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MONUMENTS PROTECTION PROGRAMME

ELECTRIC POWER GENERATION

Step 3 Report

Commissioned by

English Heritage

Monuments Protection Programme
Electric Power Generation

Step 3 Report

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Michael Trueman
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1. INTRODUCTION

Procedure

Public consultation on Electnc Power Generation is to be carried out following the completion of the step 3 work reported here. For this reason, in carrying out the step 2 work, extracts of the step 1 report (components list, technical description and Pnorities and Recommendations) were circulated together with a list of possible sites to the address list given in the step I report. Because of the apparent lack of study in this field, and in contrast to other industries, it was decided to circulate a very full list of sites drawn from the literature search and questionnaire responses of step I. From these responses, together with a further literature search, a shorter list was drawn up for site assessments. These assessments were carried out in June and July 1995, based on site visits. Copies of recent edition Ordnance Survey 6" maps were obtained from English Heritage, and recent edition 25" maps from Sites and Monuments Records (where available). Early edition Ordnance Survey map coverage was also sought, although that achieved was patchy due to a mixture of availability from Record Offices, libraries and SMRs, together with time constraints. In general, no attempt was made to gain access into sites, unless this proved expedient at the time of the visit. Sites were photographed (as colour print) to aid the writing up process and to allow inclusion of prints with the written assessments.

Scope of Coverage

Step 3 work has been restricted to non-nuclear, non-hydro-electric power generation, excluding power generation in relation to specific industries. Transmission of electricity has been covered to the extent that sub-stations have been included where possible. The exclusion of transmission lines is due to the almost complete absence of information at step 2 on this aspect of the industry. Sites associated with specific industry use have also been excluded on the basis that information about such sites is most readily obtained through the specific industry MPP studies. It is suggested that a review of such sites be made at an appropriate timing. It should also be clear that this study has, by the nature of the industry, been concerned primary with buildings and structures.

Assessment sheets broadly follow the format defined by Cranstone in previous MPP studies. Note also the following·

- On the assessment maps, sites are outlined in red. Buildings (whether part of the site or nearby) that have been demolished since the date of the map's compilation are indicated by a cross.
- Interiors were generally not inspected and condition codes for quality of preservation refer to the apparent survival of form and architecture.
- Items for usetype, fueltype, ac/dc, operator and a period coding are specific to the electricity industry; the codes used are given in appendix.
- The components list for each site gives those components it was possible to identify with reasonable certainty. Further components may exist in some sites where internal inspection was not possible.

2. COMPONENTS

Consultations made at step 2 together with the experience gained during step 3 site visits has identified appropriate additions and modifications to the components list defined in the step 1 report. These are given below, together with the number of instances occurring within the assessed sites. The sites in which each component occurs are listed in appendix 4.

POWER STATION -	as in step 1 report
Accommodation block	Accommodation provided at a generating station or sub-station for the station operator.
Date range:	Periods C and D in particular.
Importance.	High, as survival seems rare.
Number:	2
Administrative block	as in step 1 report.
Number.	28
Ash handling plant	as in step 1 report.
Number.	0
Battery room	as in step 1 report.
Number:	2
Boiler house	as in step 1 report.
Number.	
Boiler	as in step 1 report.
Number:	
Car park	as in step 1 report.
Number:	0
Chimney	as in step 1 report.
Number.	14
Coal bunker	as in step 1 report.
Number.	3
Coal handling plant	as in step 1 report.
Number:	4
Coal store	as in step 1 report.
Number:	5
Coal weigher	as in step 1 report .
Number:	0
Condenser	as in step 1 report.
Number.	0
Control panel	as in step 1 report.
Number:	0

Control room Number.	as in step 1 report 2
Cooling pond Number.	as in step 1 report
Cooling tower Number.	as in step 1 report. 4
Diesel engine Number:	as in step 1 report (note that diesel engines were used as prime movers in generating stations from the 1890s). 0
Entrance gate Number:	as in step 1 report. 9
Fan Number:	as in step 1 report. 0
Flue gas cleaning plant Number	as in step 1 report. 2
Furnace Number·	as in step 1 report 0
Gas engine Number:	as in step 1 report. 0
Gas handling plant Number	as in step 1 report. 0
Gas holder Number:	as in step 1 report. 0
Gas producing plant Number.	as in step 1 report. 0
Gas turbine Number:	as m step 1 report. 0
Generator Number:	as in step 1 report. 0
Jetty Number:	Rather than 'Coal Jetty' of step 1 report, as may have been used for other fuels, especially oil. 7
Laboratory Number·	as in step 1 report. 1
Lear Number	as in step 1 report. 0
Oil storage tanks Number.	as in step 1 report. 0

Other building/structure — covers any building or stmcture where the function has not been identified
Date range — All
Importance — Varies
Number. — 2

Perimeter wall — covers all site perimeter stmctures
Date range. — All
Importance: — Medium to High for early site.
Number: — 5

Power hnll — as in step 1 report.
Number. — 50

Power house — as in step 1 report.
Number. — 5

Pulverising mill — as in step 1 report.
Number: — 0

Pump — as in step 1 report
Number — 0

Pump house — as in step 1 report.
Number. — 1

Railway siding — as in step 1 report
Number: — 4

Reciprocating steam engine — as in step 1 report.
Number. — 0

Refuse destructor station — rather than 'refuse destmctor' in step 1 report.
Number — 4

Settling pond — as in step 1 report.
Number — 1

Steam range — A steam pipe common to the boilers in a power station; all turbines drawing steam via this pipe. From 1950s most power stations were built on the 'unit' principle (individual boilers driving individual turbines) rather than' the 'range' principle. This represented a major change in power station design.
Date range· — Up to 1950s.
Importance. — An *in situ* steam range would have a high value
Number: — 0

Steam turbine — as in step 1 report.
Number. — 0

Stores — as in step 1 report
Number — 2

Switch gallery — Gallery within a generating station where switch gear was house (generally in the power hall.

Date range — Periods C to E.
Importance: — A switch gallery with *in situ* switch gear would be high
Number. — 2

Switchgear — as in step 1 report.
Number: — 0

Switch house — as in step I report.
Number: — 9

Transformer — as in step 1 report.
Number· — 0

Turbogenerator — as in step I report.
Number. — 0

Water turbine — as m step 1 report.
Number — 0

Water wheel — as in step I report
Number· — 0

Weighbridge — as in step 1 report
Number· 0

Wheel pit — as in step 1 report.
Number· — 0

Workshops — as in step 1 report.
Number. — 6

TRANSMISSION SITE - as in step I report

Cable bridge — as m step I report
Number. — 0

Cable duct — as in step 1 report
Number· — 1

Control centre — as in step 1 report.
Number: — 2

Electricity Pylon — rather than 'Pylon' in step 1 report
Number. — 1

Electricity Sub-station — rather than 'Sub-station in step 1 report.
Number. — 31

ADMINISTRATIVE SITE - as in step I report

Office — as in step 1 report.
Number — 1

Showroom — as in step 1 report.
Number: — 1

QUALITY OF COVERAGE

An indication of the quality of coverage achieved is seen in the 'Handlist of Assessed Sites by Period' The following comments are couched in terms of the priorities and recommendations stated in the step I report (these were stated as an ideal and it was anticipated they would be difficult to achieve)

The representation of complete stations is on the whole poor. There is no pre world war II site where all elements of a generating station survive Exceptional sites in this regard are the stations at Todmorden (West Yorkshire) and Battersea (Greater London)

For the period prior to 1890, there is a severe under-representation of the industry, with only three sites in all. To an extent this reflects the exclusion of hydro-electric sites and sites specifically associated with industry use.

By contrast, for the period from 1889 to 1918 (period D), a large number of generating sites survive to varying degrees Those included in the assessment represent the broad range of station layouts and architecmral styles used, although the degree to which varying technology is represented is less certain, as a consequence of limited documentary evidence and restricted inspections of interiors. In no case is original plant known to survive to any degree (the main exception being power hall overhead cranes, which frequently have remained in alternative use). Waste heat and gas stations appear not to survive

For the inter-war period, survival is poorer than hoped for both in the number and extent of sites Battersea power station, in spite of its lamentable state of repair, appears to represent the best example of a complete early national grid station.

For the post-war period, a sample of 1950/60s stations were assessed. The problems of preservation of such sites are considerable, and an approach has been adopted in the assessments of recommending preservation by record as a priority. Any preservation *in situ* is likely to be restricted to very few sites and must be approached in co-operation with the power industry. Of the sites inspected, (Blyth (Northumberland I) would appear to be a good candidate for this on academic grounds. An alternative candidate might be the Ironbridge B station, which is a major landmark within a much-visited and world famous heritage landscape. The site was not formally assessed as it was not identified as being of special technological importance, but it does have a typical 1960s/70s layout and is in operation. The urgency for recording these sites is reflected in the fact that of the eight stations included only two are still operating, the remainder have been or are in the process of being de-planted.

The sample of sub-stations is likely to be strongly biased regionally, reflecting the areas within which work has bee carried out. The variety and architectural interest of these features has been a pleasant surprise and it is suspected that further examples of listable quality may survive in other regions.

In contrast the survival of plant and important intemal fittings has proved to be disappointing, the vast majority of assessed sites being important primarily for their architectural or design features, combined with local or wider historical value. A pre world war II site identified in the future with internal fittings or plant of any quality, should be a priority for protection

For all dates the remains of transmission lines are unrepresented Only in the case of 46 Kensington Court (London. 8), has the firm possibility of such remains been highlighted However. it is known that such underground cabling does survive at

Springwell Colliery (see Coal Industry MPP step 3 assessments Tyne & Wear 21), where it is still functioning (Ayris pers comm). It is quite possible that such survival of cabling occurs on many of the sites assessed for Electric Power and any evaluation of such sites in the face of future development should take account of this possibility.

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