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A SITE PROTECTION AND MONITORING PROGRAMME FOR

E.ON UK

Connah's Quay Power Station

Permit Ref. MP3337SH

THAT DOES NOT REQUIRE REFERENCE DATA TO BE COLLECTED

April 2014
Connah's Quay Power Station
Kelsterton Road
Connah's Quay
Deeside
Flintshire
CH5 4BP

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SUMMARY

This document represents the Site Protection and Monitoring Programme (SPMP) as initially submitted by E.ON UK, to the Environment Agency in accordance with Condition 2.8.1 of Natural Resources Wales Environment Permit MP3337SH. The report was first submitted to Environment Agency Wales within 4 months of the date of issue of the initial IPPC permit in 2007.

The ground below the installation has been examined prior to the station build. It was the conclusion of the investigation that significant pre-existing contamination underlying the installation site is unlikely. Inorganic substances associated with PFA (e.g. sulphates, trace metals) may be present within the Made Ground deposits but are unlikely to form a significant source of environmental risk.

Therefore E.ON UK believes there is no requirement for any further site investigation or the additional gathering of reference data for the site. This document details the proposed infrastructure monitoring and inspection programme for the installation.

1.0 INTRODUCTION

This monitoring programme is produced by E.ON UK in support of the Environmental Permit MP3337SH for Connah's Quay power station

E.ON UK operates a gas power station and gas treatment plant at Connah's Quay, Deeside, North Wales. The plant treats gas from Liverpool Bay for combustion to produce electricity, or to produce gas to supply the National Transmission System (NTS) at Burton Point.

1.1 Site Location

The site installation is approximately 3 km North West of the centre of the town of Connah's Quay, Deeside, Flintshire, in North Wales. The centre of the site is at Grid Reference SJ 2770 7120 (see Figure 1 Appendix A1). The site covers an area of 22.7 Ha and can been seen in figure 1 of Appendix A1.

The western part includes the site of the power station and gas treatment plant. It also includes a grassland area further to the west and an 11 Ha nature conservation "mitigation area". The eastern part comprises part of the previous Connah's Quay Power Station site. The areas of the parts of land comprising E.ON ownership at Connah's Quay are given in Table 1.

Table 1 : Areas of E.ON owned land at Connahs Quay

Area	Acres	Hectares
Western	192.9	78.1
Eastern	38.4	15.5
Total	231.2	93.6
Environmental Permit Installation Boundary Footprint	56.1	22.7

The western part of land is bounded to the north by the River Dee River Dee and its estuary, which is a Site of Special Scientific Interest (SSSI) to the west by the Oakenholt Stream, to the east by a 400 kV substation and land belonging to NGC. To the south, the site is bounded by the Chester to Holyhead railway line except at the Rockcliffe rail tunnel, where the site abuts the north side of the A548 Connah's Quay to Flint road.

1.2 Details of Installation

Details of the power station plant

The power station comprises of four single shaft (i.e. rigidly coupled gas turbine, steam turbine and generator) combined

cycle power trains, or units. Air is drawn from the atmosphere via roof-mounted filters, compressed and passed to the combustion chambers where it is mixed with natural gas and burned. This produces a high pressure, high temperature, gas which drives the turbine and, via the common shaft, the electrical generator. Each gas turbine has an output of 231 MW for ambient conditions of 10°C.

Each gas turbine exhausts directly to a heat recovery steam generator (HRSG) which supplies a steam turbine comprising a combined high pressure (HP) and intermediate pressure (IP) cylinder and low pressure (LP) cylinder. The combined cycle total guaranteed gross output is 363 MWe with a gross efficiency of 55.8%. The exhaust gases exiting from each HRSG are dispersed to the atmosphere via an 85m high chimney stack.

The gas turbines include a Dry Low NO_x combustion system (DLN2), which under normal operating conditions results in values of NO_x between 25 and 35mg/m^3. A project is underway to modify the combustion system to the latest DLN2.6 specification to meet forthcoming changes in Emission Limit Values (ELV) to air for the site. At the time of writing modification of Unit 4 was completed in 2013, with Unit 2 programmed for works in 2014 and Units 1 and 3 in 2015.

Beneath each LP turbine cylinder is a condenser, each with its own cooling water (CW) supply. Condenser cooling water is circulated through low level hybrid cooling towers, where the heat is rejected to atmosphere via conduction, convection and primarily evaporation. Evaporative loss of water is made up by water from a make-up storage/settling pond. To prevent the build-up of dissolved solids and control scaling in the circulating water system, a small percentage of the flow is purged to a storage pond. Twice each day, for a period from one hour before to two hours after high tide, water is abstracted from the River Dee to fill the make-up storage and settling pond. The contents of the purge storage pond are discharged to the River over a period of up to three hours commencing one hour after each high tide. The CW system is protected against biological fouling of heat exchange surfaces by the controlled injection of csodium hypochlorite at throughout via various points of the cooling water system . The aim is to inject only sufficient Chlorine Dioxide to satisfy the reactive demand within the system, consequently yielding only very low levels of residual chlorine dioxide / chlorite in the purge storage pond.

The station currently also have two temporary auxiliary boilers, fired on natural gas, with a thermal rating of 17 MW, each which provide steam during plant start-up and shut-down for gland sealing, and to supply the steam turbine HP cylinder heating etc. during periods when steam is unavailable from the HRSG. Their operation is integral to site startup. The installation is developing a longer term plan to replace this temporary plant with a new, permanent, state of the art set of auxiliary boilers which are capable of meeting fluctuating

steam demands requirements in current market conditions.

There are also 4 x 2200 KVA diesel generators for emergency use to maintain essential site supplies during any emergency shut-down.

Details of the gas treatment plant

The plant consists of a Pre-Treatment section, a Nitrogen Rejection Unit and a Gas Compression system. The Pre-Treatment section includes gas metering, molecular sieve absorbers to remove water, hydrogen sulphide and other sulphur compounds and a mercury removal vessel to protect the downstream equipment from possible traces of mercury. The activated carbon adsorbent in the mercury removal vessel is expected to have a life in excess of the anticipated plant life and should not therefore require replacement. The Nitrogen Rejection Unit is a Joule Thompson cryogenic unit reducing the nitrogen concentration of the gas to 5%. The rejected nitrogen stream contains 1.5% methane and is used as the regeneration gas for the molecular sieves. The off-gas from the molecular sieves is oxidised in the Thermal Oxidiser. The regeneration gas is heated in a natural draught gas fired heater.

The pressure of the treated gas is raised in the Compression section to the 55-75 bar (g) required for injection into the National Transmission system. A Ground Flare is used to safely flare the full plant gas inventory in the event of an emergency de-pressurisation. The flare is also used for disposal of regeneration gas at plant start-up and for the routine depressurisation of the molecular sieves.

The Thermal Oxidiser is fitted with a heat recovery system in which the hot gas leaving the oxidiser is used to pre-heat the incoming gas in a shell and tube heat exchanger. The main emissions to air are from the 45 m stack on the Thermal Oxidiser. There are no releases of water from the process. All surface water, including fire fighting water is directed to the Power Station drainage system.

Other solid or liquid releases from the process are handled in the Power Station system. There is a 0.23KVA Fire pump Diesel and a 0.105KVA Emergency Diesel to maintain essential site supplies during any emergency shut-down.

2.0 OBJECTIVES

The objectives of this report are:

To design a monitoring programme for the installation to:

- Monitor the effectiveness of pollution prevention infrastructure and

- To review and if necessary amend the inspection, testing and maintenance programme for pollution prevention infrastructure at the installation to ensure their continued integrity.

3.0 MONITORING PROGRAMME

3.1 Objectives of the Monitoring Programme

The main objectives of the monitoring programme are:

- To monitor the effectiveness of infrastructure and management procedures and provide a warning of loss of containment
- To assist at permit surrender, to confirm no loss of pollutants from the site.

The procedures detailed within this site protection and monitoring programme will continue during the life of Environmental Permit MP3337SH. These procedures will be subject to review and modification following changes to infrastructure, working practices and any guidance or statutory requirement relevant.

3.1.1 Objectives of the Environmental Monitoring Programme

Prior to the construction of the Connah's Quay installation, the site footprint was subject to an investigation project to identify any potential contamination within the land beneath the plant. The desktop studies have revealed concentrations of arsenic (marginally elevated with respect to reference concentrations) and molybdenum present may reflect the extensive use of PFA as a fill material in the Made Ground of the power station foundations.

From the data it was concluded that the site would be unlikely to be classified as 'contaminated land' under Part IIA of the Environmental Protection Act (1990) and that Made Ground underlying the site presented a 'low risk to the environment'. Following submission of the IPPC permit application and the first version of this document, it was agreed with the Environment Agency's agreement, that no further monitoring of land and/or groundwater issues will be occur at that time

3.1.2 Objectives of Infrastructure Monitoring Programme

An infrastructure monitoring programme has been set up, including regular assessment, recording and reporting of monitoring results. This is facilitated by a company computer based maintenance management system, which generates work orders and programmes, as well as recording sign off from completed actions and plant history. Items in place include:

- Suitable bunding surrounding all tanks which may contain potentially polluting substances.
- A regular inspection programme to ensure all bunds are empty and there are no leaks or damage.
- Interceptors to process collected surface waters to

prevent loss of oil to drainage.

- A regular inspection programme for relevant interceptors.
- A planned preventative maintenance programme to all major items of equipment.
- Service intervals for major pieces of plant in line with manufacturer's recommendations.
- An environmental management system, certified to ISO 14001: 2004.
- Documentation for accident response procedures in event of an environmental or other accident.
- Inspection and maintenance programmes for areas of hard-standing across the installation.
- Inspection and maintenance programme for areas of waste storage across the installation.
- The computer based maintenance system ensures the continued regular recording and reporting of maintenance results and allows site operatives to maintain close control and record of plant maintenance issues.

3.2 Environmental Monitoring Infrastructure

3.2.1 Location

Drawings of the proposed monitoring locations can be found in Drawings 1 to 3 of Appendix A2.

3.2.2 Groundwater Monitoring

The site footprint was fully examined in an environmental contaminated land investigation, prior to the development of the installation. The considerable areas of hard standing across the installation also minimises the possibility for contamination of groundwater at the site. It is therefore proposed that no on-going groundwater monitoring will be carried out at the installation during the life of the Environmental Permit.

3.3 Environmental Monitoring Programme

There are no proposals for any further monitoring of groundwaters, soil or soil vapours within the installation. Therefore, there is no requirement for any additional environmental monitoring other than that already completed in accordance with the requirements of the environmental permit for the installation.

However, in case of environmental emergency, then the installation will employ adverse methods to minimise the potential for pollution and maximise incident prevention. In the advent of an environmental emergency, then CQCP1008 Environmental Incident Management Plan & GMI-MAN013 Emergency

& Business Continuity Plan (EBCP) will be followed. If it is assumed or discovered that potential pollution to ground has occurred, then additional extraordinary environmental monitoring will be employed to identify the possibility of any pollutant loss. Additional monitoring of aqueous discharges, site groundwaters, and potential infrastructure damage will be duly considered, following discussions with the Natural Resources Wales, who will be consulted from the moment of incident notification.

3.4 Infrastructure Monitoring Programme

The existing inspection, testing and maintenance of pollution prevention infrastructure programme meets the objectives identified within Section 3.1.2 above and thus there are no changes to the EMS programme for the installation summarised within the Permit Application.

3.4.1 Personnel Issues

Personnel responsible for the inspection, testing and maintenance of pollution prevention infrastructure are to be trained to an appropriate level to ensure compliance with the Infrastructure Monitoring Programme. Roles and responsibilities for undertaking the Programme (including reporting) and ensuring adequate competence of staff held by the site.

3.5 Assessment and Reporting Procedures

3.5.1 Assessment Procedure

The assessment procedure for the identification of potentially polluting activities is based on the company's Engineering Risk Management Standard PEM 218 General *Civil Structures and Infrastructure*. This sets specifications for engineering inspections of tanks and buns, and alongside information from the existing ASR Appendix D2 *Assessment of Land Pollution Potential* a table of Infrastructure Monitoring and Inspection Programme has been drawn up and is detailed in Appendix B table B1.

3.5.2 Reporting Procedure

Summaries of the monitoring data will be sent to the Agency on the 31st January each year, along with the results of the data assessment, and any recommendations for amendments to the monitoring programme.

Details of reporting responsibilities and requirements are contained in the site environmental management system and are supplemented by documents such as Local Management Instructions, Operational Procedures and a Near-hit reporting system. Loss of containment and / or pollution of land / ground water / surface water would be reported to the Natural Resources Wales in line with the requirements and timescales

of the reporting and notification sections of the Environmental Permit.

3.5.3 Recording and Data Management

The infrastructure monitoring programme data will be stored on the site computer based maintenance management system. Details of any plant items that are rendered redundant and decommissioned will be recorded in the plant closure file. This will also record location, condition and contents and any other information that may be of use when the Environmental Permit is surrendered.

4.0 OTHER ISSUES

None

5.0 REFERENCES

- E.ON UK GMI MAN013 : Emergency & Business Continuity Plan
- E.ON UK GMI-PEM218 General Civil Structures
- E.ON UK GMI-PEM004 Reservoirs
- E.ON UK GMI-PEM112 Plant Modifications

6.0 GLOSSARY

APPENDIX A

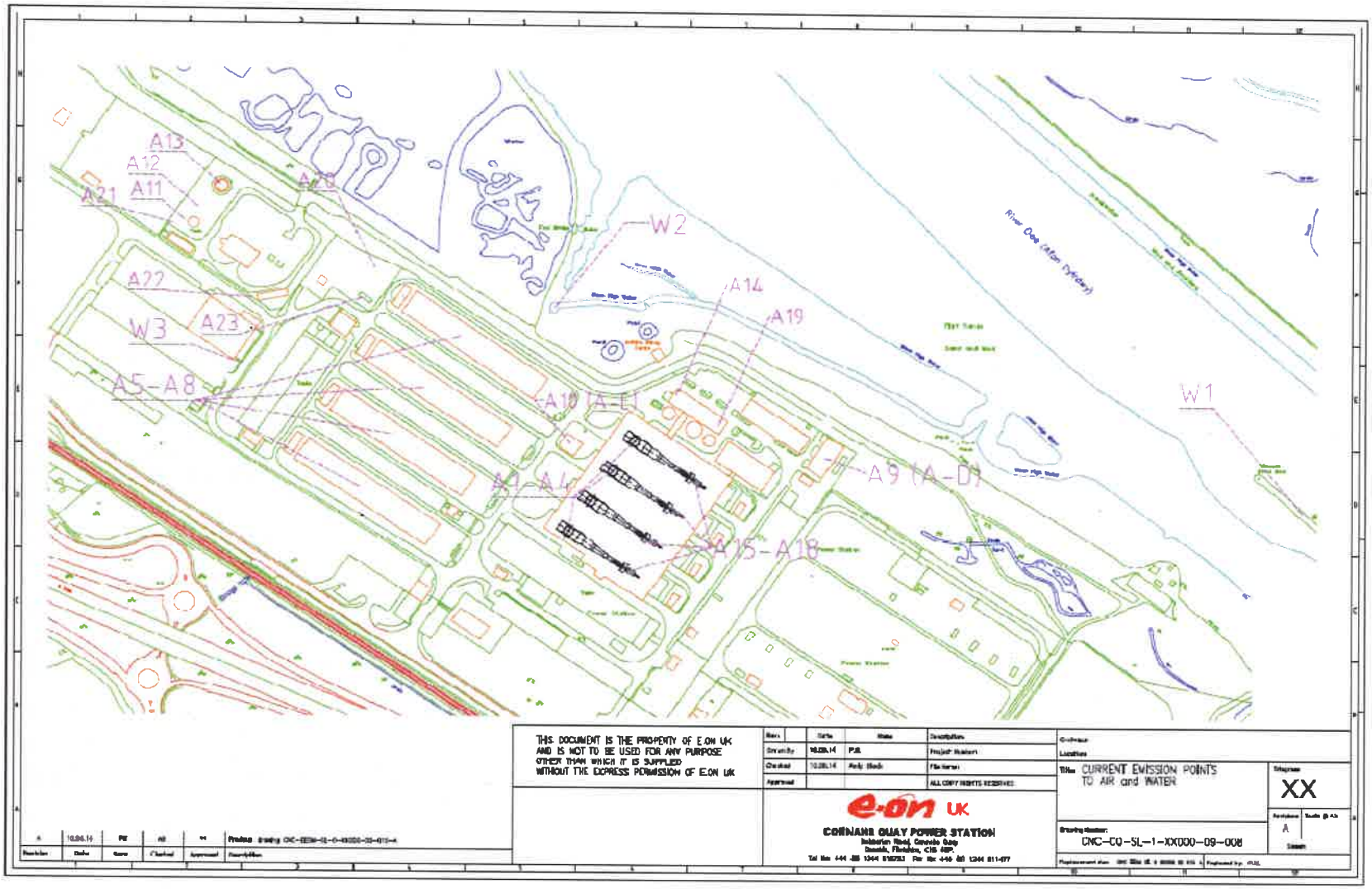
FIGURES AND PLANS

Contents

A1 Plans

A2 Drawings

A1 Figure 1:- Installation Location


A13
A12
A11
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A5-A8
A10 (A-E)
A9 (A-D)
A15-A18
W1
River Dee (Afon Dyfrdwy)
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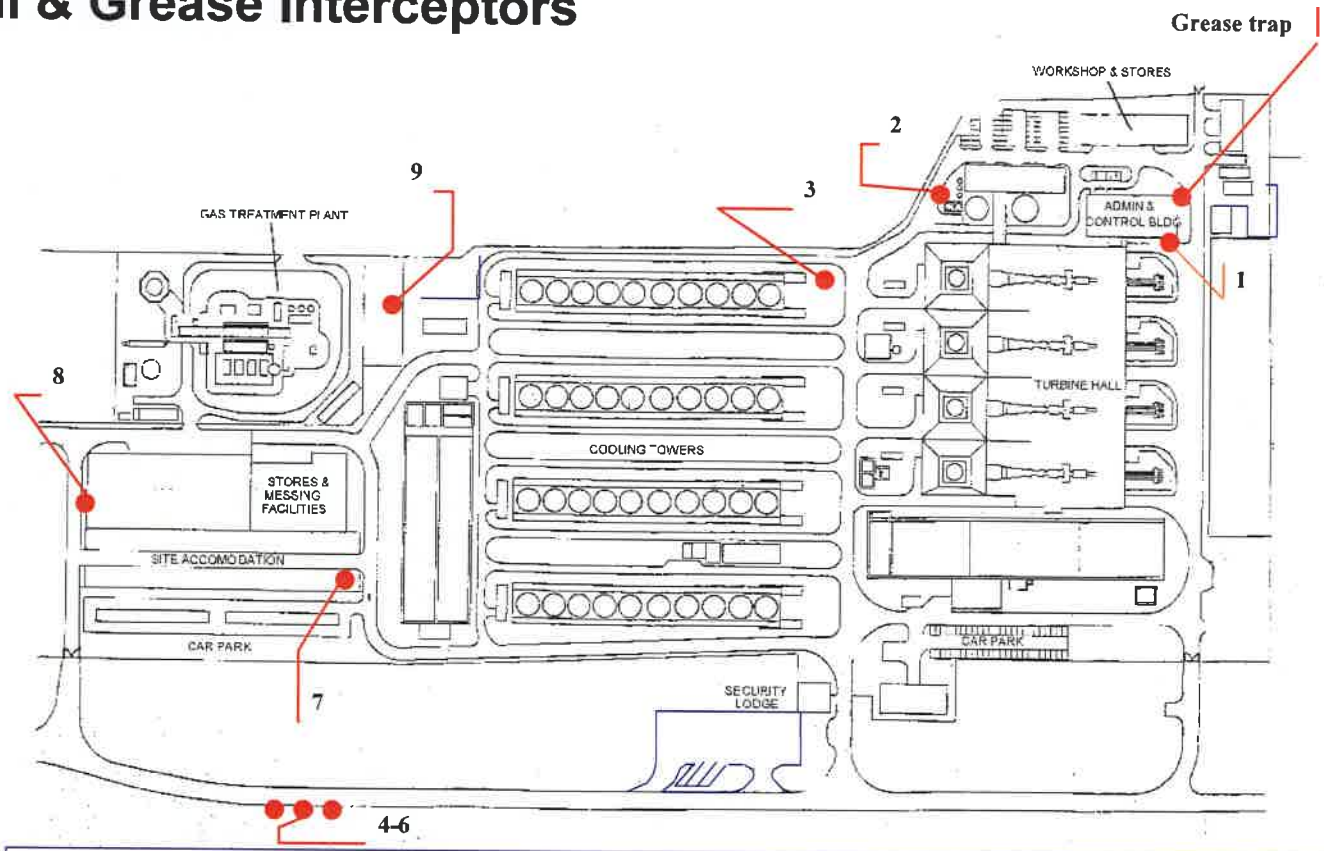
CONNAHS QUAY POWER STATION

A2 Drawings:- Drawing 1 Oil Interceptor locations

Connah's Quay Power Station - Site Plan
Oil & Grease Interceptors



(1)	Admin Block SPEL No. 300 series	(7)	Gate to Contractor's Compound CONDER 3 stage Series A
(2)	Water Treatment Plant SPEL No. 100 series		
(3)	East end U1Cooling Tower SPEL No. 300 Series	(8)	New Stores (opp football pitch) SPEL No. 300 Series
(4-6)	Access Road E&W Klargester KB3/4 and outlet chamber	(9)	Gas Treatment Plant SPEL

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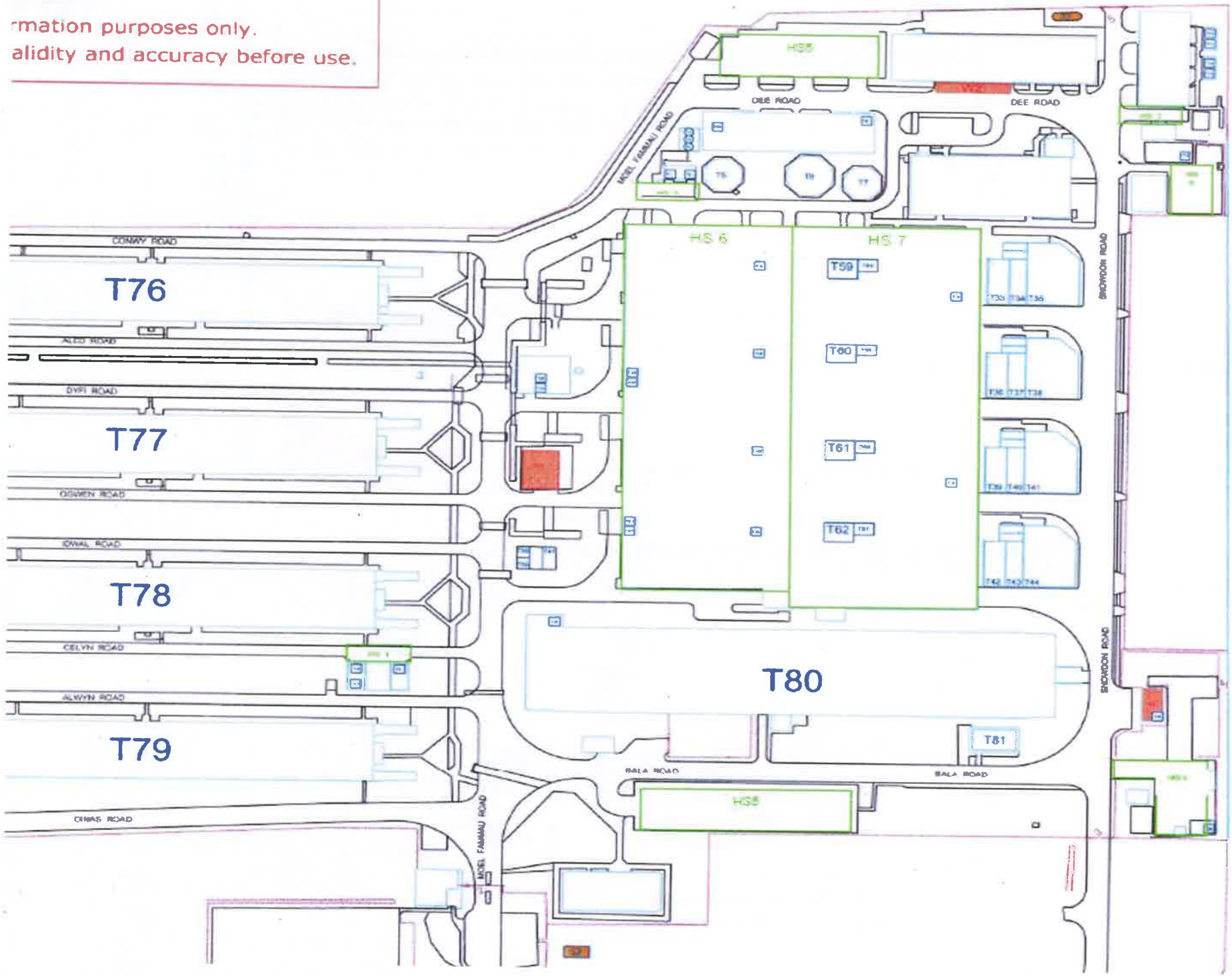

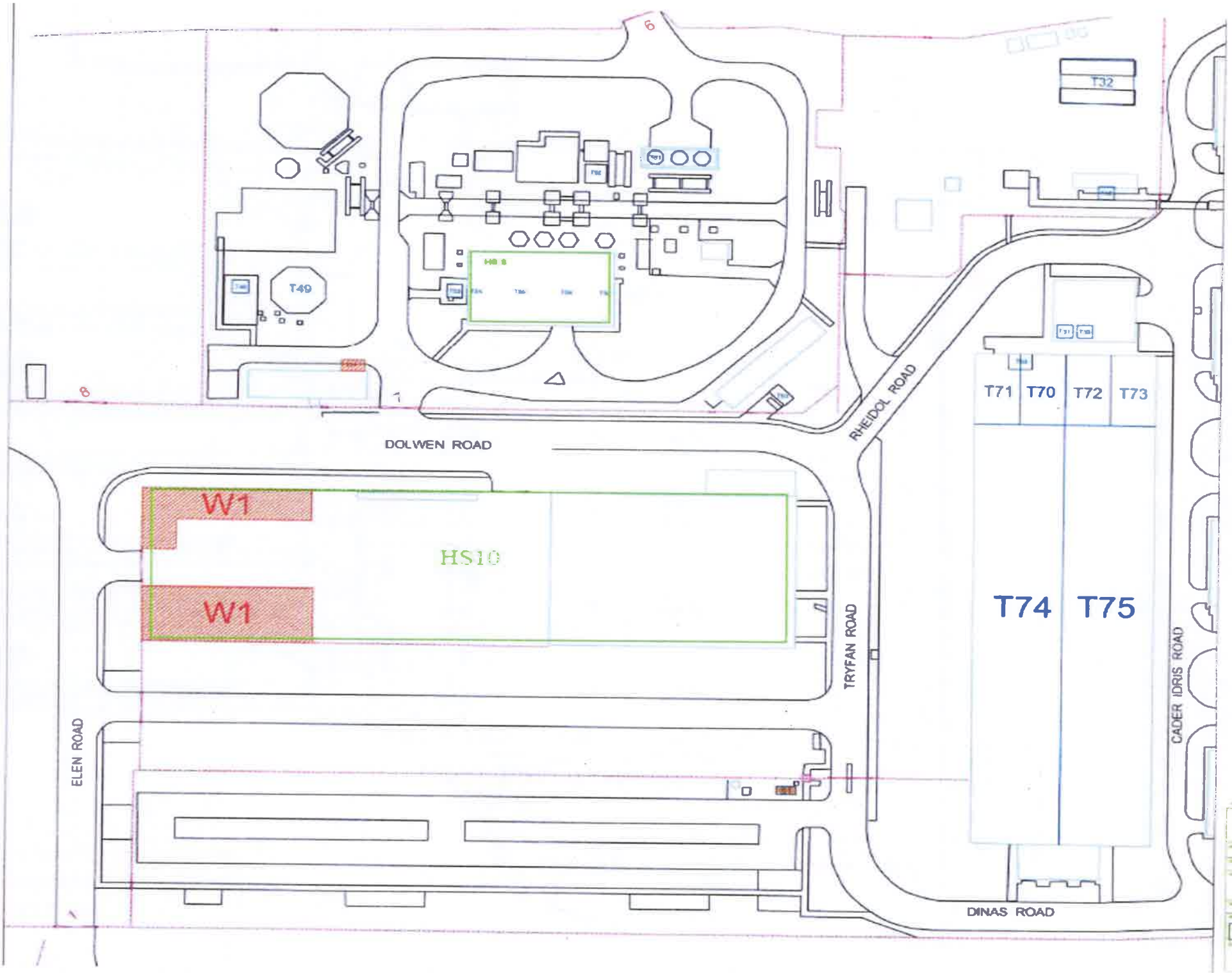

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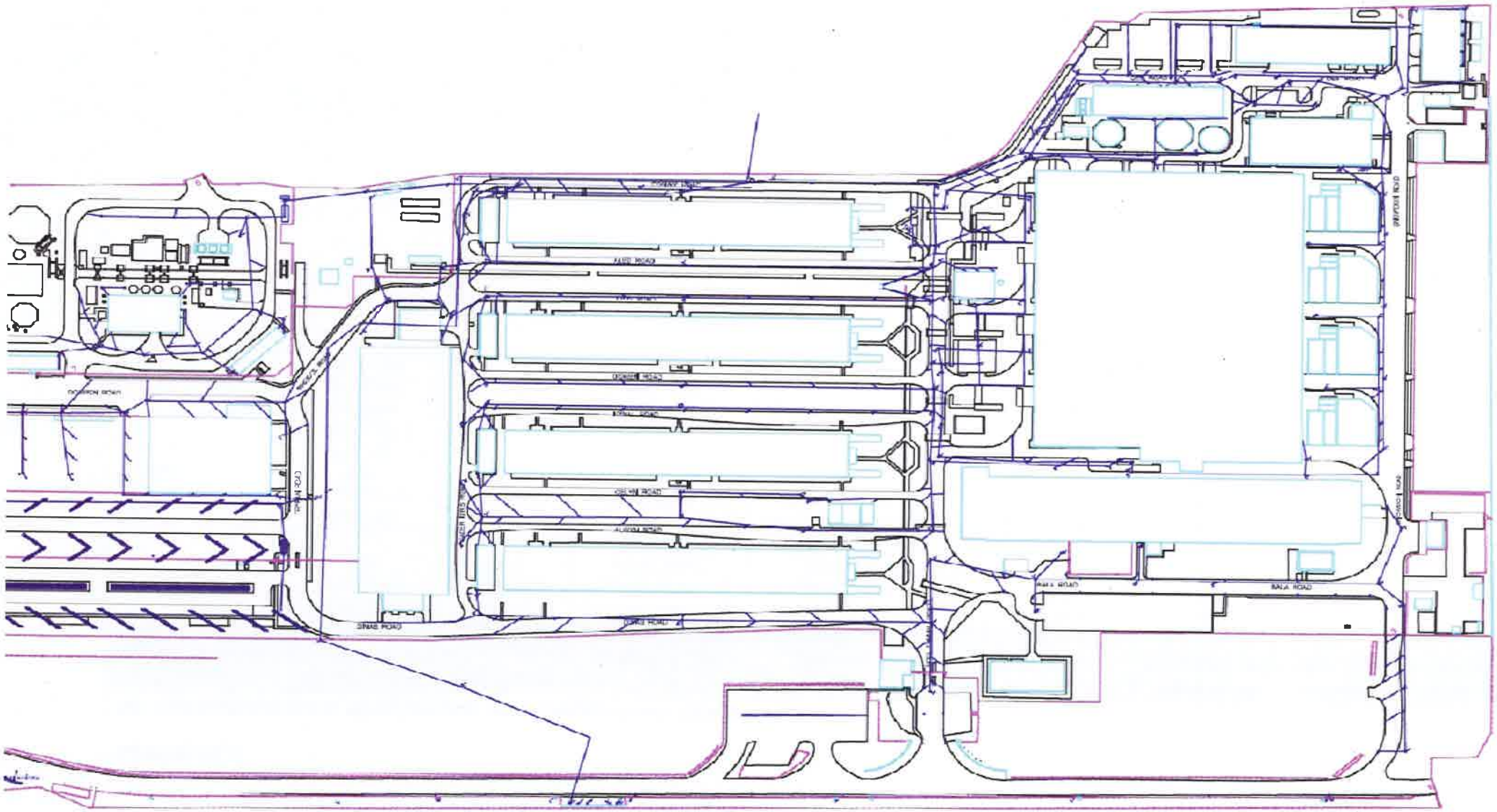

APPENDIX B

B1 Infrastructure Monitoring and Inspection Programme

Tank Identification	Substance	Location	Tank Inspection Frequency	Bund Inspection Frequency	Surface water in Bund	Bund/Tank Integrity	Remedial Action	Completion Check
T1 (09SDATK060)	Hydrochloric Acid 35%	Water Treatment Plant	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
T2 (09 SDA TK050)	Sodium Hydroxide 46% CAS No. 1310-73-2 volume stored 34.6 te	Water Treatment Plant	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		

T3 (09SDATK070) and **T4** (09SDATK080)	Demineralised Water Treatment plant effluent	Water Treatment Plant	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
Tank Identification	**Substance**	**Location**	**Tank Inspection Frequency**	**Bund Inspection Frequency**	**Surface water in Bund**	**Bund/Tank Integrity**	**Remedial Action**	**Completion Check**
T5 (09SDATK040)	Demineralised Water	Water Treatment Plant	Three monthly inspection by Engineer	N/A	N/A	Five Yearly		
T6 (09SERTK001) and **T7** (09SERTK002)	Demineralised water with 1 mg/m^3 Ammonia	Boiler Feedwater	Three monthly inspection by Engineer	N/A	N/A	Five Yearly		
T8 (09SEB Water Tank)	Potable Water	Boiler Feedwater	Three monthly inspection by Engineer	N/A	N/A	Five Yearly		
T9 (Tank 09JPD Diesel)	Diesel Fuel CAS No:	Fire Fighting	Three monthly inspection by Engineer	N/A	N/A	Five Yearly		

	68334-30-5							
T10 (09LLPTK001) **T11** (09LLPTK002) **T12** (09LLPTK003) **T13** (09LLPTK004)	Diesel Fuel CAS No: 68334-30-5	Emergency Electrical Generation	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
T14 (09CTI TK001)	Sodium Hypochlorite 15% CAS No.: 007681-52-9	Cooling Water Biocide	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
Tank Identification	**Substance**	**Location**	**Tank Inspection Frequency**	**Bund Inspection Frequency**	**Surface water in Bund**	**Bund/Tank Integrity**	**Remedial Action**	**Completion Check**
T15 (09CTE TK005)	Purate	Cooling Water Biocide	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
T16 (09CTETK006)	Sulphuric Acid 96% CAS No.: 7664-93-9	Cooling Water pH control	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
T17 (09CTETK004)	Sulphuric Acid 25% CAS No.: 7664-93-9	Cooling Water pH control	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
No identification other than the substance as they are	Ammonia Solution 35% CAS No. 7664-41-7	Boiler Water pH control	Three monthly inspection by Engineer	N/A	N/A	Five Yearly		

delivered in standard IBC								
T18 (12SIRTK104) **T19** (34SIRTK104)	Ammonia Solution 6% CAS No. 7664-41-7	Boiler Water pH control	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
T20 (12SIRTK301) **T21** (34SIRTK301)	Sodium hydroxide 5% CAS No .1310-73-2	Boiler Water pH control	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
Tank Identification	**Substance**	**Location**	**Tank Inspection Frequency**	**Bund Inspection Frequency**	**Surface water in Bund**	**Bund/Tank Integrity**	**Remedial Action**	**Completion Check**
T22 (01SIRTK401) **T23** (02SIRTK401) **T24** (03SIRTK401) **T25** (04SIRTK401)	Tri sodium phosphate (.01%) CAS No. 7601-54-9	Cooling Water pH control	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
T26 (12SIRTK201) **T27** (34SIRTK201)	Hydrazine (2000ppm) CAS No. 302-01-2	Boiler water oxygen scavenger	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
T28 (09XCATK001)	Tri sodium phosphate (.01%) CAS No. 7601-54-9	Not In Use	Not In Use	Not In Use	Not In Use	Not In Use		

T29 (09XCATK002)	Corroban NO Diethyl hydroxylamine (DEHA)	Not In Use	Not In Use	Not In Use	Not In Use	Not In Use		
T30 (09SDXTK060)	Sodium hydroxide 5% CAS No. 1310-73-2	Chemical Waste Drains Water pH control	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
T31 (09SDXTK050)	Sulphuric acid 5% CAS No.7664-939	Chemical Waste Drains Water pH control	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
Tank Identification	**Substance**	**Location**	**Tank Inspection Frequency**	**Bund Inspection Frequency**	**Surface water in Bund**	**Bund/Tank Integrity**	**Remedial Action**	**Completion Check**
T32 Above Ground Installation (AGI) Fuel Gas Heaters	Heat Transfer liquid Thermocal C (monoethylene glycol) CAS No:107-21-1 30% mix in water	Above Ground Installation (AGI)Gas Heater	Three monthly inspection by Engineer	N/A	N/A	Five Yearly		
T33 SFC Transformer (01 TDV 22 TR)	Transformer Insulating oil	Insulating oil, transformers east side of turbine	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		

		hall						
T34 Unit Transformer (01 GE01 V 210 TP)	Transformer Insulating oil	Insulating oil transformers east side of turbine hall	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
T35 01 Generator Transformer	Transformer Insulating oil	Insulating oil transformers east side of turbine hall	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
T36 SFC Transformer (02 TDV 22 TR)	Transformer Insulating oil	Insulating oil transformers east side of turbine hall	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
Tank Identification	**Substance**	**Location**	**Tank Inspection Frequency**	**Bund Inspection Frequency**	**Surface water in Bund**	**Bund/Tank Integrity**	**Remedial Action**	**Completion Check**
T37 Unit Transformer (02 GEV 210 TP)	Transformer Insulating oil	Insulating oil transformers east side of turbine hall	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
T38	Transforme	Insulatin	Three monthly	Three monthly	N/A	Five		

02 Generator Transformer	r Insulating oil	g oil transformers east side of turbine hall	inspection by Engineer	inspection by Engineer		Yearly		
T39 SFC Transformer (03 TDV 22 TR)	Transformer Insulating oil	Insulating oil transformers east side of turbine hall	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
T40 Unit Transformer (03 GEV 210 TP)	Transformer Insulating oil	Insulating oil transformers east side of turbine hall	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
T41 03 Generator Transformer	Transformer Insulating oil	Insulating oil transformers east side of turbine hall	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
T42 SFC Transformer (04 TDV 22 TR)	Transformer Insulating oil	Insulating oil transformers east side of turbine hall	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		

Tank Identification	Substance	Location	Tank Inspection Frequency	Bund Inspection Frequency	Surface water in Bund	Bund/Tank Integrity	Remedial Action	Completion Check
T43 Unit Transformer (04 GEV 210 TP)	Transformer Insulating oil	Insulating oil transformers east side of turbine hall	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
T44 04 Generator Transformer	Transformer Insulating oil	Insulating oil transformers east side of turbine hall	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
T45 Lube oils Store Waste lube oil tank	Waste lube oil	Insulating oil transformers east side of turbine hall	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
T46 (09CTI TK002)	Sodium Hypochlorite 15%	Biocide trimming control , settling pond	Visual check weekly	Visual check weekly	Checked weekly	Yearly		
T47 GT Blade wash sump	Waste wash water with up to 2% detergent	Gas turbine wash water storage,	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		

		west side of HRSG Hall						
T48 GTP fire pump diesel tank	Diesel fuel	Fire fighting , GTP	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
T49 GTP fire water storage tank	Potable water	Fire fighting , GTP	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
Tank Identification	**Substance**	**Location**	**Tank Inspection Frequency**	**Bund Inspection Frequency**	**Surface water in Bund**	**Bund/Tank Integrity**	**Remedial Action**	**Completion Check**
T50 W1301 GTP Emergency Diesel Generator Diesel tank	Diesel fuel	Emergency generator , GTP	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		
T51 Molecular sieves	Molecular sieve material	Water removal,Gas treatment	Three monthly inspection by Engineer	N/A	N/A	Five Yearly		
T52 GTP activated Carbon Adsorbent	Activated Carbon Adsorbent	Mercury in gas removal,Gas treatment	Three monthly inspection by Engineer	N/A	N/A	Five Yearly		
T53 CGP WF Foam Tank GTP Fire fighting foam storage tank 09 CGP WF	Di-ethylene glycol monobutyl ether	Fire fighting foam, GTP	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked weekly	Five Yearly		

T54 GTP compressor 1 lube oil tank	Mineral oil	Lubrication of compressor parts, GTP	Three monthly inspection by Engineer	N/A	N/A	Five Yearly		
T55 GTP compressor 2 lube oil tank	Mineral oil	Lubrication of compressor parts, GTP	Three monthly inspection by Engineer	N/A	N/A	Five Yearly		
T56 GTP compressor 3 lube oil tank	Mineral oil	Lubrication of compressor parts, GTP	Three monthly inspection by Engineer	N/A	N/A	Five Yearly		
Tank Identification	**Substance**	**Location**	**Tank Inspection Frequency**	**Bund Inspection Frequency**	**Surface water in Bund**	**Bund/Tank Integrity**	**Remedial Action**	**Completion Check**
T57 GTP compressor 4 lube oil tank	Mineral oil	Lubrication of compressor parts ,GTP	Three monthly inspection by Engineer		N/A	Five Yearly		
T58 Hydrazine storage bund	55%hydrazine hydrate	Boiler feedwater SE corner of site	Visual check weekly	Visual check weekly	N/A	Yearly		
T59 (01TGRTK001) Main Lube oil tank	Mineral Oil	Various lubrication processes , Turbine Hall unit 1	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
T60	Mineral	Various	Three monthly	Three monthly	N/A	Five		

(02TGRTK001) Main Lube oil tank	Oil	lubrication processes, Turbine Hall unit 2	inspection by Engineer	inspection by Engineer		Yearly		
T61 (03TGRTK001) Main Lube oil tank	Mineral Oil	Various lubrication processes, Turbine Hall unit 3	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
T62 (04TGRTK001) Main Lube oil tank	Mineral Oil	Various lubrication processes, Turbine Hall unit 4	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
Tank Identification	**Substance**	**Location**	**Tank Inspection Frequency**	**Bund Inspection Frequency**	**Surface water in Bund**	**Bund/Tank Integrity**	**Remedial Action**	**Completion Check**
T63 (09SDA Effluent Sump)	Demineralised Water Treatment plant effluent (Mainly water with various)	Water Treatment Plant	N/A	N/A	N/A	Five Yearly		
T64 (01GFRTK001)	Control fluid / hydraulic	Various lubrication	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		

	fire resistant fluid (Anvol PE46)	processes , TurbineHall U1						
T65 (02GFRTK002)	Control fluid / hydraulic fire resistant fluid (Anvol PE46)	Various lubrication processes , TurbineHall U2	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
T66 (03GFRTK003)	Control fluid / hydraulic fire resistant fluid (Anvol PE46)	Various lubrication processes , Turbine Hall unit 3	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
T67 (04GFRTK004)	Control fluid / hydraulic fire resistant fluid (Anvol PE46)	Various lubrication processes , Turbine Hall unit 4	Three monthly inspection by Engineer	Three monthly inspection by Engineer	N/A	Five Yearly		
Tank Identification	**Substance**	**Location**	**Tank Inspection Frequency**	**Bund Inspection Frequency**	**Surface water in Bund**	**Bund/Tank Integrity**	**Remedial Action**	**Completion Check**
T68 (09SDXTK010) Boiler Clean Drains Sump	Boiler blow down water and water	Boiler blow down water and water	N/A	N/A	N/A	Five Yearly		

	treatment plant neutralised effluent	treatment plant neutralised effluent						
T69 (09SDXTK020) Boiler Clean Drains Sump	Boiler blow down water and water treatment plant neutralised effluent	Boiler blow down water and water treatment plant neutralised effluent	N/A	N/A	N/A	Five Yearly		
T70 (09SDXTK030) Site Waste Water Sump	Boiler blow down water and water treatment plant neutralised effluent, and effluent from Treated Oily drains discharge (see T81)	Boiler blow down water and water treatment plant neutralised effluent, and effluent from Treated Oily drains discharge	N/A	N/A	N/A	5 Yearly		
Tank Identificati	**Substance**	**Location**	**Tank Inspection**	**Bund Inspection**	**Surface water in**	**Bund/Tank Integrity**	**Remedial Action**	**Completio n Check**

on			Frequency	Frequency	Bund			
T71 (09SDXTK040) Site Waste Water Sump	Boiler blow down water and water treatment plant neutralised effluent, and effluent from Treated Oily drains discharge (see T81)	Boiler blow down water and water treatment plant neutralised effluent, and effluent from Treated Oily drains discharge	N/A	N/A	N/A	5 Yearly		
T72 (09SDXTK050) Sludge Holding Tank	Sludge removed from settling pond (T80)	sludge removed from settling pond	N/A	N/A	N/A	5 Yearly		
T73 (09SDXTK060) Sludge Holding Tank	Sludge removed from settling pond (T80)	sludge removed from settling pond	N/A	N/A	N/A	5 Yearly		
T74 (09CPC Purge Pond A West)	Purge water containing sodium hypochlori	Purge water containing sodium hypochlor	N/A	N/A	N/A	5 Yearly		

	te / chlorine dioxide.	ite / chlorine dioxide.						
Tank Identification	**Substance**	**Location**	**Tank Inspection Frequency**	**Bund Inspection Frequency**	**Surface water in Bund**	**Bund/Tank Integrity**	**Remedial Action**	**Completion Check**
T75 (09CPC Purge Pond B East)	Purge water with sodium hypochlorite / chlorine dioxide.	Purge water containing sodium hypochlorite / chlorine dioxide.	N/A	N/A	N/A	5 Yearly		
T76 (01CVF Unit 1 cooling Tower Pond)	Purge water with sodium hypochlorite / chlorine dioxide.	Cooling water for the condenser. West side HRSG Hall	N/A	N/A	N/A	5 Yearly		
T77 (02CVF Unit 2 cooling Tower Pond)	Purge water with sodium hypochlorite / chlorine dioxide.	Cooling water for the condenser. West side HRSG Hall	N/A	N/A	N/A	5 Yearly		
T78 (03CVF Unit 3 cooling Tower Pond)	Purge water with sodium hypochlorite / chlorine dioxide.	Cooling water for the condenser. West side HRSG Hall	N/A	N/A	N/A	5 Yearly		

T79 (04CVF Unit 4 cooling Tower Pond)	Purge water with sodium hypochlorite / chlorine dioxide.	Cooling water for the condenser. West side HRSG Hall	N/A	N/A	N/A	5 Yearly		
Tank Identification	**Substance**	**Location**	**Tank Inspection Frequency**	**Bund Inspection Frequency**	**Surface water in Bund**	**Bund/Tank Integrity**	**Remedial Action**	**Completion Check**
T80 (09 CPC Settling Pond)	Estuarine abstracted water with sodium hypochlorite / chlorine dioxide	Estuarine abstracted water with sodium hypochlorite / chlorine dioxide	N/A	N/A	N/A	5 Yearly		
T81 (09SEO Oil Interceptor Sump)	Oily water drains from site turbine hall diesel generators HRSG Hall	Site oily drains separator system	N/A	N/A	N/A	5 Yearly		
T82 (09SDXTK080 Condensate sump)	Waste condensate	Waste condensate from gas heater boilers	N/A	N/A	N/A	5 Yearly		
T83 (09SDXTK070	Boiler blow down	Boiler blow down	N/A	N/A	N/A	5 Yearly		

waste water neutralisation Tank)	water and water treatment plant neutralised effluent, and effluent from Treated Oily drains discharge	water and water treatment plant neutralised effluent, and effluent from Treated Oily drains discharge						
Tank Identification	**Substance**	**Location**	**Tank Inspection Frequency**	**Bund Inspection Frequency**	**Surface water in Bund**	**Bund/Tank Integrity**	**Remedial Action**	**Completion Check**
T84 (09GFR) CO2 compressors bund	Rain water blind bund	H_2/CO_2 skid	N/A	N/A	Weekly	5 Yearly		
T85,T86,T87 Boiler clean drains recovery system common bund for 3 tanks 09SEB TK010 09SEB TK020 09SEB TK030	Boiler blow down water	West of unit 3	N/A	N/A	N/A	N/A		
T88	Chlorine Dioxide Storage Tank :	At Eastern end of settling	Three monthly inspection by Engineer	Three monthly inspection by Engineer	Checked Weekly	Five Yearly		

	Settling Pong	pond by Unit 1 Turbine Halll Entrance						

Areas of Hard-standing

The site areas of hard standing will be inspected annually, under the site computer based maintenance inspection system

Identification	Location	Visual Examination	Civil Engineer Examination	Remedial action	Completion check
HS 1	CTE Tanker Off Loading bay	One Year Inspection by Engineer	Five Yearly		
HS 2	CTI Tanker Off Loading bay	One Year Inspection by Engineer	Five Yearly		
HS 3	Water Treatment Plant Tanker Off Loading bay	One Year Inspection by Engineer	Five Yearly		
HS 5	Car Parks	One Year Inspection by Engineer	Five Yearly		
HS 6	Turbine Halls Units 1-4	One Year Inspection by Engineer	Five Yearly		
HS 7	HRSG Halls Units 1-4	One Year Inspection by	Five Yearly		

		Engineer			
Identification	**Substance**	**Location**	**Tank Inspection Frequency**	**Bund Inspection Frequency**	**Surface water in Bund**
HS 8	Gas Treatment Plant	One Year Inspection by Engineer	Five Yearly		
HS 9	Lub Oil Store lay down area	One Year Inspection by Engineer	Five Yearly		

Oil Interceptors

The site oil interceptors will be inspected every six months, under the site computer based maintenance inspection system

Identification	Location	Inspection / clean	Full examination and integrity check	Remedial action	Completion check
Int 1	Admin Block SPEL No. 300 series	6 month	Five Yearly		
Int 2	Water Treatment Plant SPEL No. 100 series	6 month	Five Yearly		
Identification	**Location**	**Inspection / clean**	**Full examination and integrity check**	**Remedial action**	**Completion check**
Int 3	East end U1Cooling Tower SPEL No. 300 Series	6 month	Five Yearly		
Int 4-6	Access Road E&W Klargester KB3/4 and outlet	6 month	Five Yearly		

	chamber				
Int 7	Gate to Contractor's Compound CONDER 3 stage Series A	6 month	Five Yearly		
Int 8	New Stores (opp football pitch) SPEL No. 300 Series	6 month	Every 5 Years		
Int 9	Gas Treatment Plant SPEL	6 month	Every 5 Years		

Site Surface Water Drainage

The site drainage system will be subjected to a 5 yearly inspection, by suitably qualified staff, under the site computer based maintenance inspection system (SAP)

Identification	Location	Full examination and integrity check	Remedial action	Completion check

SXS	Site	Every 5 Years		
SXS Discharge Valves UV001 UV002	Site Drainage	Every 5 Years		