Daly Waters	2583
Charlotte Waters	1294	The Katherine	2850
Alice Springs	1667	Yam Creek	2974
Barrow Creek	1942	Darwin	3178

HISTORIC ENGINEERING MARKER: THE OVERLAND TELEGRAPH

CLOSING THE CIRCUIT

On the morning after the line was joined, the Adelaide Post Office issued its usual daily weather reports and for the first time it included a report from Port Darwin where the weather was “fine, cool and clear”.

The Advertiser attempted to explain the significance of this “thin streak of wire”:

We accept the fact that upwards of 2,000 miles of line is being carried through the heart of the continent, and that we are now on speaking terms with North Australia; but how many of our readers grasp the fact that our communication with Port Darwin is practically *instantaneous*?

However, the key benefit had yet to be realised while the undersea cable was broken. Instruments on board the *Investigator* enabled operators to locate the faulty section with a reasonable degree of precision and a new section of cable was spliced in. The work was completed at midnight on Sunday 20 October 1872 and the international circuit was available for commercial traffic on Monday.

The first private message (destined for Melbourne) was received about midday on Tuesday. Later that afternoon the Lord Mayor of London sent a congratulatory cable to the Mayor of Adelaide. It arrived only seven hours after leaving London.

On 24 October, the Advertiser published reports from London dated 21 and 22 October. Thereafter, they published cables from London almost everyday.

While the overland telegraph was under construction, a new General Post Office had been built in Adelaide. It included a new telegraph office on the first floor.

Todd had travelled back to Adelaide along the route of the line, taking the opportunity to inspect the work for himself. He arrived in Adelaide on 30 October. Other members of the work teams went north to the Roper River and returned to Adelaide around the coast via Brisbane on the *Omeo*. They reached Adelaide on 10 November 1872. On 15 November, at 10:30 in the morning, the officers and men of the Overland Telegraph party met Todd in the quadrangle of the new General Post Office, then marched along King William Street to the Exhibition Grounds. Sports were held in the afternoon and there were fireworks and a celebratory “Banquet to Charles Todd, Esq., & Officers & Men of the Overland Telegraph Construction Party” held in the Town Hall. During the evening, telegraph messages were exchanged with London (the replies taking only two hours to arrive) and the Governor then announced that Henry Ayers, the Chief Secretary, had been made a Knight Commander of the Order of St Michael and St George, and that Todd had been made a Companion of the Order.

Eventually all the wooden poles on the Overland Telegraph Line were replaced with metal and several new sections were built to straighten out the route. A second line of copper was strung over the whole route in 1898. Voice communication became available from Darwin to several selected sites in the south in 1925 but it was not until 1942 that telephone services were available right through to Adelaide. A microwave link between Alice Springs and Tennant Creek was introduced in 1979.

HISTORIC ENGINEERING MARKER: THE OVERLAND TELEGRAPH

DATES IN AUSTRALIAN TELEGRAPHY

- 1853 Canadian Samuel Walker McGowan sees an opportunity in the news of Victoria's gold discoveries and arrives in Melbourne equipped with several sets of Morse instruments and plans for electric telegraphy
Argus editorial (June) calls the telegraph "the most perfect invention of modern times"
- 1854 Experimental 11 mile line between Melbourne and Williamstown goes into operation (3 March); managed by McGowan and used home-made insulators of shellac and tar
South Australian Government seeks help from the Colonial Office, London, to find a suitable Superintendent of Telegraphs
- 1855 Charles Todd appointed to the position of Government Astronomer and Superintendent of Telegraphs (10 February); Charles and Alice arrive in Adelaide (5 November)
Todd starts work on the Government telegraph line to Port Adelaide in December
- 1856 Adelaide-Port Adelaide telegraph line opens (18 February) and takes 5/3d on the first day
Todd and McGowan meet in Melbourne (June) and issue a joint report (August) recommending the two cities be linked by telegraph: the Victorian line to be extended to the South Australian border and Todd to build a 480 kilometre line from Adelaide to join it
Report also raises possibility of connection to India and thence England
Henry Parkes persuaded to support concept of a line from Sydney to Melbourne
- 1857 Victorian network now consists of overhead wires stretching to Ballarat, Portland, and via Wangarratta and Wadonga to the Murray
Work on Adelaide-Melbourne line begins in April
20 mile line from Sydney to Liverpool opens 30 December
- 1858 Adelaide-Melbourne line completed in July
E C Cracknell, with Todd's support, appointed Assistant Superintendent of Telegraphs in New South Wales in January
New South Wales Government completes line from Sydney to Albury (October), linking the three capitals by telegraph
- 1859 Cracknell appointed Superintendent of Telegraphs in New South Wales
- 1860 Tenders called for a telegraph line from Sydney to Brisbane via Tenterfield (September); line completed in November
First message sent from Sydney on 6 November but not received in Brisbane for three days because of electrical storm damage to the line
- 1872 Grand banquet given at the Cannon Street Hotel, London, "to celebrate the opening up of telegraphic communication with the Australian Colonies"; messages were sent to Sir James Fergusson, the Governor of Adelaide, by six re-transmissions

HISTORIC ENGINEERING MARKER: THE OVERLAND TELEGRAPH

BIBLIOGRAPHY

Note: This nomination has been compiled over a number of years from a number of sources, many of which have covered the same topics but from slightly different viewpoints. Other references have provided an overview of the developing technology of telegraphy.

Anon "*Lyons Cottage: British Australian Telegraph House*" Museum & Art Gallery of the Northern Territory

Appleyard, R "*The History of the Institution of Electrical Engineers (1871–1931)*" IEE, London, 1939

Green, J "*The Personal Touch: A Look at South Australia's Postal History from Proclamation Day to Present Day*" Australia Post, 1985

Leybourne-Ward, Neville "*Australia's Overland Telegraph Line, 1870-1872*" Paper presented to the Engineering Heritage Conference, Institution of Engineers Australia, 1996

Manser, W L "*The Overland Telegraph*" Honours Thesis submitted to the History Department, University of Adelaide, 1961

Moyal, Ann "*Clear Across Australia: A History of Telecommunications*" Telecom Australia, 1984

Taylor, Peter "*An End to Silence: The Building of the Overland Telegraph Line from Adelaide to Darwin*" Methuen, 1980

Williams, T I "*A Short History of Twentieth Century Technology*" Clarendon Press, 1982

Woodrow, B E "A Century of Telecommunications in the Northern Territory — Part 1: The Overland Telegraph" in *The Telecommunications Journal of Australia*, October 1972