To:

South Australian Heritage Committee

From:

Senior Historic Architect

Subject:

REGISTER NOMINATION REPORT:

ADELAIDE ELECTRIC SUPPLY COMPANY CONVERTER STATION,

EAST TERRACE, ADELAIDE

Date:

21 April, 1982

SUMMARY

This report has been prepared as part of an assessment of the entire East Terrace complex comprising the former Electric Lighting and Traction Company of Australia Powerhouse, the Adelaide Electric Supply Company Converter Station and the Municipal Tramways Trust Converter Station. The site, which occupies approximately two acres, is bounded by Grenfell Street, East Terrace, Pirie Street and Devonshire and Tam o'Shanter Places.

This nomination has been initiated by the Heritage Conservation Branch.

Historically, the Adelaide Electric Supply Company Converter Station is significant for its association with a major period of expansion in the history of the Adelaide Electric Supply Company.

The Converter Station was part of a building programme that enabled the Company to cope with demands following its entry into a statewide expansion scheme.

<u>Architecturally</u>, the Converter Station stylistically and physically links the two earlier buildings in the complex, the M.T.T. Converter Station and the Powerhouse.

Environmentally, the Converter Station is an element in a prominent group of buildings which define the eastern boundary of the city.

The Integrity of the Converter Station is high despite slight modifications to the facade.

RECOMMENDATION

It is recommended that the former Adelaide Electric Supply Company Converter Station, East Terrace, Adelaide, be included on the Register of State Heritage Items, and be categorised A.2, A.3, H.3.

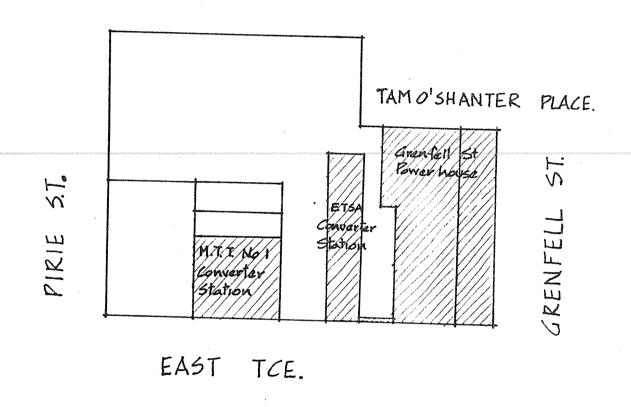
Barry G. Rowney

SENIOR HISTORIC ARCHITECT

CW:BAH 21.4.82

South Australian Heritage	Register of State Heritage Items ITEM EVALUATION SHEET Buildings and Structures		-
Act 1978-80	Item ADELAIDE ELECTRIC SUPPLY COMPANY CONVERTER STATION, EAST TERRACE, ADELAIDE.		
Age Started: 1924	Theme	Office	
Period	Subject		-1
1914-1927	UTILITY SERVICES - ENERGY	Region Adelaide Metr	Ō
Building Type INDUSTRIAL	Style TRANSITIONAL	Status	
Qualitative Data Component History	Comment	Grading E VG AG FP NA	
l. Context:	Part of an important expansionary period in the history of the Adelaide Electric Supply Company which took place from the mid-1920's onwards. Converter Station commence operation in 1925, converting alternating current from the Osborne Power Station into direct current	*	
2. Person/Gro	for use in the City of Adelaide.	*	
3. Specific E	Event: Associated with the closing down of the adjacent Grenfell Street Power Station.	*	
Architecture			
4. Architect:	E.H. McMichael - 1923.	*	
5. Design:	Simple rectangular building. Functional requirements dictate the design, however, the street facade echoes proportions and elements evident in its immediate neighbours, and thus becomes an important linking element in the complex, interesting detailing repeats features of adjacent buildings.	*	
6. Construction	on: Brick walls, metal windows, glazed sawtooth roof, steel trusses, and corrugated iron roof.	*	
7. Interior:	Utilitarian, appropriate for the building's functional requirements.	*	
8. Representat	cion: Scarce as a building type. Represents an important development in the supply of power to the City of Adelaide, important as part of a Power Complex.		

South Australian Heritage	ITEM	ster of State H EVALUATION SHE dings and Struc	ET						
1978-80	Item	ADELAIDE EL CONVERTER	ECTRIC SUPPLY COSTATION.	OMPANY					
Component Environm	<u>ent</u>	Comme	Grading E VG AG FP NA						
9. Cont	inuity:	The unity o linking wal the pylons	ment in an impo f the brick fac- ls, and visual and power lines nant streetscap	ades and impact of contribute	*				
10. Loca	l Character	red brick b	ral stylistical uildings which o the city area.	ly different define the	*				
11. Land	ll. Landmark:		Part of a complex with high visual landmark qualities.						
Integrit	Y							,	
12. Alte	rations:	however, the	tructure is as le e East Terrace de ed, windows brid	facade has		*			
13. Cond:	ition:	Basically so	ound.	kinning bisayan magapilik majanik papagan bis aan dalaan bisah dalaman kadamisi sang	, apostajika sint		*	noninipos vistorija	eni azi ingi zam nanga
14. Compa	atability:	Still owned as a sub-sta	and used by ETS	SA, but	*			,	
Supplementa	ry Informatio	on '						**************************************	
15. Adapt	cation:	The building large open s	g has a high reu space.	se potentia	l a	s a			
16. Inter	16. Interpretation: The building's interpretative role is contingent upon existing or adaptive use, suitable for active as well as passive interpretation.								
17. Curre	ent Situati	constru may mak	s no apparent taction of a new te this building is owned by E	proposed sul redundant.	o-s	the tat:	e ion		
Evaluated By	Carolyn W Register	igg Architect	Annely A Register	euckens Historian	Date				
Reviewed By					Date	3			
South Austra	lian Heritage	Committee Cate	gorization		Date	3	····		



Extent of Nomination

N.->

GRENFELL ST. POWER HOUSE & CONVERTER STATIONS, ADELAIDE.

TRACTION COMPANY OF AUSTRALIA, GRENFELL STREET, FORMER ADELAIDE ELECTRIC SUPPLY COMPANY CONVERTER STATION, EAST TERRACE, AND FORMER M.T.T. NO. 1

Origins of the Company

The establishment of the Electric Lighting and Traction Company of Australia's (which soon became the Adelaide Electric Supply Company) second power station in Grenfell Street marked the beginning of a critical phase in both the development of the Company and of the electrification of Adelaide and its suburbs. It was also to play a major part in the process of electrifying Adelaide's main form of public transport at that time, the horse trams. There is little doubt that the success of the Adelaide Electric Supply Company and hence of its Adelaide "power-house" in the first decade of the twentieth century played a major role in the growth and transformation of Adelaide into a "modern" city.

In December, 1897, "An Act to authorise and empower 'The South Australian Electric Light and Motive Power Company Limited' to carry on, at Adelaide and elsewhere in South Australia, the business of an Electric Light and Notive Power Company, and to generate, accumulate, distribute and supply Electricity for motive power and lighting purposes," was passed by Parliament two years after the South Australian Electric Light and Motive Power Company Limited first applied to Parliament for the authority to supply electricity within South Australia. The Company had been incorporated and registered in March, 1895, and had its tender for the lighting of the Town of Port Adelaide accepted in August of that year, but the postponement of the Parliamentary Bill meant that it was not until September, 1897, that the Company entered into an agreement with the Town of Port Adelaide to "erect electrical works" for the purpose of street lighting. "Accordingly, early in 1898, the Company started to erect its first power-house, in Nile Street, Port Adelaide; Supply was started on January 1st, 1899, although only half the steam plant had been completed."2

At this time, the Chairman of the Company was Mr. George Brookman and the Company's office was located in Brookman's Building, Grenfell Street. In July, 1899, a Mr. F.W. Wheadon from England was appointed the Company's resident Engineer and he took charge of the Port Adelaide power-house. Shortly afterwards, in late September, the Company sold all its interests to the Brush Electrical Engineering Company Limited, which in turn sold the undertaking in January, 1900, to the Electric Lighting and Traction Company of Australia Limited, an English Company which was already operating power stations in Melbourne and Geelong.

Mr. George Brookman continued on the Adelaide Board as the local Chairman, Mr. Wheadon remained as Resident Engineer, but a Mr. F.W. Clements was appointed Engineer and General Manager of the concern in Australia and was stationed in Melbourne.

Grenfell Street Power House

After a poll of ratepayers in the City of Adelaide in September, 1898, affirmed "that it is desirable that the South Australian Electric Light and Motive Power Company's Act 1897 shall apply within the limits of the Municipality of Adelaide", the Company purchased property at the corner of East Terrace and Grenfell Street which had been previously occupied by Burford's Soap Factory (which had been destroyed by fire) for the purpose of recting a power-station. Evidently, the building of a power-station was commenced but it remained unfinished for some time, a small temporary power-station in a

galvanised iron shed meeting the needs of the Adelaide supply until the completed Grenfell Street power-station commenced operation in November, 1901.

The contract for the Grenfell Street power station was let to a Mr. Nicholas Wallis Trudgen in July, 1900, at the cost of 8,650 pounds, construction beginning in August. Trudgen, one-time Mayor of St. Peters in 1887, was a prominent builder and contractor, and was president of the Builders and Contractors' Association for some time up until 1891. The official opening of the station took place on 19 November, 1901, and some 800 people, including the Mayor and Mayoress of Adelaide, the Attorney-General, "and a number of legislators, the Engineer-in-Chief (Mr. A.B. Moncrieff), members and officers of the City Council, and mayors and councillors and officers of the City of Port Adelaide and suburban towns, and a large number of leading citizens", attended the evening ceremony reflecting the importance attached to the occasion. The Register of 20 November described the buildings as standing, "on a block about two acres in extent, the front portion of which is occupied by the offices. Running parallel with the offices are the engine room and the boiler house. The engine room is 129 ft. long by 40 ft. wide, and is lofty and well ventilated ... A large underground room has been provided for storage batteries, which at an early date will be placed in position. The offices are fairly commodious, and provide accommodation for the technical and clerical business to be done, and for the public. Mains have been laid in nearly all the streets of the business portion of the city, and also in the principal residential portion."

The architect for the building was Alfred Wells, a well-known Adelaide architect who was responsible for designing a number of "notable edifices" in the city including the Exhibition Building, North Terrace (1887), the Adelaide Arcade, Brookman's Building and the Commercial Travellers' Club, "besides several suburban municipal buildings, banks, churches, hotels, and residences for leading colonists." Wells was also architect to the Adelaide Children's Hospital for some years and a former Vice-President of the South Australian Institute of Architects.

Further Developments

In 1902, motor-generators were installed at the new power-station to convert the direct current formerly supplied to alternating current and the first suburban supply, to North Adelaide by underground cable, was commenced. The next major event of note occurred two years later in August, 1904, when the Directors of the Electric Lighting and Traction Company of Australia "decided that it was in the best interests of the Company that its South Australian undertakings should be separated from its other undertakings" and therefore, "sold its Undertaking in South Australia to The Adelaide Electric Supply Company Limited, a Company registered in England on 10th April, 1905, ... The undertakings at Adelaide and Port Adelaide were transferred to the new Company at the purchase price of 162,000 pounds. ... The number of consumers at the date of transfer was 665, with 36 miles of street supplied in the city only."

The new company had two Boards of Directors, one located in London and a local Board, headed by George Brookman, M.L.C. as Chairman, in Adelaide. F.W. Clements continued as Local Managing Director and Chief Engineer, and F.W. Wheadon stayed on as Resident Engineer. Thus, despite a number of changes of name and ownership, a remarkable degree of continuity was maintained in the make-up of the leading members of Adelaide's first electric supply company. George Brookman, for example, had been Chairman of the original South Australian Electric Light and Motive Power Company Limited from 1897-1899, remained as Local Chairman of Electric Lighting and Traction Company of Australia Limited from 1900-1904, was then Local

Chairman of The Adelaide Electric Supply Company Limited from 1904-1921, and after the control of the Company passed to Adelaide on 1 March, 1921, continued on as Chairman of the Board until his death in June, 1927.

One of the first decisions made by the company was to close down the Nile Street power station which had been unprofitable for most of its operational life since 1899, and to transfer the load to the Grenfell Street power station. This was finally achieved on 12 October, 1907, when the Adelaide station became solely responsible for supplying all the Company's customers, both in Adelaide and Port Adelaide, with electric current. This was to be the case until 12 August, 1923 when the new Osborne Power House commenced operation, initially providing half the required load of electricity. Also in 1907, the Company completed an important agreement with the Municipal Tramways Trust, which had been established by Act of Parliament on 22 December, 1906, to provide a temporary supply of power from March of that year to those portions of the old horse-drawn tramway system which were now being electrified.

M.T.T. No. 1 Converter Station

This proved to be an important contract for the Adelaide Electric Supply Company, bringing in a considerable amount of revenue, and was to last for four years until 7 June, 1911 when the Trust opened its own power house. In connection with this temporary supply of power which commenced in March, 1907, the M.T.T. constructed their No. 1 Converter Station on East Terrace adjacent to the Adelaide Electric Supply Company's power station to change the electric current to the proper voltage for their trams. This converter station began operation during late 1908 or early 1909, but in any case, was completed before the official opening of the first electrified tram route to Kensington on 9 March, 1909. The M.T.T. was to continue to use this station until as recently as 1963.

Expansion of Business and the Osborne Power Station

Meanwhile, the Adelaide Electric Supply Company's business expanded rapidly with the increasing demand for their "product" and, "the Directors considered it necessary to extend the boiler room and engine room (of the Grenfell Street Power House) and to add on an extra storey to the office portion of the building. Accordingly, in May, 1912, a congract was placed with Mr. A.R. Maddern, at a price of 9,619 pounds." These extensions were completed the following year. However, such was the growth in demand during the next five years that despite the expanded facilities of the Grenfell Street Power House, the Company was already considering the construction of a new power station at Port Adelaide to supersede the Adelaide one in 1918. At the Company's Annual General Meeting on 29 January of that year, it was reported that, " ... we are quite prepared, when the proper time comes, to put down a new Power House at Port Adelaide, and ultimately to close down our existing Power House at Adelaide and concentrate at the Port, where we shall have an ample supply of water for condensing purposes; (there had been problems at Adelaide with the provision of adequate cooling facilities) and by so doing we should get rid of the present somewhat wasteful and illogical method whereby our coal, which is brought to Port Adelaide in the first place by sea, is transported by rail or road to Adelaide and then a portion of it has to be returned to the Port in the shape of electricity." 10

The decision to "build and equip a new Power House" at Osborne, Port Adelaide, on land leased by the S.A. Harbours Board was made shortly afterwards, in 1919. Work on the foundations of the new station began in 1920 and the completed station was ready by mid-1923. During the building of the Osborne station, the control of the Adelaide Electric Supply Company passed from the London

Boare, which was dissolved on 1 March, 1921, to the Adelaide Board of Directors headed by the Hon. George Brookman. The Director's Report of November, 1921, noted that the Company was presently providing 35,200 customers which electric current and that "a supply of electric light and power is now available in 558 miles of streets" in metropolitan Adelaide. Just over a year later, in December, 1922, a bill amending the Company's Private Act of 1897 was passed by Parliament allowing the Adelaide Electric Supply Company "to extend its mains to any part of the State where a profitable load is available", including country districts which it could not previously supply under the original Act.

Not wasting this opportunity for state-wide expansion, the Company purchased, "the electric lighting plant of the Town of Gawler, which became the starting point for the Company's general scheme of extensions to the Northern country districts." This scheme commenced with the extension of power lines to the Mount Lofty Districts in 1924/25 and was to continue rapidly throughout the 1920's. Even in the mid-1940's, shortly before the promulgation of the Electricity Trust of South Australia Act in 1946, the Company was continuing the development of power facilities to new areas, often taking over existing plants as at Yankalilla (1943) and Maitland (1945).

Adelaide Electric Supply Company 1925 Converter Sub-Station

The new Act marked the beginning of a major phase of expansion for the Company in the mid-1920's; for a start the much vaunted Osborne Power House commenced the supply of electricity on 12 August, 1923, and two years later, in August 1925, was providing the total output required for both the City of Adelaide and metropolitan councils, enabling the Grenfell Street Power House to be completely shut-down shortly afterwards. To assist the Osborne station in meeting the supply for the City of Adelaide, which was still being met by the old Grenfell Street Power Station in 1924, a new rotary Converter sub-station was constructed "at the rear of the old Boiler Room" in this year and came into operation in August of the following year. With the completion of the converter station, the Grenfell Street power house became redundant. Along with the winding down of the Grenfell Street Station, the Company was also transferring other departments such as the Stores, Mains and Meter Departments, and Garage from East Terrace to new larger buildings at Hilton, the Garage being the first building completed and its staff moving there in August, 1924.

The Director's Report of November, 1924 noted that, "when the North Terrace offices are completed the site of the present City offices, power house, etc. with the exception of the rotary sub-station will be sold." The North Terrace offices mentioned above were located in the new six-storey Kelvin Building erected for the Company in 1925 at a cost of 42,975 pounds by Messrs. Cheary Brothers, the architects being Messrs. McMichael and Harris. Thus, the Company had, in a period of some five years, radically enlarged and extended its facilities to cope with the "scheme" of State-wide expansion it now embarked upon. Whereas up to 1920, all its facilities, power house, offices, service departments and garage, were all located on the one site at East Terrace, by the beginning of 1926 the Company had separately situated its own city "office block", a suburban site for its service departments, one of the most up-to-date power stations in Australia at Port Adelaide and the new converter sub-station at East Terrace to supply the City of Adelaide.

The former Grenfell Street Power House and M.T.T. No. 1 Converter Station are therefore important elements, belonging to an early stage of development in the history of electrical generation in South Australia, while the Adelaide Electric Supply Company's 1925 Converter Station relates to a latter period of expansion, and may, perhaps, be not quite as important as the other two items. Nevertheless, the complex as a whole has played a highly significant part during the first 25 years of development of electric power in the State and therefore has additional importance as a historical site.

Footnotes

- 1. The Adelaide Electric Supply Company Limited, Fifty Years of Progress, 1896-1946, Dorothy Wakelin, Adelaide, 1946. Pg. 1.
- 2. ibid, Pg. 9
- 3. ibid, Pg. 14.
- 4. ibid, Pg. 22.
- 5. ibid, Pg. 26 & 27.
- 6. Cyclopedia of South Australia, Vol. I, Pg. 541.
- 7. Wakelin, Pg. 41.
- 8. <u>Development of Street Transport in Adelaide, Official History of The Municipal Transport Trust, 1907-1974.</u>
- 9. Wakelin, Pq. 49.
- 10. From the Annual Director's Reports of the Adelaide Electric Supply Company, 1905-1946, S.A. Collection, State Library of S.A.

A. Aeuckens REGISTER HISTORIAN

10 March, 1982 AA:SK



E.T.S.A.
CONVERTER STATION
48-51 East Terrace,

The historical significance of this item lies in its association with the Grenfell Street power station. Its construction in 1923/24 illustrates the development of the station and also that of the increased demand for electricity in South Australia.

This building still in use as a converter station is rather more important as a streetscape element than as a building of intrinsic architectural merit. The principal elevation to East Terrace is never-the-less stylistically similar to the adjacent School of Plumbing (formerly offices for the Adelaide Electric Supply Company) being comprised of manneristically handled classical elements such as rustication, keystone, arched forms and cornices, the interpretation of which, characterised much of the architecture of this period. Internally the building is of little interest with simple steel trusses, corrugated-iron-sheet-cladding to the ceiling and roughly finished concrete-framing. The curious octagonal feature is of interest, and reflects a similar corner element of the adjacent former Power Station building.

The environmental significance of this item is great because of its contribution to East Terrace, and the fact that it is the central building of three, which because of their construction, style and scale are visually linked, and which, together, make a major contribution to the streetscape.

The external integrity of this item is high - with no significant alterations being apparent. The interior has undergone little change, although modern machinery has replaced that which was installed originally.

D.M.S. 25.5.82

	GE STUDY SUMMARY SHEET 1/1 No. 8/0503-1							CC	CORPORATION USE ONL				
	71 7, 1000 1						-1	A5 ASSESSMENT NO.					
A3 ADDRESS/LOCATION OF ITEM CONVERTER STATION A3 ADDRESS/LOCATION OF ITEM A4 P.T.A. 48-51 East Terrace 155						A6 NATIONAL MAP GRID CO-ORDINATES							
BI CURRENT OWN E.T.S.A.	ER			MINANT USE			133						
1	(6) 05 1754	,		erter St		* .		A7	PREC	INCT			
CZ FURMER UWNER(S) C3 FORMER (ISE/S)						11	F.7 East End						
	Power Genera	ation				***************************************	G1 INVENTORY GRADING		DEVE	LOPM	ENT	ZONE	
EI HISTORICAL PER 1914-1927	- War and So	ocial Cha	ange				B HI LISTING RE-	F7	URTH	ER V	IABII	ITY	
	24.12.1923			,			COMMENDED Yes	3	STUDY	REQ	UIRE	D	
EVALUATION CO	MPONENTS	×	COMMENT		•					GR	RADIN	I G	
HISTORY (J1-J3									E	VG	G	f/p	. NA
J1 PERSON/GROUP	Built for	Adelaide	: Electr	ic Supp]	y Co.						*		
J2 EVENT	ngga (milik) saliman-ga kisani amilik qaba olgi likilingan (e) oktoba oktoba ili	lashlususiyyeyisələlərisiləri (resiyəti erçiyisi) erisisin	elle (+eritare essendation array estimate,	grekolegischer Zeit (große der Stekker stekker ste sterege	es exectly exhibited for the second development of the second developm	ang yana nammilirah shifya na we	ng dalam ng masy kantan ng salih kagamara, ng malihasa na masy n	No.2-erillo delpe	rantziletak irtakliri	works to core		-	
J3 CONTEXT	Identified Adelaide	with th	e devel	opment o	f power	gener	ation in				*	<u> </u>	-
DESIGN (K1-K6)												<u> </u>	<u> </u>
K1 DESIGNER K2 CONTRACTOR	E.H. McMic	hael								*			T_
K3 STYLE	lipkod to									\dashv			
K4 DESIGN	Linked to and interes	period o st_ in a	f Edwar nd inte	dian Bar rpretati	oque, (fon of c	acade Lassica	only) al detail :	ınd		*			
"4 DESIGN	proportion The design prised of	of the	princin	al food	o to Eos	+ T							
K6 CONSTRUCTION	the main en	птапсе						1		\dashv	*	-	
K6 INTERIOR	detailing. Still used								_	_	*		
INTEGRITY (L1 - L	L ment. Gene	erally in	iterior	is simp	ly a lar	ge spa	equern equ	111				.	
L1 ALTERATIONS	Structure 1									*	T		
L2 CONDITION	Very sound,	, in good	l repair	, some v	vater pe	netrat	ion from		-		*	\dashv	_
ENVIRONMENT (M	1-M2)												
MI STREETSCAPE/ LANDSCAPE	A major sup and former this comple	M.I.I.	element onverte	c, comple r Statio	ementing on; the c	the P entral	ower Stati element o	on f	,		-		
M2 LANDMARK	Not a domin		ent			,						*	
OTHER COMMEN	IT											<u> </u>	
MIS Station	n was requir in use as a	ed to co	nvert A er stat	.C. to D	.C. for	use in	n the City	•					
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CITY of ADELAIDE HERITAGE STUDY

THE CITY HERITAGE REGISTER - DEFINITION OF ITEMS

ITEM

E.T.S.A. CONVERTER STATION

ADDRESS

48-51 East Terrace

BUILDING NO.

8/0503-1

