



**HERITAGE
COUNCIL**
OF WESTERN AUSTRALIA

REGISTER OF HERITAGE PLACES – ASSESSMENT DOCUMENTATION

11. ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

The criteria adopted by the Heritage Council in November 1996 have been used to determine the cultural heritage significance of the place.

PRINCIPAL AUSTRALIAN HISTORIC THEME(S)

- 4.2 Supplying urban services
- 4.6 Remembering significant phases in the development of settlements, towns and cities

HERITAGE COUNCIL OF WESTERN AUSTRALIA THEME(S)

- 108 Government Policy
- 112 Technology and technological change
- 404 Community services and utilities
- 507 Water, power, major transport routes

11.1 AESTHETIC VALUE*

Electricity Substation, Hay Street, Subiaco is significant as a simple utilitarian building with well designed elements. Although a simple building, with a specific utilitarian function, the building has been constructed with thought for its design, its place in the streetscape and its decorative features. (Criterion 1.1)

11.2 HISTORIC VALUE

Electricity Substation, Hay Street, Subiaco was built to distribute the supply of electricity to Subiaco from the East Perth Power Station, and marks the Municipality's transition from direct to alternating current. (Criterion 2.2)

11.3 SCIENTIFIC VALUE

* For consistency, all references to architectural style are taken from Apperly, R., Irving, R., Reynolds, P. A *Pictorial Guide to Identifying Australian Architecture. Styles and Terms from 1788 to the Present*, Angus and Robertson, North Ryde, 1989.

For consistency, all references to garden and landscape types and styles are taken from Ramsay, J. *Parks, Gardens and Special Trees: A Classification and Assessment Method for the Register of the National Estate*, Australian Government Publishing Service, Canberra, 1991, with additional reference to Richards, O. *Theoretical Framework for Designed Landscapes in WA*, unpublished report, 1997.

Electricity Substation, Hay Street, Subiaco has potential to yield information that will contribute to an understanding of electricity transmission in Western Australia in the 1920s, through analysis of remnant design features. (Criterion 3.2)

11. 4. SOCIAL VALUE

Electricity Substation, Hay Street, Subiaco has some social value through its inclusion on the City of Subiaco's Municipal Inventory. (Criterion 4.1)

12. DEGREE OF SIGNIFICANCE

12. 1. RARITY

Electricity Substation, Hay Street, Subiaco is rare as a substation from the 1920s still in operation. (Criterion 5.1)

The sale of electricity to consumers by a Municipal authority, for which *Electricity Substation, Hay Street, Subiaco* was built to facilitate, was rare after the establishment of East Perth Power Station and the centralisation of the provision of electricity by the State government. (Criterion 5.2)

12. 2 REPRESENTATIVENESS

Electricity Substation, Hay Street, Subiaco represents utilitarian structures of the era of its construction, built with thought for its design, its place in the streetscape and its decorative features. (Criterion 6.1)

Electricity Substation, Hay Street, Subiaco represents the end of the Municipality of Subiaco's power generating phase. With the closure of its Municipal Power Station, Subiaco had to purchase electricity in bulk from the City of Perth and was required to switch to the alternating current at this time. *Electricity Substation, Hay Street, Subiaco* was built to facilitate the distribution of electricity to Municipal customers after it was purchased from the City. (Criterion 6.2)

Electricity Substation, Hay Street, Subiaco represents the sale of electricity to consumers by a Municipal authority prior to the establishment of the State Electricity Commission. (Criterion 6.2)

Electricity Substation, Hay Street, Subiaco represents the Municipality of Subiaco's determination to be independent from the City of Perth and to retain control of its power supply after the demise of its power station. (Criterion 6.2)

12. 3 CONDITION

Generally the building is in good condition. There are some isolated sections of fretted mortar and some missing, dislodged or broken roof tiles. The place is part of an ongoing maintenance program and is inspected once a year, when routine maintenance is carried out.

12. 4 INTEGRITY

Generally the integrity of the place is high with the original intent being clearly visible, the current use being the original use, and the sustainability of the identified values being high.

12. 5 AUTHENTICITY

Alterations to the building are fairly minimal and include the blocking of the window to the rear elevation, the change of equipment due to changes in voltages of supply and delivery and the change in equipment and therefore

supply lines in and out of the building due to electricity being transferred underground instead of by overhead wires.

Given the above the authenticity is considered to be high with most of the original building fabric remaining in its original state.

13. SUPPORTING EVIDENCE

The documentation for this place is based on the heritage assessment completed by HCWA staff, Helena Waldmann and Annabel Wills, in October 2006, with amendments and/or additions by HCWA staff and the Register Committee.

13.1 DOCUMENTARY EVIDENCE

Electricity Substation, Hay Street, Subiaco comprises a single storey, brick and tile, single room building. It was built by the Municipality of Subiaco in 1923, to facilitate the distribution of electricity purchased in bulk from the City of Perth, after the Municipality ceased generating its own electricity at this time. In the 1950s it was compulsory acquired by the State Electricity Commission. It still (2006) functions as an electricity distribution substation.

The land on which *Electricity Substation, Hay Street, Subiaco* currently stands was originally part of Perth Suburban Lot 211, as surveyed by George Rotton in 1883. At this time Hay Street was known as Broome Road, and Lot 211 extended over approximately two hectares between Broome Road, Coghlan Street and Barker Road.¹

Suburban Lot 211 was transferred to Hannah O'Connor, married woman, of Ballarat, Victoria on 12 November 1894. Five years later, on 13 September 1899, Lot 10, which was one of 42 smaller portions of Suburban Lot 211 was transferred to George Thomas Howard, Physician, of North Carlton, Victoria.²

In this year (1899) the Perth Electric Tramways Company negotiated with the Municipality of Subiaco to extend the tramline which had been running from Perth down Hay Street from the Thomas Street intersection to the Subiaco Hotel at the Rokeby Road intersection. Shortly afterwards, its name was changed to Hay Street.³

The success of the Perth Electric Company's operation in Subiaco prompted it to offer its services to supply electricity to the area. Subiaco had long favoured electricity over gas for street lighting, unlike Perth, but Council declined the offer from the Perth Electric Company in preference to establishing its own direct current (DC) power supply for street lighting and private use.

The Subiaco Municipal Power Plant was erected in 1903, on a site leased from the West Australia Railways, near the Axon Street Railway Crossing. It commenced operations in August, and its establishment was regarded as progressive and a source of civic pride. Demand quickly exceeded supply, with 20 new customers being added to the system each month and the number of streetlights continually increasing. The plant was expanded in 1905, and by 1910 a third of Subiaco houses were connected to the supply.

¹ Spillman, K. (1985) *Identity prized: a history of Subiaco*. UWA Press, pp. 62-64. A historic title search prior to 1894 has not been conducted for this assessment.

² Certificate of Title, Perth Suburban Lot 211, Register Book Volume 65 Folio 15. It is assumed Mr Howard did not build on the lot, as there is no record in the Post Office directories for anything corresponding to the street address until 1923.

³ Spillman, *Identity prized*, p. 126.

The plant represented Subiaco's independence from greater Perth, which was encouraged by the fact it was able to offer the cheapest prices in Western Australia while still running a profit. Over the twenty years it operated, few modifications were required. Offers to relinquish independence and accept power supply from the government run power station at East Perth were rejected.⁴

In 1906, and again in 1910, the City of Perth invited the Municipality of Subiaco to join discussions regarding the possibility of creating a 'Greater Perth' resulting from the proposed amalgamation of Perth, North Perth, South Perth, Leederville and Subiaco. At a conference in June, the conclusion that the proposal was desirable was reached and negotiations began for formulating a scheme to enact it. Subiaco's Mayor, Shirley White, insisted a clause be inserted protecting the Municipality's rights to its power plant, demonstrating its importance to the Municipality.⁵

By 1912 the State government began to take responsibility for the provision of electricity in the metropolitan area, purchasing Perth Electric Tramways Ltd and commissioning engineer Charles Merz to investigate the State's power needs. In the same year, Perth City Council purchased the Perth Gas Company and also became a supplier. Small individual power stations were decommissioned in favour of centralisation, and the East Perth Power Station was built.⁶

By the beginning of the 1920s, it was becoming apparent the Axon Street power station was not able to adequately supply the growing needs of Subiaco's population while still operating at a profit. Despite the pride and independence the station had brought to the Municipality, the installation of additional generators at the existing plant or erection of a new plant was not considered cost effective. The option of purchasing electricity in bulk from the government station and transforming it within the Municipality for on-sale to consumers was anticipated to be half the cost of the other options. A change to the alternating current (AC) system would be required to facilitate the transition.⁷

On 18 September 1921, Lot 10 on Deposited Plan 864 was transferred to the Subiaco Municipality⁸ and in the same year a deal with the City of Perth was finalised for the supply of electricity to the Subiaco Municipality. The Axon Street power station closed on 4 August 1923, and the load it carried was transferred to four new substations in June and July 1923.⁹ Exact confirmation has not been located, but it is assumed the four substations in question were *Electricity Substation, Hay Street, Subiaco*; the Keightly Street substation at the corner of

4 Spillman, *Identity prized*, pp. 136-38.

5 Spillman, *Identity prized*, p. 172. Subiaco retained its separateness and did not join the Greater Perth scheme.

6 Edmonds, L. (2000) *Cathedrals of power, a short history of electricity generating infrastructure in Western Australia*. UWA Press, Nedlands, p. 15. De Burgh, J. (n.d.) *First light, the development of a State government electricity and gas supply in Western Australia*. Unpublished typescript, provided by Western Power, p. 36.

7 Spillman, *Identity prized*, pp. 222-23.

8 Certificate of Title, Lot 10 on Deposited Plan 864, Volume 178 Folio 21.

9 Spillman, *Identity prized*, p. 223.

Derby Road; what is now Subiaco Museum, which was built in as offices 1911 and converted to a substation; and another which was in Jolimont.¹⁰

Minutes of the ordinary meeting of the Subiaco Municipal Council from 22 May 1923 reveal the significance of the transition to the reception of electric power from East Perth Power Station and the transition to the alternating current:

It was resolved on the resolution of Crs. Boas and Wilson that the question of having a ceremony in connection with the change over of the Electric Light system from DC to AC be left in the hands of the Mayor, the Chairman of the Lighting Committee and the Town Clerk with power to arrange the same if deemed advisable.¹¹

In 1923 *Electricity Substation, Hay Street, Subiaco* made its first appearance in the Wise and Co. Post Office Directory, referred to as 'Electric Light substation'. It does not have a street number, but is situated between No. 181 Thomas, Henry T.T. and No. 209 Snelling, Ed. In 1924 it is situated between No. 191 Pyett, Joseph, tailor and No. 193 Bomford, Thos which is unlikely to be correct because by 1925 it is situated between No. 191 Bomford Thos.¹² and No. 201 vacant. In 1926 the vacant block is occupied by Prosser, T.D., builder and contractor, and the substation remains between Bomford, Thos. and Prosser T.D. until the Post Office directories cease in 1949.¹³

Neither the City of Subiaco, State Records Office, nor Electricity Networks Corporation (Western Power) have been able to locate files relating to the place that date any earlier than the late 1940s, so nothing specific to the place is known of its construction or early use, other than what can be assumed through visual inspection and knowledge of electricity transmission in general.

When constructed, *Electricity Substation, Hay Street, Subiaco* operated with aerial conductors (as opposed to underground as is the case now). High voltage current entered through the left hand side of the front elevation, and exited at a reduced voltage to the right hand side. Conductors and insulators are still (2006) in situ. Electricity generated at East Perth Power Station at 6000 volts, was transformed there to 20,000 volts to facilitate its transmission to large substations such as No.1 in Wellington Street, No.2 in Murray Street, No.3 in Colin Street or No. 4 in Palmerston Street. From these, the current went to smaller substations, where the current was transformed to consumer usage levels.

In 1946 the State Electricity Commission (SEC) was formed in an attempt to regulate the management of the State's power supply. The State government became the sole supplier of electricity in the metropolitan area.¹⁴

¹⁰ The Municipality of Subiaco minutes from 1922-23 do not specify the locations of the substations. Christabel Bennet, curator of the Subiaco Museum has researched the museum building and determined it was converted to a substation in 1923, and that Keightley Street was built in the same year (as discussed with HCWA staff in October 2006). 'First Light' by J. de Burgh (n.d., unpublished typescript) states there were four local substations to convert power for Subiaco when purchased from East Perth but does not specify where they were (p. 107). SECWA file No. 2/516/2/CV also states there were four substations but does not specify where.

¹¹ Minutes of the ordinary meeting of the Subiaco Municipal Council, 22 May 1923, p. 307.

¹² No. 191 is also the address of Dingwall and Thomas, bakers, but no information has been located about this company.

¹³ Wise and Co. Post Office Directories 1923 to 1949. Hay Street, Subiaco, between Coghlan and Olive Streets, left hand side.

¹⁴ Bodycoat, R. (2003) *South Fremantle Power Station conservation plan volume one*. Prepared for Western Power Corporation, p. 17.

In 1950 Subiaco was still making a profit from on-selling electricity purchased from the government to its residents, and resisted the proposed acquisition of its undertakings by the SEC.¹⁵ A 1951 evaluation of Subiaco's electricity undertakings noted they were in the possession of four brick substations, but does not specify all their locations. The land and building at the rear of the council offices (now Subiaco Museum) and the Jolimont substation were not included in the evaluation, as the council wished to keep the land and building adjacent to the council office and the Jolimont substation was part of an A class reserve. The evaluation notes:

The council has been rather lavish in the construction of transformer accommodation and circuit control gear, but otherwise the undertaking can claim no special features.¹⁶

As acquisition was inevitable, Subiaco turned its attention to the issue of adequate compensation.¹⁷ Having already ordered some new equipment to upgrade the substations which was not due to arrive until November 1952, Subiaco also had to negotiate with the SEC for them to take over the orders. Other issues also considered were the absorption of staff, a concessional rate for the Municipality for civic purposes (street lighting etc), maintenance of existing payment arrangements for customers and the provision of a compassionate rate for the Home of Peace.¹⁸

On 14 September 1953 *Electricity Substation, Hay Street, Subiaco* (as lot 10 on Deposited Plan 864) was transferred from what had become the City of Subiaco to the State Electricity Commission of Western Australia.¹⁹

In 1973 architects Hobbs Winning and Leighton wrote to the SEC requesting the removal of the eaves overhang on western side of *Electricity Substation, Hay Street, Subiaco*, as they planned to build a new structure up to the boundary on the adjoining block and the eaves went over into that lot by 12 inches. The SEC agreed to remove the overhang.²⁰

In the mid 1980s the City of Subiaco commenced the transition to underground power, and the aerial conductors at *Electricity Substation, Hay Street, Subiaco* would have been disconnected at this time.²¹ In the late 1980s the substation was upgraded.²²

An undated property report, estimated to be from the mid to late 1980s, values *Electricity Substation, Hay Street, Subiaco* at \$65-70,000, including improvements. Consideration was given, at this time to upgrading and relocating the substation equipment, with its capacity of 1MVA, and concentrating it to the

¹⁵ Spillman, *Identity prized*, p. 273.

¹⁶ Evaluation of Subiaco Municipal Council electricity undertakings dated 18/07/1951. SECWA file No. 2/516/2/CV, from Western Power box No. 16077.

¹⁷ The matter of compensation was not resolved until 1953. £100,000 of the £120,000 received in compensation, was directed to the erection of the City Hall which was opened in November 1957. Spillman, *Identity prized*, p 273.

¹⁸ Miscellaneous memos and correspondence, SECWA file No. 2/516/2/CV, from Western Power box No. 16077.

¹⁹ Certificate of Title, Lot 10 on Deposited Plan 864, Volume 1141 Folio 233.

²⁰ Correspondence between Hobbs, Winning and Leighton and State Electricity Commission, 11/10/1973 and 22/10/1973. SECWA file No. 2/516/2/CV, from Western Power box No. 16077.

²¹ Information provided by Graham Horne, Manager, Western Power's World of Energy, Oct 2006.

²² Internal memo from Regional Manager Central Metropolitan Area, 14/4/89. SECWA file No. 1/651/200 volume 1.

rear 49m² of the block, which would have allowed SECWA (as SEC was now known) to sell or redevelop the remaining 200m² of the block with the street frontage. It was determined that this was not a cost effective proposal, as the cost of relocating the equipment would exceed the return of the sale, and it was noted the situation should be reconsidered annually. The SECWA file for the place shows numerous expressions of interest to purchase the block, and also records ongoing disputes with neighbours regarding fencing, maintenance and car parking. A memo also notes it was an important distribution point for the Subiaco commercial area that could not be removed unless an alternative was proposed. The adjacent property, No. 193, was demolished in 1997.²³

On 30 January 1995 the change of name to Electricity Corporation was registered and it is assumed that at this time the land description was amended to Lot 44 on Deposited Plan 30304.²⁴

On 16 June 2006 the change of name to Electricity Networks Corporation was registered.²⁵ In October 2006, *Electricity Substation, Hay Street, Subiaco* still functions as an electricity distribution substation, with high voltage (11,000 volts) going in and low voltage, consumer usage current (415 volts) going out.

13.2 PHYSICAL EVIDENCE

Electricity Substation, Hay Street, Subiaco, comprising a single storey, brick and tile, single room building dating from 1923, is located on Hay Street in Subiaco. Subiaco is an inner city suburb of Perth, located approximately five kilometres west of the city centre. Subiaco is both a residential and commercial suburb, with a population of approximately 15,000.

Generally this section of Hay Street contains one, two and three storey commercial buildings. The adjacent buildings are a two storey red brick and glass gable roofed building with an undercroft car parking area to the east and a single storey flat roofed, painted brick building to the west. Both buildings are relatively new.

Electricity Substation, Hay Street, Subiaco is located to the front of a long narrow lot facing Hay Street. It is situated on the southern side of the road. The site is a total area of 268m², with a street frontage of 6.48m and a depth of 37.36m. There is access to a right of way at the rear of the block, which leads to Churchill Avenue.

The site itself contains only the substation building. It is fenced on all sides, with a steel "pool" type fence to the front boundary, a brick retaining wall and brick pier and metal fence to the front half of the eastern boundary and a timber fence to the rear portion of this boundary. There is a corrugated asbestos fence to the rear boundary and a brick parapet wall and ivy covered asbestos fence to the western boundary. The rear of the site is overgrown with long grass and contains no other identifiable features.

As described above *Electricity Substation, Hay Street, Subiaco* comprises a single-storey, brick and tile, single room building dating from 1923. The building is a simple utilitarian building constructed in the interwar period. Although a simple

²³ SEC Property Report Sheet, miscellaneous letters and memos, SECWA file No. 1/651/200 volume 1. This file relates from the late 1980s only.

²⁴ Certificate of Title, Lot 44 on Deposited Plan 30304, Volume 1141 Folio 233.

²⁵ Certificate of Title, Lot 44 on Deposited Plan 30304, Volume 1141 Folio 233 (duplicate 1).

building with a specific utilitarian function, the building has been constructed with a thought for its design, its place in the streetscape and its decorative features.

Externally the building has red face brick walls with panels of roughcast render and a small low level render and face brick plinth. The roof is of a gable form with terracotta roof tiles with decorative terracotta ridge ornamentation. There are three metal vents to the roof. Bargeboards are green painted timber with exposed eaves and timber slat lining. Gutters are green painted colonial profile and downpipes are round. The front façade of the building is slightly asymmetrical as, after being shortened in the 1970s, there is no eaves overhang on the western side.

There is a centrally located pair of timber framed front doors to the front elevation with a concrete frame around. The doors are timber framed T&G doors with later added metal grilles to the bottom half. There is a terracotta tiled awning above the doors and a concrete ramp leading up to the doors. A smooth finish rendered panel is located above and to the east side of the awning. This panel contains a sign reading SUB STATION (although the 'I' is missing). It is possible that it did also contain the construction date of the building although this has since been removed. This panel also has six former high voltage insulator holes. Three of which are blocked and three still contain some former isolator equipment. These carried the high voltage electricity into the sub station. To the west side and above the awning is a metal frame with low voltage isolators that carried the electricity out of the substation. There are six terracotta wall vents to the west of the front door.

The east side elevation has three 'columns' of red face brick and two panels of roughcast render. The only openings to this elevation are three low level metal hooded openings.

The rear of the building originally had two timber framed windows at a high level. One of these has later been blocked with rough cast render. There is a timber framed and terracotta roof tile clad awning above these windows. There are fourteen terracotta wall vents at a low level and a metal box attached to the rear.

The west side elevation was not able to be viewed as the adjacent building is constructed hard against this elevation.

Internally the building is a single room with a concrete floor, face brick walls and a fibre cement sheet panelled ceiling with three vent holes. The approximate overall internal dimensions of the building are 5.5m wide and 8m deep. A timber beam runs from north to south across the length of the building. The six former incoming isolator holes are clearly visible internally as are the fourteen much smaller outgoing holes.

All original equipment has been removed, only remnants of incoming and outgoing cables and isolators remain, as well as some wall brackets and other evidence of former locations of equipment. There are wall mounted fluorescent lights.

The current equipment includes a transformer, low voltage distribution frame, ring main unit (remote controlled from main centre), battery charger and a phone line. It is understood that the purpose of this station is as a distribution station, with the power station providing 66,000 volts to the substations which transform the current to 6000 volts and feed out to all of the distribution stations. This distribution station will then provide a few customers within the immediate vicinity. Close by there is another distribution station at the Victoria Hotel on the opposite

side of Hay Street. This is a modern distribution station in a green painted metal box. The amount of space in *Electricity Substation, Hay Street, Subiaco* is far more than required for its function.

Former equipment would have included a transformer and a low voltage distribution frame.

Alterations to the building are fairly minimal and include the blocking of the window to the rear elevation, the change of equipment due to changes in voltages of supply and delivery and the change in equipment and therefore supply lines in and out of the building due to electricity being transferred underground instead of by overhead wires.

Generally the building is in good condition. There are some isolated sections of fretted mortar and some missing, dislodged or broken roof tiles. The place is part of an ongoing maintenance program and is inspected once a year, when routine maintenance is carried out.

13.3 COMPARATIVE INFORMATION

This comparative information deals primarily with the metropolitan power network. There are several substations on the Heritage Council database, as well as a few others that have been identified for this assessment, but there is little information readily available on the majority of them. There does not appear to have been any systematic documentation of substations, particularly smaller ones, perhaps due to their utilitarian function, so it is not possible at this stage to determine how many have been built, and how many are still extant.

To be precise, *Electricity Substation, Hay Street, Subiaco* is a 'distribution' station in the current electricity network (but, as it has the words 'Sub Station' on the exterior, the name Electricity Substation has been kept to reduce confusion). Substations convert very high voltages to make them suitable for the distribution network, which supplies the lower voltage to consumers. There are no other electricity 'distribution' stations on the Heritage Council database.

Substations 1-6

Substations 1 to 4 were built in 1913 and 1914 to transmit electricity from the East Perth Power Station, and as such they exhibit a uniformity of design, scale and function. They are each two-storeys, with No.'s 1, 3 and 4 featuring identical balconies at either end. No. 2 is of a slightly different design due to its narrow street frontage, but exhibited similar design details as the others when constructed.

No. 1 Substation, in Wellington Street is now part of Royal Perth Hospital. It has been painted and minor modifications are visible from the exterior, but it still retains its overall form and much design detailing is evident.

No. 2 Substation, at 333 Murray Street operated as a substation until only a few years ago. It has had minor modifications to the front façade, but appears in good condition and retains its original form. It is currently (2006) vacant.

No. 3 Substation, in Colin Street, West Perth was sold by SECWA in the 1980s and converted to apartments and offices. It still retains its overall form and design detailing.

No. 4 Substation, in Palmerston Street, Highgate still operates as a substation. It is in excellent condition and exhibits a high degree of authenticity. It has retained,

and still operates with, its original equipment from the same period of construction as the East Perth Power Station, and features evidence of its original installation at 40Hz. Minor changes include infill of the circular windows to prevent vandalism. The second storey no longer operates and is vacant.

No. 5 Substation was in Maylands, but no information is readily available about it at this stage.

No. 6 Electricity Sub Station (fmr) East Perth (registered) was from a slightly later phase, constructed from 1924. It was decommissioned in the 1960s.

While none of these substations are comparable to *Electricity Substation, Hay Street, Subiaco* in terms of scale, they do present a similar aesthetic to it when compared to contemporary substations which are purely utilitarian in design.

Power Stations

Aside from *No. 6 Electricity Sub Station* (fmr) East Perth, the only other registered places associated with the electricity network in the metropolitan area are P3318 *East Perth Power Station* (1914) and P3381 *South Fremantle Power Station*. Both places are associated with power generation, and therefore represent the source of electricity, not necessarily its transmission and distribution. Substations and distribution stations, while smaller and therefore perhaps less visible, are essential to the chain of power supply and should be recognised on the Register of Heritage Places.

Subiaco Municipal power network

As described in the documentary evidence, two other substations were built by Subiaco (or converted) at the same time as *Electricity Substation, Hay Street, Subiaco* – Subiaco Museum and the Keightley Street substation. All three retain evidence of insulators on their front elevations, mounted on identical panels. A fourth substation in the network is understood to have been at Jolimont, but no information is readily available at this point and it is not likely to be extant.

What is now Subiaco Museum was built as offices in 1911 and converted to a substation in 1923. After being decommissioned in the 1950s, the Rotary Club converted it for community use in 1959, and by 1985 it was converted to a museum.²⁶ Little evidence remains of its use as a substation aside from the insulators on the front elevation, a sign reading '6000 volts' and ceiling vent holes identical to those at *Electricity Substation, Hay Street, Subiaco*. The concrete floor of the room behind the insulators has been covered with jarrah floorboards, although some concrete sections remain in the wooden floors of other rooms, which may be associated with its former use.²⁷

The Keightley Street substation is very similar to *Electricity Substation, Hay Street, Subiaco* in terms of design and scale. Its original form is a one room, domestically scaled, brick building with a medium pitched gable roof. As with *Electricity Substation, Hay Street, Subiaco*, its front door is central to the front façade. It has windows on the side elevation that mimic the proportion of the panels of roughcast render at *Electricity Substation, Hay Street, Subiaco*. While this form is still highly visible, it no longer operates as a substation and has been converted to a residence, featuring block like extensions to two sides.

²⁶ Spillman, *Identity prized*, pp. 301, 357.

²⁷ Discussions between HCWA staff and Christobel Bennett, curator Subiaco Museum, October 2006.

Other Municipal power networks

Aside from Subiaco, Fremantle, Claremont, Midland, Nedlands, Bassendean, Cottesloe and South Perth each had their own electricity networks in the early 20th century. From the 1920s on this was not common, as in Western Australia electricity supply was centralised as much as possible when the East Perth Power Station was built and municipal power supplies were phased out. Fremantle and Midland surrendered theirs willingly, but the remainder resisted until compulsory acquisition occurred.

Little is known about which remnant buildings may exist from the era of municipal power generation and distribution. The Heritage Council database has files for three substations, all of which have been converted for other uses, and all of which are on their respective Municipal Inventories. Very little information is available on each. P00494 Claremont Municipal Council Electricity Substation at 280 Stirling Hwy was built 1923/24 and is currently (2006) a Beaurepairs tyre shop. P04811 Roma at 182 Canning Hwy, Como, was built as a substation (date unknown) and converted to three flats c.1963. It has since been converted to a single residence and is included in the Municipal Inventory for being an example of contribution of post World War Two immigrants' houses to the streetscape, as it is a notable example of late Twentieth Century Immigrants' Nostalgic style. P15932 Bants at 496 Stirling Hwy, Peppermint Grove, was used as a substation in the 1940s and 60s.

There are two brick substations extant in Fremantle, which are slightly smaller than *Electricity Substation, Hay Street, Subiaco*. In North Fremantle, behind Matilda's Antiques there is a small building with a pyramidal roof, believed to be associated with the Fremantle Electric Tramways and Electric Lighting Board. It has an unusual ventilation feature on the roof, but no further information is available about it. There is also a small, hexagonal shaped brick building adjacent to the Fremantle train station, believed to be a former substation. Neither have the domestic detailing and streetscape appeal of *Electricity Substation, Hay Street, Subiaco* and it is highly unlikely either are still in use.²⁸

In conclusion, there are no places on the Heritage Council database that are directly comparable to *Electricity Substation, Hay Street, Subiaco* as most are considerably larger in scale, and the few that are similar in scale have been converted to other uses. There is quite likely to be other substations still extant that are not on the Heritage Council database or identified in this assessment, but thorough information about them has not been collated at this time.

13.4 KEY REFERENCES

No key references.

13.5 FURTHER RESEARCH

No specific information relating to the place prior to the formation of the State Electricity Commission has been located. Sources checked were Western Power's records department, Western Power's World of Energy Museum, the City of Subiaco, Subiaco Museum, Battye Library and the State Records Office. No photographs of the place earlier than the 1980s have been located.

²⁸ Information provided by Graham Horne, Manager, Western Power's World of Energy, Oct 2006.