APPENDIX 12

Copy Archival Record and Statement of Heritage Impact, Power House

STATEMENT OF HERITAGE IMPACT

PROPOSED DEMOLITION OF THE POWER HOUSE

Figure 0.1 Western Facade of the Power House. Note the bricked fenestrations
Source: Author Roll 9857 – 23/03/00

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CONTENTS

1.0 THE PROPOSAL

Major changes have occurred in Newcastle and the hunter Region over the past 20 years. The downsizing and eventual decision to close BHP steel making operations and the rationalisation of the coal industry are a reflection of these changes. The BHP steel making site is strategically placed, not only on a local and regional level, but on a State and National level. It has been proposed that the existing site be redeveloped as a major Multi Purpose Terminal servicing the east coast of Australia. The area to be developed as the Multi Purpose Terminal, would require the demolition of all above ground structures located within this area (see Appendices for location plan) to enable remediation of the land and redevelopment of the site. Development of the remainder of the site at a later stage for industrial/commercial purposes is also proposed. The buildings proposed for demolition are:

1. No. 1 Blast Furnace
2. No. 1 Blower House
3. Open Hearth Building
5. No. 1 Bloom & Rail Mill
6. Steel Foundry
10. DC Sub Station
11. Wharves
14. No. 3 Blast Furnace
15. AC Pump House
16. Power House
19. Open Hearth Change House
20. Mould Conditioning Building
21. BOS Plant
23. No. 4 Blast Furnace

2.0 CONTEXT OF THE PROPOSAL

2.1 Physical Context

The site is located at the North Eastern sector of BHP's Port Waratah works. It is at the eastern end of the Proposed Multi-Purpose Precinct.

Under the new legislation, (in Section 91a):

(2) Before granting development consent to an application for consent to carry out the development, the consent authority must, in accordance with the regulations, obtain from each relevant approval body the general terms of any approval proposed to be granted by the approval body in relation to the development. Nothing in this section requires the consent authority to obtain the general terms of any such approval if the consent authority determines to refuse to grant development consent. A Consent granted by the consent authority must be consistent with the general terms of any approval proposed to be granted by the approval body in relation to the development and of which the consent authority is informed. For the purposes of this Part, the consent authority is taken to have power under this Act to impose any condition that the approval body could impose as a condition of its approval.

(3) A consent granted by the consent authority must be consistent with the general terms of any approval proposed to be granted by the approval body in relation to the development and of which the consent authority is informed. For the purposes of this Part, the consent authority is taken to have power under this Act to impose any condition that the approval body could impose as a condition that the approval body could impose as a condition of its approval.

3.0 HISTORICAL REVIEW

The Newcastle steelworks DC electrical power was first generated in what is now the DC Substation by steelworks steam generation to turbines. As a consequence of the works expansion program of the early 1920's shortages in supply were experienced. The demand for AC power was also growing during this period and machinery for a new powerhouse was acquired in 1921, however, financial difficulties delayed the construction of the new Powerhouse until 1924.

During this period the shortfall in power supply was augmented in some part by the purchase of surplus power from the Railway Department's plant in Zaara Street. The new Powerhouse consisted of 4-9, 273 sq. f. boilers powered with Blast Furnace gas and 2-5000 KW Metropolitan Vickers Turbo Alternators. The new Salt-Water Pump house supported this plant. Additional 2-1000 KW motor generators were in place by the end of 1924.

By the middle of 1936, continuing plant expansion also increased the demand for AC electric power. The building was enlarged to accommodate a further four boilers and two new turbines so that by May 1939 the construction of the Powerhouse was complete.

The later part of the 1950's saw the supply of 50-cycle power to the works. The conversion of the Powerhouse alternators from 25 cycles to 50 cycles commenced in 1974 and the Conversion was completed in 1985.

The finalisation of the Powerhouse conversion fulfilled the concept of energy self sufficiency for the Newcastle Steelworks which continued on into the 1990's.

4.0 SUMMARY CONDITION ASSESSMENT

The condition of the subject building is fully described in written and photographic form in the Archival Record document produced to accompany this Statement of Heritage Impact.

Although the building has undergone some brick infill to west end wall and window modifications to east end of north wall and to north-east corner of east wall, it is basically in a sound, secure condition. The ground floor change of level corresponds with what appears to be an extension of the building which is also indicated by change of engaged pier profile on the southern wall. The mezzanine structure is in good condition although that section along the southern facade shows signs of water entry. The older louvre windows are in fair condition only, but all electrical equipment, control rooms and control panels remain in sound condition. The crane mechanism has been dismantled and the hook lies on the ground floor. All pipes are in good order.

Asbestos in the Power House:
Asbestos was widely used on all 7 boilers throughout the plant and in the associated pipe-work as an insulating material. Much of the asbestos had progressively been removed from pumps and turbines during overhaul, however, some remains particularly on interconnecting pipe-work. In the boiler area, asbestos was only removed if required for maintenance work because it was covered in metal sheeting, painted, well documented and regularly inspected.

5.0 ASSESSMENT OF SIGNIFICANCE

The Power Plant has been assessed (1991 Port Waratah Steelworks Conservation Plan) as having Regional significance within the context of the development of the Steelworks.

The following detailed Assessment of Significance has been undertaken to reflect current NSW Heritage Act, Heritage Amendment Act and Burra Charter requirements.

Historic Significance

The Power House represents not only a significant contribution to the development of steel making in New South Wales, but also an important "link" building, tracing the production of industrial electrical energy from the 1920's through to the present. It demonstrates the evolution of a historic phase.
Further, because the Power House was in use until the cessation of steel production, it can be seen to have been directly associated with the evolution of an industrial process/activity of highest regional significance.
As such, it has a highest-level REGIONAL HISTORIC significance.

Aesthetic Significance

The Power House retains specific items of equipment which indicates the developmental influence and growth of electrical power in heavy industry and as such forms a key heritage item of Regional Significance.

However, the building itself is not associated with creative or technical accomplishment, nor is it aesthetically distinctive. Thus it does not have Aesthetic significance.

Social Significance

The Power House has significance by its association with the development of steel making in Newcastle which in turn had an input into the social fabric of Newcastle resulting from the range of specialist skills which were required to services that industry. Like all other buildings within the Steelworks, this building helps define the significant workplace and as such has special social associations for generations of local families. As such this item has LOCAL SOCIAL Significance.

Technical Significance

This building is part of a benchmark site of regional and state significance. It retains most of its fabric and fittings from its operational period. Because The Power House has the potential to contribute to a greater understanding of the technological development and growth of electric power generation at the Newcastle Steelworks, it has REGIONAL TECHNICAL Significance.

Further, since the electrical generation equipment was in continuous use and development from the mid 1920's, the Power Station has highest level potential to provide evidence of the evolution of technology unavailable elsewhere other than in a very few locations in the region. In this context, it is rare.

Overall, the item has highest-level REGIONAL heritage significance.

6.0 OPTIONS FOR PHYSICAL INTERVENTION

The Conservation Plan BHP Port Waratah Site Addendum 1999 described the following options:

"After closure of steelmaking, the 27 items of heritage significance identified in the Newcastle LEP 1987 (as well as all other heritage items identified in this Conservation Plan), will remain in situ until:

a) the item becomes unsafe and/or uneconomic to maintain; or
b) the item is to be removed to facilitate remediation of the site; or
c) the item is sold; or
d) the item is to be removed to facilitate the proposed redevelopment

Where "Front End" items are to be demolished they will, where easily transportable and relocatable, be relocated, to a low impact, operating environment within the overall Steelworks site. Components/elements of existing structures/buildings will be similarly relocated or preferably, be relocated to either the proposed Interpretation Centre or, (if that is not appropriate), to the proposed State Industrial Archaeological Repository, both being within the existing Steelworks site. Items capable of continuing to provide service within a steel-making operation, should be relocated to Port Kembla Steelworks or other iron and steel making operation elsewhere in Australia or the world. Where buildings/structures of higher level significance are demolished and removed, interpretation of the building form at ground level is required (Burra Charter and NSW Heritage Act – As Amended).
This item is to be removed to facilitate this proposal. Therefore in accordance with Burra Charter and NSW Heritage Office requirements, recording and interpretation must be undertaken.

It would be preferable for the building to remain. However, this proposition is considered untenable given:

a) If the Power House remains, it cannot readily be re-used, will require continuous expenditure for stabilisation and maintenance, or it will otherwise deteriorate and become a potential health and safety hazard.

b) Remediation of this area of the site is required. The remediation proposal involves capping the proposed Multi Purpose Terminal site with a monolithic concrete slab.

Off-site (i.e. not in-situ) interpretation, will only be undertaken where on site interpretation is not possible and will involve samples of highest-level fabric/fittings/equipment.

Items which can be removed for re-use elsewhere on BHP Group sites or used for heritage interpretation include:

- turbines
- condensers
- oil coolers
- pumps and filters
- switchboards and
- control panels, including voltage regulator panels
- gantry crane gear
- mezzanine structures
- electrical reactor switches
- Elements which could be removed for interpretation elsewhere on site, include the earlier, marble-faced electrical control panel(s).

7.0 THE HERITAGE IMPACT OF THE PROPOSAL

This item is substantiated as having REGIONAL level significance, therefore demolition of the item to enable development of the Multi Purpose Terminal will impact the significance of the item. The closure of operations at the Newcastle Steelworks impacted the interpretation of the processes of iron and steel making, demolition of the item changes the interpretation of the processes and the significance of the item.

This impact will be ameliorated by fully recording the item in accordance with the NSW Heritage Council Guidelines and by interpretation and protection of the in-situ remains below the pavement of the proposed Multi-Purpose Terminal. The individual site will be interpreted using pavement treatment that can identify the extent of the item and still accommodate the operation of the Terminal. The processes associated with the item will be further interpreted on the main site at Port Waratah via the Delprat Interpretive Centre and supplemented by selected items being deposited in the proposed State Archaeological Repository. However, the physical site will remain and its location will be identified through interpretive design within the pavement of the Multi Purpose Terminal.

8.0 APPENDICIES

8.1 Site Development Masterplan – showing area of proposed Multi Purpose Terminal in yellow

8.2 Site Development Masterplan – showing identified Heritage Items

8.3 Conceptual Paving Pattern to existing Heritage items

ARCHIVAL RECORD

WATERFRONT PRECINCT HERITAGE BUILDINGS, MAIN SITE BHP PORT WARATAH STEELWORKS, NEWCASTLE

POWERHOUSE

Figure 0.1: Power House with Blast Furnaces in background circa 1926
Source: Cranney (1999: 87)

Prepared by:

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Our Ref: 3882-04-rec-008

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Background to the project

Major changes have occurred in Newcastle and the Hunter region over the past 20 years. The downsizing and eventual decision to close BHP steel making operations and the rationalisation of the coal industry are a reflection of these changes. The BHP steel making site is strategically placed, not only on a local and regional level, but also on a State and National level. It has been proposed that the existing site be redeveloped as a major Container Handling Terminal servicing the east coast of Australia. The area to be developed as the Container Handling Terminal would require the demolition of all above ground structures located within this area to enable remediation of the land and redevelopment of the site. Development of the remainder of the site at a later stage for industrial /commercial purposes is also proposed.

In light of the above, EJE Architecture has been commissioned to prepare detailed archival records of the buildings proposed to be demolished that are considered to have heritage value. These records involve documenting the relevant buildings and items they contain as well as the industrial processes that took place within them. Designed to help ascertain the heritage significance of the buildings and associated processes, these archival records also form a statement for the future interpretation of this now redundant part of Newcastle's industrial culture.

The following document constitutes the Archival Record of the Powerhouse - an item classified as having a 'Regional level of heritage significance'[1]

1.2 Archival Recording Methodology

The approach taken in recording these heritage items and the document format is based on heritage consultant input and current NSW Heritage Office's guidelines including those relating to the preparation of archival records and their photographic recording.

A number of important aspects have been identified in the statement of heritage significance included in the report whose recording was necessary to reflect the item's character and value described. Hence it is this statement that drives the rationale for the report and determines the relevance of information collected. Derived from three main elements - buildings (structure and fabric), the individual items they housed and the processes that took place within them - these aspects are elaborated on in a number of different ways, which reflect their respective social, technical and aesthetic qualities.

As a way of dealing with the items various facets of heritage value, the report is broken into 3 main components:

-Written descriptions (history, process and heritage statement),
-Pictorial descriptions (photographs and working drawings)
-Inventories and other supporting information

Together these components create a comprehensive account of the chronological development of both the buildings and the industrial technologies held within them that have invariably changed throughout their lives. At times the components are incorporated into each other to provide a more coherent and illuminating description. All material is cross-referenced to each other and referenced to archival registers and source publications.

[1] Identified individually within Schedule 4 of The Newcastle Local Environmental Plan 1987 and the Port Waratah Steelworks Conservation Plan 1991.

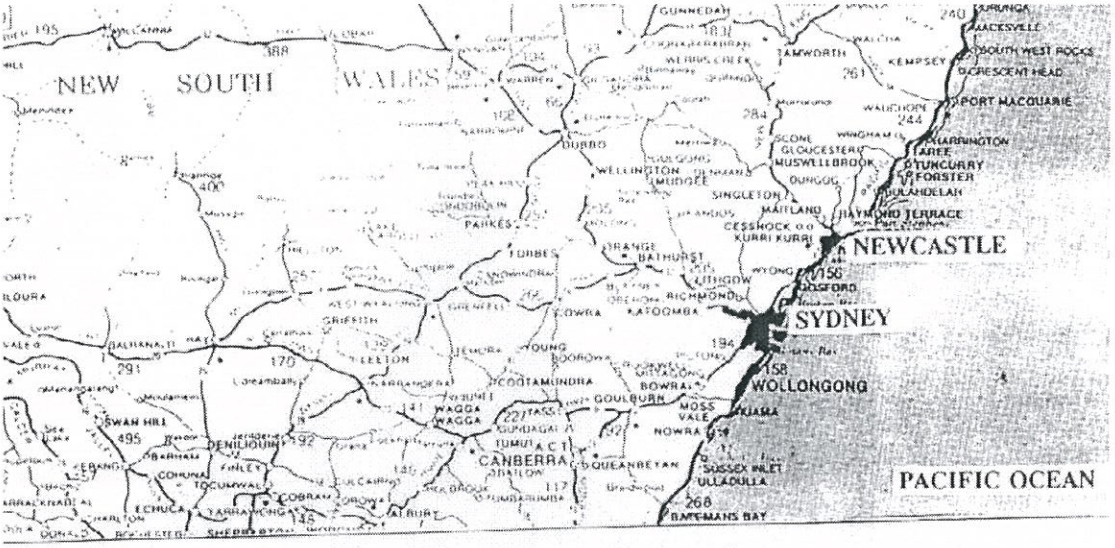
The written descriptions provide a background to the building and the functions that it housed and incorporate relevant photographs. As an essential part of the written component, a statement on the item's heritage significance details why the item is valued.

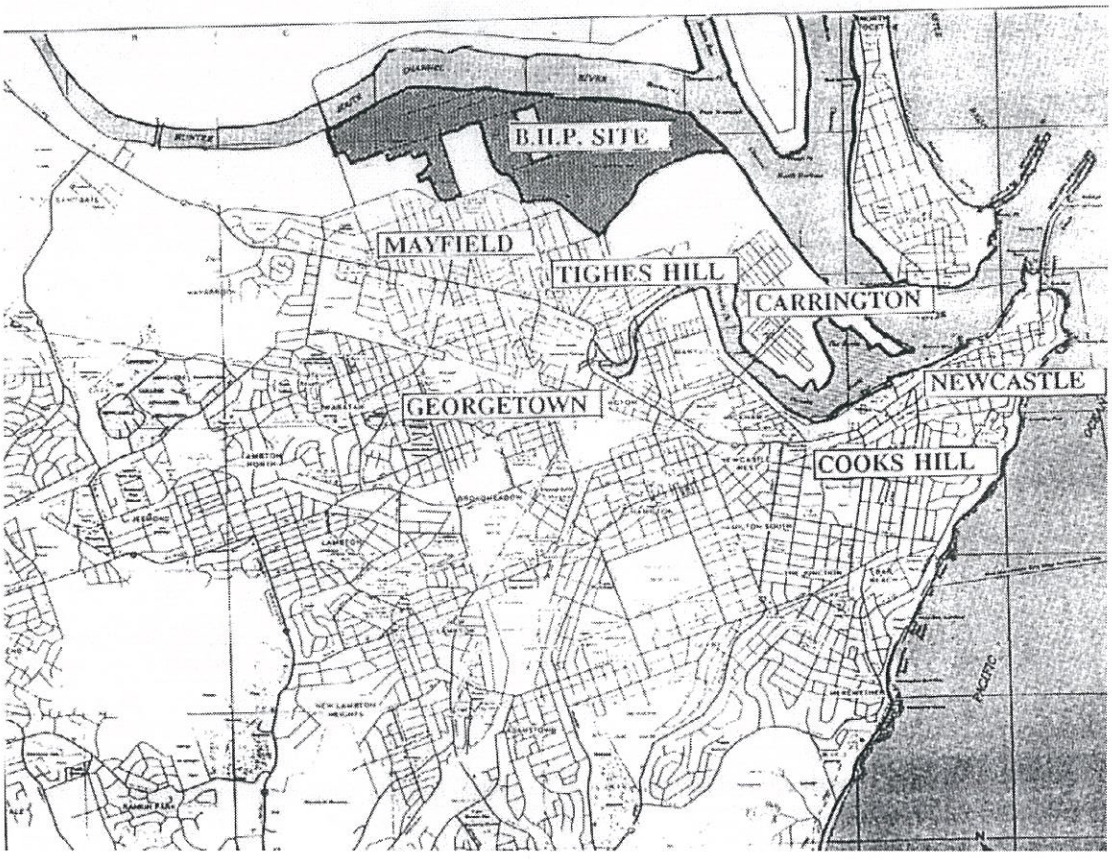
The bulk of the information in this report comes from the pictorial descriptions. Comprising of both historic and contemporary photographs, an account of the building fabric, the various industrial processes contained and the changes that have taken place through time is made. In addition, a selection of original working drawings provide a detailed picture of the construction techniques, structure and fabric details and offer substantial dimensions and measurements, making largely redundant any requirement for contemporary measured drawings or scaled photographs.

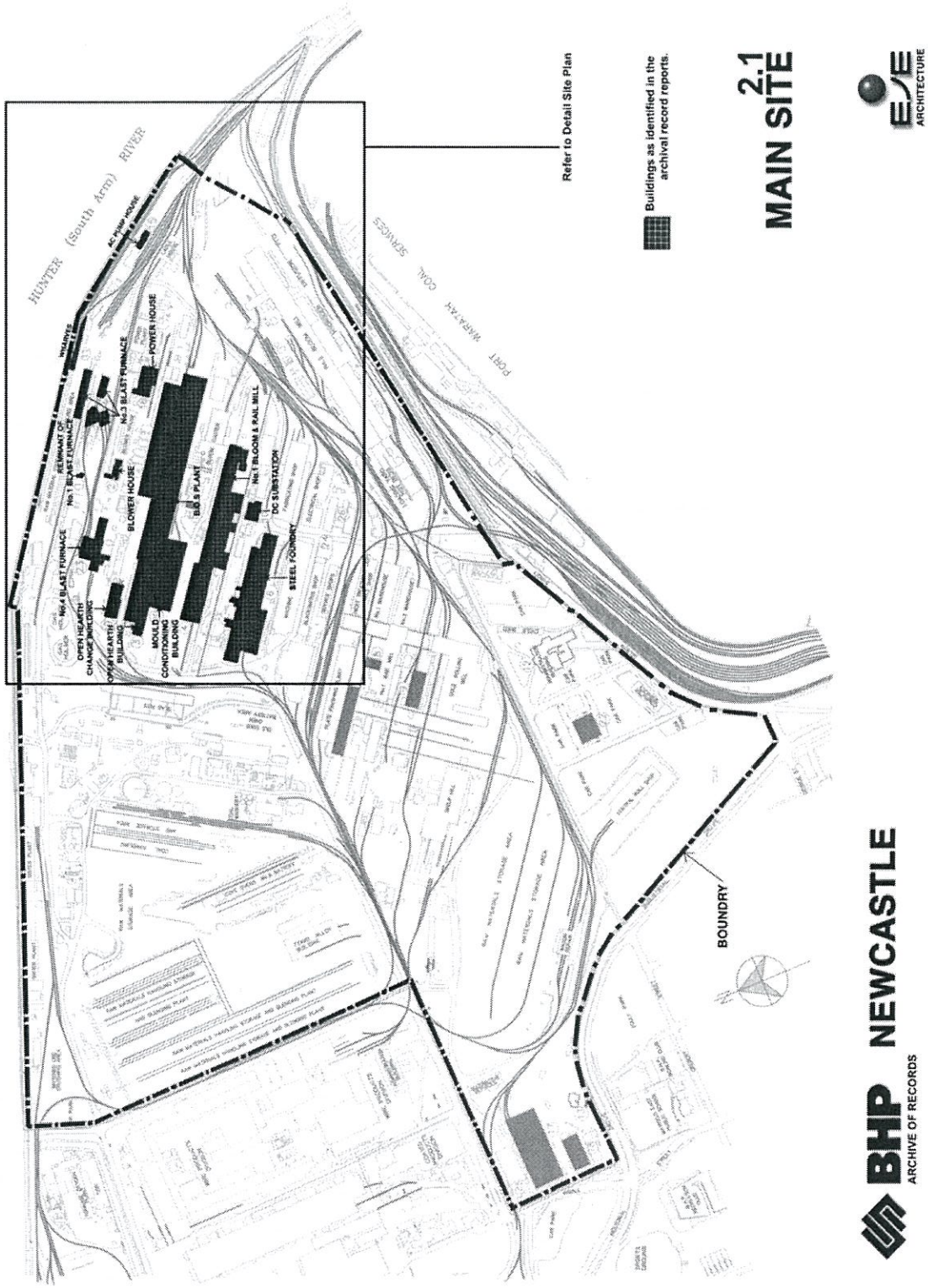
Supporting both the written and pictorial information is a series of inventories and tables which provide details of equipment contained within the building, cross referenced descriptions of photographs and shot locations, and bibliographical information.

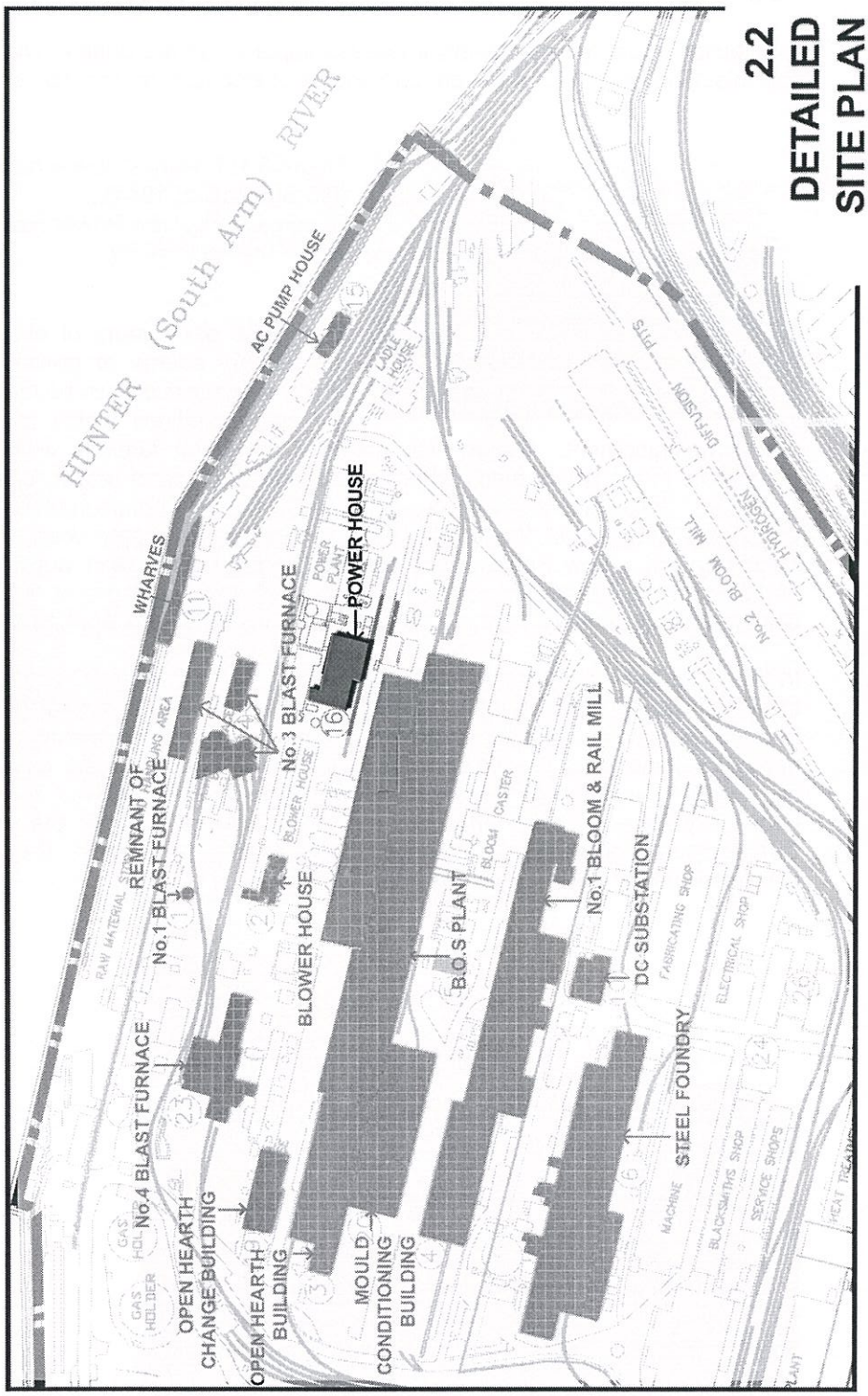
The process of documenting the heritage items involved a number of input teams, of which EJE was the coordinator.

2.0 LOCATION PLANS






HUNTER (South Arm) RIVER
POWER HOUSE
HOLDING
REMNANT OF No.1 BLAST FURNACE
No.3 BLAST FURNACE
No.4 BLAST FURNACE
OPEN HEARTH CHARGE BUILDING
OPEN HEARTH BUILDING
BLOWER HOUSE
B.O.S PLANT
MOULD CONDITIONING BUILDING
No.1 BLOOM & RAIL MILL
DC SUBSTATION
STEEL FOUNDRY
PORT WARATAH COAL SERVICES
Refer to Detail Site Plan
Buildings as identified in the archival record reports.
2.1
MAIN SITE
BOUNDRY
BHP NEWCASTLE
ARCHIVE OF RECORDS
EJE ARCHITECTURE


HUNTER (South Arm) RIVER
AC PUMP HOUSE
WHARVES
POWER HOUSE
No.3 BLAST FURNACE
REMNANT OF No.1 BLAST FURNACE
No.4 BLAST FURNACE
BLOWER HOUSE
OPEN HEARTH CHANGE BUILDING
OPEN HEARTH BUILDING
MOULD CONDITIONING BUILDING
B.O.S PLANT
No.1 BLOOM & RAIL MILL
DC SUBSTATION
STEEL FOUNDRY
2.2
DETAILED SITE PLAN
POWER HOUSE
BHP NEWCASTLE
ARCHIVE OF RECORDS
EJE ARCHITECTURE

3.0 [15]OUTLINE OF HISTORY, INDUSTRIAL PROCESS & DESCRIPTION

This building and the machinery it houses superseded the original DC Substation, commissioned in 1914, as the primary source of electricity for the works.

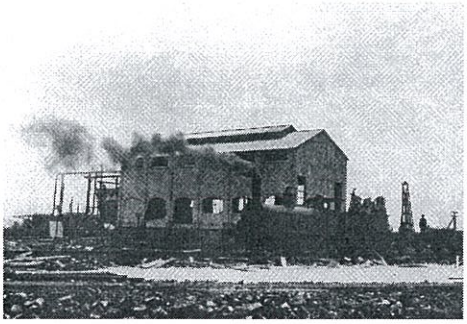


Figure 3.1: Previous Power house
(DC Substation, 1914),.
Superceded by new Power House in 1924.
Source: Cranney (1999:79)

During the early years of plant operation, the primary source of power was steam which was produced in boilers and drove the steam engines which ran the larger pieces of equipment. Steam also provided power for turbines which drove the generators in the power plant, where a secondary source of power, electricity, was produced. Initially the electricity supply was DC but as a consequence of the works expansion program of the early 1920s, shortages in supply were experienced. Machinery for a new Power Plant was acquired by June 1921 but not installed[1], perhaps due to severe financial difficulties which led to closure of the works from Christmas until January 1922, and again from June 1922 until April 1923.[2]

In the latter half of 1923 it was decided to construct the new AC Power Plant and drawings were pushed ahead to enable a start to be made on excavation and piling in early December.[3] A total amount of 6,500 cubic yards was excavated, less than originally planned as it was decided to leave the bottom of the excavations 15" higher than the drawings specified. However, as the subsoil was very soft it was necessary drive an extra 33 piles, making a total of 505, for the foundations.[4] Construction continued throughout the following year and the plant was commissioned at the end of November 1924.

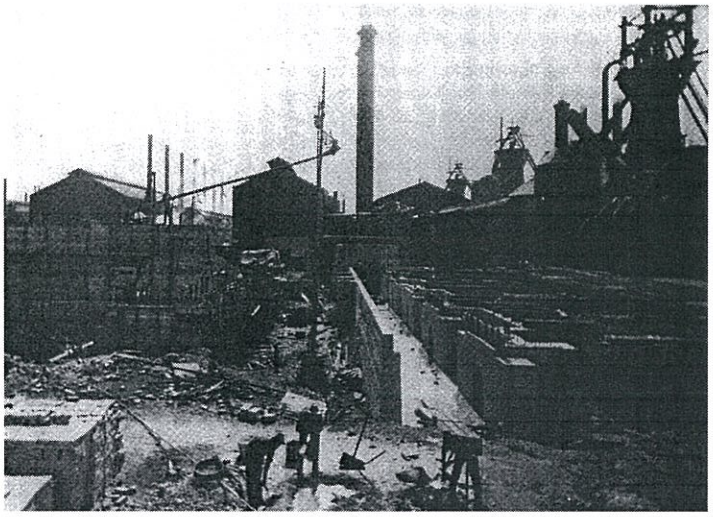


Figure 3.2: Construction of the power house, 1923
Source: Cranney (1999: 85)

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[1] P.P. Cranney, *Fuelling the Fires of Steel: A History of the Coke and Energy Department, Newcastle,* Newcastle, 1999, p.85.
[2] C. Jay, *A Future More Prosperous: The History of Newcastle Steelworks 1912-1999,* Newcastle, 1999, p.114.
[3] Report for six months ended 30 November 1923.
[4] Report for six months year ended 31 May 1924.

The new plant generated an initial high-tension (HT) supply at 6,600 volts and consisted of

- two Metropolitan Vickers turbo alternators (5,000 K.W., 3 phase, 25 cycle, 1,500 rpm), complete with air pumps, condensers and air filters,
- Reyrolle high tension switch gear and transformers,
- four Babcock and Wilcox 9.273 sq. ft. wrought iron frame water tube boilers (having a combined capacity of 180,000 lbs. of steam per hour at 200 psi drum pressure),
- two Weir turbine drive feed pumps, and
- two motor-driven centrifugal circulating water pumps (each having a capacity of 30,000 gallons of water per minute).

The boilers were to be fired with blast furnace gas, but arranged so that either chain grate stokers or pulverized fuel could be used at a later date if desired.[5]

The use of 25 cycle alternators had been opposed by Delprat, who believed that 50 cycle equipment should be installed. "What weighs most on my mind", he wrote, "is the fact that 50 cycles will probably be adopted in Australia as a standard, and therefore the purchase of motors of this velocity will be much easier in the future than for motors of 25 cycles".[6] However, his opinion was disregarded and 25 cycle alternators installed.

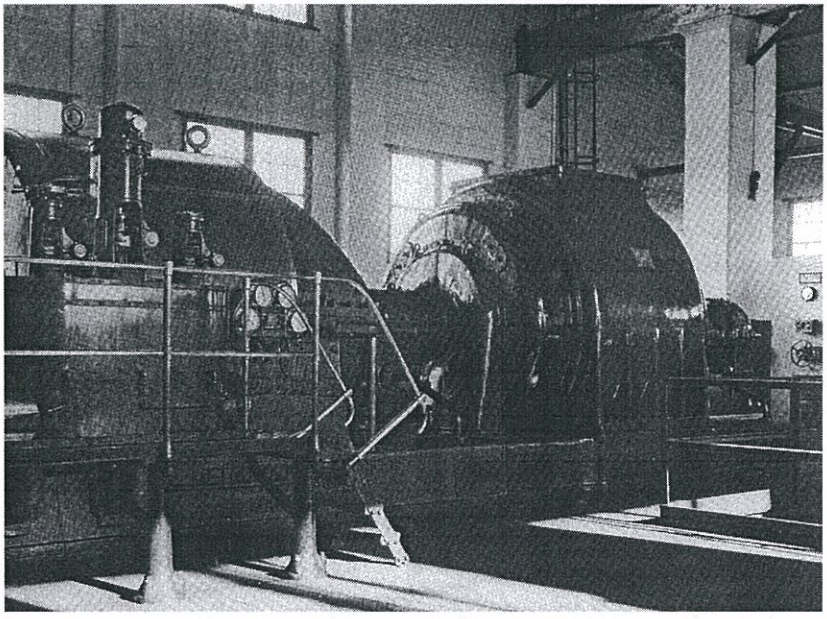

Figure 3.3: No 2 Turbo Alternator
Source: Cranney: (1999:88)

The Zaara Street powerhouse had a 25 cycle alternator, presumably installed when it was first built and this may have influenced BHP's decision to use 25 cycles. There was a 25 cycle pole line feed to the BHP powerhouse from Zaara Street. Comsteel was also supplied with 25 cycle power for an electric furnace, so the Zaara Street generation of 25 cycles was either for this purpose, or to supply the tramway substations.[7]

In February 1925 an 8" steam main was installed to connect the A.C. Power Plant boilers with the interconnecting main between the Blast Furnace and Rail Mill

[5] Report for six months ended 30 November 1924, p.60 and P. Cranney, *Fuelling the Fires of Steel,* p.88.
[6] General Manager to Manager, Iron & Steel Works, 3 August 1918, BHPA:W5/2/1-1.
[7] Information provided by D. Ruddell, former Chief Construction Engineer, Newcastle Steelworks.

boilers, allowing excess steam generated at the Power Plant to be delivered to the Open Hearth, thus reducing coal consumption at the main mill boilers. In May of that year, Rylands were able to effect a considerable saving in electricity costs when they were linked to the new power supply.[8]

During the 1920s and early 1930s considerable additions were made to the plant, including two new Wilputte coke oven batteries, tar macadam plant, Nos.8 and 9 open-hearth furnaces, 18" continuous mill, plate mill and 18" bar mill. A fabricating shop was built in 1927 and extended in 1933.[9] The AC Power Plant was able to meet the demand until 1933, when the installation of additional equipment for the electrification of the merchant skelp and strip mill required the purchase of power from an outside supplier, the Railways Dept. power house at Zaara Street.

To overcome a shortage of steam in 1936, an additional Babcock and Wilcox boiler of 9,273 sq.ft. heating capacity was installed. This boiler was fitted with a Bailey Wall combustion chamber, which was of a very expensive and intricate design.[10] Meanwhile, planning began for the provision of two additional Parsons 18,750 K.W. turbo alternators.[11]

Extensions were made to the Power House to accommodate the new alternators, which were commissioned in September 1938.[12] The arrival at the Steelworks wharf of one of the alternators aroused a considerable degree of attention, as it was the heaviest single piece of equipment unloaded in the Port of Newcastle at that time. Weighing 54 tons, the alternator was lifted by the ship's own gear, which was strengthened for the operation with[13] a 31/2" flexible steel wire rope.

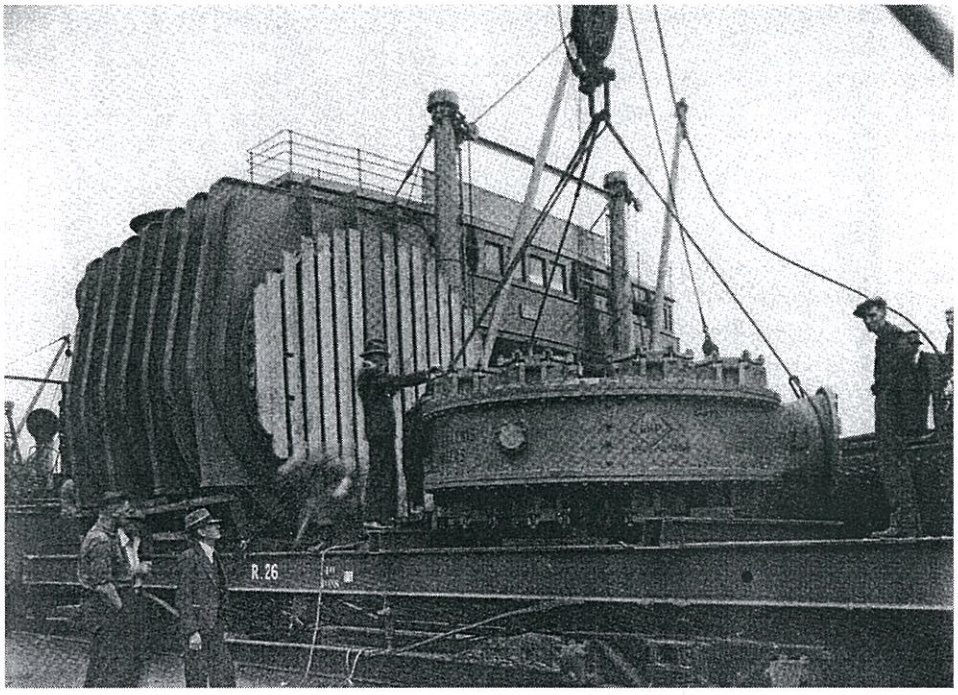

Figure 3.4: Unloading of Alternators
Source: Cranney (1999: 95)

[8] Report for half year ended 31 May 1925, p.72-4.
[9] "List of Major Plant Installations and Extensions at Newcastle Steel Works since 1914", *BHP Review,* (December 1939)
[10] Report for half year ended 31 May 1936, p.141.
[11] Report for half year ended 30 November 1936, p.141.
[12] P.P. Cranney, *Fuelling the Fires of Steel,* p.97.
[13] *ibid.,* p.96.

To provide steam for the alternators, five boilers were housed in a new building, constructed east of the original AC Boiler House. These boilers became known as the Power Plant Boilers, while the five original boilers were subsequently referred to as the AC Boilers. To provide additional cooling water required at the Power House, the AC pumphouse was also extended and three new pumps installed.

Apart from routine maintenance, few changes appear to have been made to the Power Plant until No.6 boiler was commissioned in November 1959.[14] No.7 Power Plant Boiler followed in 1968.[15]

In February 1975, the installation of 50-cycle generation equipment was completed. Nos.3 and 4 units were converted to 50 cycle, but Nos.1 and 2 continued to make 25 cycle. Near the Carpenters Shop was a rotary converter, acquired from Zaara Street when 25 cycle alternators were closed down at that plant. This unit could convert 25 cycle to 50 cycle, and vice versa. 25 cycle power continued to be used in some areas of the works until 1984; the principal users being the Ferro Alloy furnaces. BHP's Power Plant is believed to be the last in Australia to generate 25-cycle power.[16]

In 1984 No.1 Metro Vickers failed and was replaced with an 8.25 Mw Brown Boveri unit which was acquired from the Northern Rivers Power Station near Grafton. The new alternator was installed on the foundations of the old. No.2 Metro also failed, and was replaced in 1987 by a turbo alternator acquired from a power station in Muswellbrook.[17]

Casualties of the economic downturn of the early 1980s were the AC boilers, the last of which were shut down in December 1983.

A study of the cost of power generation in 1994 revealed that BHP could buy power more cheaply than producing it. As a result, January 1995 saw the end of coal fired power generation on the works, after the Company decided to draw 90% of its power from an outside supplier in the hope of saving $15m over the following five years. Two turbo alternators, Nos.3 and 4, were decommissioned after 56 years of operation.

[14] *ibid.*, p.112.
[15] *ibid.*,, p.120.
[16] Information provided by D. Ruddell
[17] *ibid.*, p.124

3.1 The Building Description & Structure

The power station, dating from 1924, appears to be the first building on the site in which concrete was used to encase the riveted steel structure instead of brickwork. This may have been done following an assessment of the corrosion performance of the two, but it also appears from the drawings that at least some of the elements were fabricated and concrete encased before assembly into the building: the drawings show eaves beams as "Pre-cast Concrete Beam", depicted as a steel beam encased in concrete.

Condition

The building is superficially in good condition and does not appear to suffer from the same steel corrosion problems as similar buildings.

Steel condition & protection at BHP Steelworks site

The BHP site in Newcastle is in a "Marine" to "Severe Marine" zone in accordance with AS/NZ 2312:1994 — "Guide to protection of iron and steel against exterior atmospheric corrosion". Now that the localized micro-climate from the operation of the plant has been removed, protection of the steelwork needs to be considered in terms of this Standard.

Observation at the site indicates that none of the steelwork on site has a coating system complying with this Standard for a design life of greater than 5 years. Some of the steelwork, such as the blast furnaces, is not protected at all and has been designed to operate in a hot environment where corrosion is inhibited by high temperatures driving off moisture; other steelwork was designed with extra thickness to form a sacrificial layer. In almost all buildings and in areas nearby the high temperature operations have been successful in keeping the corrosion under control except where steel has been insulated by brickwork which has trapped moisture and corrosion has been severe. There does not appear to be any general galvanic protection (i.e. galvanizing or zinc-rich coating) on major structural elements.

If major structural elements were to be retained on the site for a period in excess of 10 years the Standard gives the following coating systems:

(i) galvanizing plus a two coat paint system (not possible in situ);

(ii) various two and three coat paint systems applied after abrasive blast cleaning and having either a zinc based primer or high-build epoxy;

(iii) a sprayed metal coating followed by a two coat painting system.

Of these, only (ii) is likely to be practical. All would be extremely expensive and require continuing maintenance

4.0 STATEMENT OF HERITAGE SIGNIFICANCE

The Power House is identified within the group identification forming Part B of Schedule 4 (Port Waratah – BHP Steelworks and Office) of "The Hunters Heritage" – Hunter Regional Environmental Plan 1989. The Power House is identified within Schedule 4 of The Newcastle Local Environmental Plan 1987 as having an item of Regional – level heritage significance. (This ascribed level of significance is consistent with the level of significance determined in the Port Waratah Steelworks Conservation Plan prepared by EJE Architecture in 1991). This item does not fall within a Conservation Area and is not included on the State Heritage Register. The following Assessment of Significance has been undertaken to reflect current NSW Heritage Act, Heritage Amendment Act and Burra Charter requirements.

Historic Significance
The Power House represents not only a significant contribution to the development of steel making in New South Wales, but also an important artefact that traces the production of industrial electrical energy from the 1920's through to the present. Because the Power House was in service until the cessation of steel production, it can be seen to show continuity of both a supporting element in the production of iron and steel and as a continually developing industrial process which illustrates development continuity of a Regional Significance.

Aesthetic Significance
The Power House retains specific items of equipment which indicates the developmental influence and growth of electrical power in heavy industry and as such forms a key heritage item of Regional Significance.

Further, the Power House can be seen not only to be a supporting element in the production of iron and steel but also as a continually developing industrial process to the end that the Newcastle steel works was power self sufficient and as such forms a key heritage item of Regional Significance.

Social Significance
The Power House has significance by its association with the development of steel making in Newcastle and for it also demonstrates the growth in specialist skills which in turn had an input into the social fabric of Newcastle resulting from that work. As such this item has Regional Significance as a relic of that endeavour.

Technical Significance
Because the Power House has the potential to contribute to a greater understanding of the technological development and growth of electric power generation at the steelworks it has Regional Significance of great importance.

Further, since the electrical generation equipment was in continuous use and development from the mid 1920's the Power Station has highest level potential to provide evidence of the evolution of technology unavailable elsewhere other than a very few locations in NSW. Therefore it has high Regional Significance.

5.0 INVENTORY OF ARCHIVAL DOCUMENTS

The Following list constitutes the archival documents used for this report and other documents that contain related material for this archival record. For archival drawings, the BHP drawings document register (documents located in the BHP archive, Melbourne) may be found on the computer disk located in the appendix.

Cranney, P.P. Fuelling the Fires of Steel: A History of the Coke and Energy Department, Newcastle, Newcastle, 1999.

Jay, C. A Future More Prosperous: The History of Newcastle Steelworks 1912-1999, Newcastle, 1999.

BHP Review, December 1939.

Newcastle Steelworks Half Yearly Reports: November 1923, May 1924, November, 1924.

Records held at BHP Archives, Melbourne

Discussion with: D. Ruddell, former Chief Construction Engineer, Newcastle Steelworks.