This document comprises the Environmental Statement and its Non-Technical Summary, which have been prepared in support of an application for planning consent for the construction of a biomass fuelled power plant in Billingham, Teesside in the north east of England at approximate National Grid Reference NZ 476 215.

The Environmental Statement comprises the following documents:

- A Non-Technical Summary;
- The Environmental Statement (the principal document); and
- A Technical Appendix.

In addition to the above, the Environmental Statement is accompanied by a Planning Statement and a Design and Access Statement which will all be submitted in support of the application for planning consent.

Further copies of all these reports, or further information on the Proposed Development, can be obtained from:

Gaia Power Ltd
71A High Street
Yarm
TS15 9BG

Tel: 01642 784400
Web: www.gaiapower.co.uk

The Non-Technical Summary is available free of charge. The Planning Statement and Design and Access Statement are available for a fee of £30 each. Copies of the full Environmental Statement and Technical Appendix can be purchased as a hard copy for £180. All documents are also available (as PDF for screen viewing) on CD for £10.

The Environmental Statement can be viewed by the public during normal office hours at the offices of the Planning Department of Stockton on Tees Borough Council, at:

Development Control
Gloucester House
72 Church Road
Stockton-on-Tees
TS18 1TW

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Non Technical Summary

Introduction

NTS.1 Gaia Power Ltd ("GPL") (hereinafter referred to as "the Applicant") is seeking planning consent from Stockton-on-Tees Borough Council ("STBC") for the construction and operation of a biomass fired power station, which will provide approximately (and not exceeding) 50 megawatt electrical power (MWe) (hereafter referred to as "the Proposed Development") on the Site of a former power station in the north east of England (hereinafter referred to as "the Site"), in Billingham, Teesside. The 6.5 hectare (ha) site is located approximately 3 kilometres (km) to the south east of Billingham, Teesside, at National Grid Reference (NGR) NZ 476 215, as shown on figure 1-1. The Site is located within Billingham Reach Industrial Estate which forms part of a larger industrial (petrochemical) estate and was previously occupied by a power station, which has since been demolished and the land remediated, leaving a flat ground surface with the original concrete slabs left in place.

NTS.2 Three sites were considered for the Proposed Development and this location was selected as the most appropriate as a result of consultation between the Applicant and STBC’s Planning Department. A red line boundary of the Site within its localised surrounding of Billingham Reach Industrial Estate is provided in Figure 1-2.

The EIA Process

NTS.4 URS Corporation Ltd (URS) has been commissioned by the Applicant to undertake an Environmental Impact Assessment (EIA) in line with the Town and Country (Environmental Impact Assessment) (England and Wales) Regulations 1999 (amended 2006). The results of this process are presented in the Environmental Statement (ES) and accompanying appendices. This document, known as the Non-Technical Summary (NTS), provides an overview of the findings of the EIA. This NTS has been prepared for a general audience, including parties close to, or potentially affected by the development. The ES describes the potential impacts of the project during:

• Construction activities; and
• Operation of the biomass power plant.

NTS.5 The ES has considered the likely impact of the Proposed Development on its neighbours, local environment, local and regional economy and wider area. Positive and negative, short and long-term impacts have been considered. Where mitigation measures have been identified to either eliminate or reduce adverse impacts, these have been incorporated into the project design. In cases where no mitigation measure has been identified, the ES has highlighted the remaining or ‘residual’ impacts.

NTS.6 The significance of residual impacts (i.e., impacts remaining after mitigation) has been evaluated with reference to definitive standards, accepted criteria and legislation where available. Where it has not been possible to quantify impacts, qualitative assessments have been carried out, based on professional experience and judgement. Impacts have been classified as adverse, negligible or beneficial in significance and either minor, moderate or major magnitude. Where possible, impacts are also assigned a geographic and temporal scale (e.g., temporary, local, regional, short-term or long-term).

NTS.7 The ES also describes the consultation process undertaken to ensure that the views and concerns of interested parties has been given due consideration in the design process.

NTS.8 The ES comprises:

• Volume I - Environmental Statement: This document forms the main body of the ES detailing the results of environmental investigations, impacts arising and proposed mitigation measures; and
• Volume II - Technical Appendices.

Consultation with Interested Parties

NTS.9 The EIA has included a programme of ongoing consultation, which is critical to the development of a balanced ES. Views of statutory and non-statutory consultees serve to focus the studies and identify those issues, which require further investigation. Consultation also enables mitigation measures to be introduced during the project design process. The Proposed Development has been designed in consultation with STBC, Environment Agency (EA) and Natural England, Highways Agency and Northumbrian Water among others.

Planning Policy Context

NTS.10 Planning policy and other land use considerations in respect of the Development are guided principally by the development plan for the area, which consists of:

• The North East Plan (Regional Spatial Strategy for North East England); and
• Stockton-on-Tees Local Plan.

NTS.11 National planning policy is wholly supportive of renewable energy development, recognising its contribution towards sustainable development and tackling climate change. Policy requires regional and local authorities to be positive in their approach towards renewable energy generation development proposals. Policy acknowledges the range of location drivers for energy generation including connection to the National Grid and the location to the biomass material itself. These factors are relevant to the proposed biomass power station at Billingham.

NTS.12 This proposal will, for the purposes of energy generation, make use of a significant amount of material that would otherwise be disposed of to landfill. The proposal also gives rise to significant environmental, economic and social factors that must be taken into account as part of the planning consideration of this application, particularly in seeking to meet and exceed the national, regional and local targets for renewable energy projects. The proposal would make a significant contribution to meeting those targets.

NTS.13 RSS identifies that the application site is broadly within an area identified for renewable energy projects and that the region is well placed to deliver a green economy and all of its benefits. The RSS also advocates a sequential approach, including the re-use of derelict and vacant land.

NTS.14 Within this regional context, local policy and strategies seek to promote renewable energy schemes and are supportive of the re-use of waste. The site is also designated by the adopted Local Plan for the purposes of commercial and industrial use. Whilst the proposal does not specifically fall within the Class B1, B2 or B8 Uses, the proposal does share many comparables that lend itself at this scale to this area of designation. Therefore the Local Plan designation, when mindful of relevant national and regional policy and statements, is suited to this location.

Analysis of Alternatives

NTS.15 Under the 1999 (amended 2006) EIA Regulations, an ES is required to provide an outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for [his] choice, taking into account the environmental effects”. Alternatives analysis is a key part of the EIA process and serves to ensure that environmental considerations are built into the project design at the earliest possible stage.

NTS.16 The EIA has considered the ‘no development’ alternative, the use of ‘alternative sites’ and the design evolution in response to consultee concerns. For the ‘no development’ option, the site would remain in its current state present no risk of further pollution however the beneficial uses of the site, such as economic investment in the area and contributing to energy generation from renewable sources would not be realised.

NTS.17 Three sites were considered for the location of the Proposed Development. The location was selected due to

• its proximity to transport links including road network and the River Tees;
• existing electrical infrastructure with connection to the grid;
• located in an industrial area away from residential areas; and
• site has previously been developed and has been cleared to a stage ready for redevelopment.

NTS.18 Alternative technologies were also considered for the plant. The combustion technology selected is a fluidised bed boiler. This is a more efficient manner or burning solid fuel than alternative options and also results in the generation of lower emission gases.

NTS.19 The Applicant are currently undertaking detailed studies into the selection of the most suitable cooling technology for the Proposed Development. Communications are underway with the Environment Agency who will be consulted throughout the design evolution process.

Design and Access Statement

NTS.20 The Design and Access Statement demonstrates how the site will be accessible to all users, including those of limited ability. The overall philosophy has been to design a scheme with the key factor being the ease of use for all. The design promotes pedestrian access, removes barriers, provide complementary facilities for disabled users and families and ease of movements around the site in general. The design meets the requirements of the Disability Discrimination Act 1995.

Landscape and Visual

NTS.21 The extent of the LVIA has been determined by the topography of the area surrounding the site. Views have been assessed within 10 kilometres (km) of the site. The Proposed Development site is located approximately 3km to the south east of Billingham, Teesside, at NGR NZ 476 215. The site is a former power station and forms part of a petrochemical cluster, but is cleared from its former use and now fenced and predominantly flat. The site is immediately bounded by industrial land with associated buildings and access roads.

NTS.22 The site falls within character area 23 ‘The Tees Lowlands’, as defined in the ‘The Character of England Map’. At a district level the site falls within Stockton on Tees Borough Council. Due to the proximity of the site to a
number of district boundaries, the LVIDA of the proposal requires the consideration of the adjacent local authorities of Middlesbrough, Hartlepool and Redcar and Cleveland Unitary Authorities.

NTS.23 The landscape and visual assessment identifies the potential effects that the Proposed Development may have on the landscape character and views throughout the study area. There are a number of visual receptors such as settlements, travel routes and miscellaneous attractions that are considered in the assessment. The assessment includes a series of viewpoints selected to represent views of the Proposed Development, from around the study area. The significance of effects on the landscape and visual resources assessed through a combination of two considerations; firstly, the sensitivity of the landscape and views, and, secondly, the magnitude of change to them that may result from the Proposed Development.

NTS.24 The Proposed Development will have Minor adverse impacts on the surrounding landscape due to the industrial nature of the surrounding land use. Moderate impacts will be felt by those receptors close to the site and by Saltsholme International Nature Reserve. The impacts at the different stages of development vary depending on the relative proximity of the receptor to the site.

NTS.25 The Proposed Development will result in a change both physically and visually to the Site at a local level. The Proposed Development will have an initial adverse impact on the surrounding industrial context.

NTS.26 The adverse impacts of the development are mitigated by the choice of site location within existing large-scale industry. The use of recessive colours to the building facades and stack will soften the appearance of the new buildings against the skyline, reducing adverse visual impacts during the whole of the operational phase. Moderate to minor visual and landscape impacts will remain whilst the plant is operational. Impacts generally have greater significance for those receptors closer to the site and for Saltsholme International Nature Reserve.

Noise and Vibration

NTS.27 This assessment describes the potential noise impacts associated with the construction and operation of the Proposed Development. In particular, it has considered the potential impacts of predicted noise levels from construction activities, noise from the completed development when in operation, any increases to road traffic attributed to the Proposed Development (either during construction or operation) and decommissioning.

NTS.28 Baseline noise survey data was extracted from the EIA undertaken for the proposed SITA development just to the north of the Proposed Development site. This information has been used to undertake a desktop noise study for the purposes of this EIA. A site visit was further undertaken in February 2009 to establish that no significant changes in the noise environment had occurred since the last baseline survey.

NTS.29 The use of correct induction and training relating to site rules on noise and vibration and working in accordance to the requirements of BS5228 will ensure that there is a Negligible impact on local noise sensitive receptors during construction. Construction road traffic along Haverton Hill Road is also expected to have a Negligible impact.

NTS.30 The proposed development is not anticipated to add to existing environmental noise levels in the vicinity of the Site. Noise levels from the proposed biomass plant are predicted to be below the existing background noise environment. The current ambient noise environment already includes a number of industrial noise sources, therefore noise due to the Proposed Development is predicted to have no more than a Minor Adverse impact.

Air Quality

NTS.31 The existing air quality in the vicinity of the Site is influenced by a combination of traffic on the local road network together with industrial, domestic and other commercial sources in the general area.

NTS.32 The background pollutant levels for the area were sourced from a variety of sources including UK Automatic Urban and Rural Network.

NTS.33 It is anticipated that emissions to air during construction activities at the Site will be associated with: on-site construction vehicles and plant

- On-site construction vehicles and plant (vehicle exhaust emissions);
- Earth moving operations (construction dust); and
- Road traffic (vehicle exhaust emissions).

NTS.34 With regards to the construction equipment, it is anticipated that there will be relatively few vehicles/plant present on-site at any one time, and the total number of vehicles used will be relatively small compared to background traffic levels in the area and as such will not have a significant impact on air quality.

NTS.35 The movement of soils and rubble during construction activities is anticipated to lead to the generation of airborne dust. Best practice techniques will be implemented through a Construction Environmental Management Plan to ensure dust generation is minimised.

NTS.36 The impact of road traffic during both the construction and operational phase has been assessed and found to be of negligible significance.

NTS.37 The emissions from the operational plant have been modelled and the results used to inform the design of the plant to ensure that the impact of the majority of pollutant species emitted will have a negligible impact on the surrounding environment. There is expected to be a minor impact associated with the generation of nitrogen oxides but this will not lead to an exceedence of any air quality objectives.

NTS.38 The following industry good practice measures and mitigation techniques will be will be adhered to with respect to the building plant in order to ensure that the emission to air are minimised:

- Selection of suitable combustion plant with best available technology and good thermal efficiency;
- Regular inspection of the machinery, operation to the manufacturers instructions, and ensuring that equipment is well maintained; and
- The release of combustion emissions to atmosphere via an appropriately designed stack incorporating the best available pollution abatement technology.

Ecology

NTS.39 The impacts of the Proposed Development, both during construction and operation, on ecology and nature conservation were assessed as part of the ES. The assessment describes the ecological conditions (baseline) and assesses the significance of any impacts resulting from the Proposed Development upon these conditions. The methodology used to assess the significance of impacts on ecological receptors is based on the Guidelines for Ecological Impact Assessment (EIA) published by the Institute of Ecology and Environmental Management (IEEM).

NTS.40 Baseline data collection comprised a desk-based study, which involved written consultation with the Tees Valley Wildlife Trust (TVWT) to identify the presence of non-statutory designated sites and to gain records on protected and notable species and an extended Phase 1 Habitat Survey.

NTS.41 The only significant impact expected to arise from the Proposed Development is in relation to the loss of habitats and species from the Site during the construction phase. This overall impact is considered to be adverse at a site level, and therefore minor due the low level and localised nature of the impact.

NTS.42 Measures to be put in place for the conservation of fauna will mean that adverse impacts will be mitigated, such that the residual impact for birds and invertebrates will be neutral/negligible and the legal requirements relating to nesting birds and foxes will be complied with.

NTS.43 Neutral/negligible impacts are anticipated on the Teesmouth and Cleveland Coast (Special Protection Area/Ramsar site), Tees and Hartlepool Foreshore and Wetlands Site of Special Scientific Interest (SSSI), Steal Sands SSSI, Coepon Marsh SSSI, Charlton’s Pond LNR/SNCI and Teessaurus Park SNCI.

Ground Conditions

NTS.44 The evaluation of ground conditions includes a desk based geotechnical assessment of the potential for soil movements and underground structures on Site. Impacts associated with potentially contaminated soils and groundwater have been made in the context of existing Site conditions, construction works and once the Proposed Development is complete.

NTS.45 Consultation with external parties was undertaken as part of the Environmental Impact Assessment (EIA) process, and included the commissioning of a Landmark Environco® Report. In addition, a variety of data sources were consulted, such as published maps, reference materials, historical Ordnance Survey (OS) maps and a previous site investigation.

NTS.46 Potential sources of contamination at the Site include the Made Ground, comprising Pulverised Fuel Ash (PFA), ash and cinder. Anecdotal evidence in the ground investigation report suggests that asbestos may have been buried on-site, although evidence of asbestos was not observed during the investigation.

NTS.47 In order for a potential hazard identified within the confines of the site to pose a significant level of risk to site or the wider environment, a sensitive target or receptor has to be identified, together with a plausible and effective pathway.

NTS.48 Receptors identified as part of the assessment include the River Tees, located approximately 150m east of the site, future occupiers of the site, and the proposed development’s workforce.

NTS.49 No significant impacts to soil and groundwater are expected through the construction phase of the Proposed Development provided that standard
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mitigation measures are applied as discussed previously, and hence the residual impact is predicted to be Negligible.

**NTS.50** Overall, no residual impacts are anticipated on soils and groundwater as a result of the operational Proposed Development, assuming appropriate methods of protection are employed in the detailed design of the scheme. Minor impacts characterised by limited localised contamination of soils by a range of materials deposited during operations may result. However, it is anticipated that effective operating procedures and good housekeeping should limit their frequency and severity hence operational impacts are expected to be Negligible.

**Socio-Economics**

**NTS.51** An analysis of the Proposed Development has been undertaken to assess the specific socio-economic impacts of the Proposed Development in relation to the existing activity on site. The assessment considered the impact of the Proposed Development upon the labour market and land use.

**NTS.52** The assessment comprises:
- An economic impact assessment, including employment impact on the labour market; and
- A review of other relevant socio-economic impacts, including consideration of the demand on existing employment sites and infrastructure.

**NTS.53** The Proposed Development will create 746 jobs per year during construction resulting in a short term minor beneficial impact. Once operational, it is anticipated that 52 jobs will be created through the Power Station and subcontractor roles providing long term minor beneficial impacts. Moderate beneficial long term impacts have also been identified as the Proposed Development is anticipated to make a 38% contribution to sub-regional renewable energy targets.

**Transportation and Access**

**NTS.54** The impact of K2 on the surrounding highway network, public transport and local pedestrian areas has been assessed in line with the Institute of Environmental Management and Assessment’s Guidelines for Environmental Assessment of Road Traffic. The assessment is based on the interaction between future development related movements and existing patterns of vehicular and pedestrian movements.

**NTS.55** Baseline information on existing road traffic movements has been obtained from Stockton Borough Council and includes turning count surveys and Automatic Traffic Counts undertaken between December 2005 and May 2006. Information gathered during site visits has also been used to establish baseline conditions in terms of the highway network, accessibility and public transport facilities. This information has been supplemented by information obtained from maps and documents published by various authorities, including Stockton-on-Tees Borough Council. In order to quantify the effect of the Proposed Development, estimates of trip generation have been calculated, for both the construction and operational phases.

**NTS.56** Construction related traffic, as a consequence of the Proposed Development, will result in small increases of traffic flows including HGVs on the local roads leading to the Proposed Development site. It is anticipated that the significance of these impacts will be Negligible.

**NTS.57** A Framework Travel Plan has been developed for implementation once the development is commenced. Implementation of the plan would reduce the number of road trips to the Site, particularly during peak hours. As a result, the traffic impact during the operational phase is considered to be Negligible.

**Water Resources**

**NTS.58** The impact of the Proposed Development on all aspects of the water environment, including surface water, hydrological and hydrogeological conditions at the site, both during and after construction has been assessed through the identification of the baseline environmental quality of these resources. Baseline data have been obtained via consultation with a number of statutory and non-statutory sources.

**NTS.59** The methodology used to assess the impacts of construction and operation of the proposed Development on potential receptors has been derived from the methodology used when assessing the impacts of transportation and transport infrastructure on the water environment detailed in the Department of Transport’s ‘The Water Environment Sub-Objective’ TAG UNIT 3.3.12. This involves assessing the importance of potential receptors and the magnitude and significance of any impacts.

**NTS.60** The assessment does not identify any significant impacts on water resources during either construction or operation of the Proposed Development.

**NTS.61** However, a number of minor adverse impacts were identified during the construction phase (disturbance to shallow groundwater during excavation, water supply and foul drainage) and operational phase (water supply and wastewater generation).

**NTS.62** During both construction and operation, the impacts associated with pollution as a result of leaks and spills of hazardous materials was considered to be negligible to minor adverse. Mitigation measures proposed form part of good practice operational guidelines and include the provision of drip trays to contain oil spills from plant.

**NTS.63** The Site lies within the EA’s delineated Flood Zone 3a, which is a high-risk category, with the Site at risk of flooding during the 1 in 200 year tidal event. However, the Proposed Development is considered to be at low risk of flooding from fluvial sources, groundwater, sewers and overland flow. A flood risk assessment has been prepared and accompanies the planning application.

**Cumulative Impact Assessment**

**NTS.64** Cumulative impacts are those that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the development. For the cumulative assessment, two types of impact have been considered:
- The combined effect of individual impacts (e.g., noise, airborne dust or traffic on a single receptor); and
- The combined impacts of several development schemes that may, on an individual basis be insignificant, but cumulatively have a significant effect.

**NTS.65** The cumulative impacts of the Proposed Development together with other surrounding schemes have been assessed, during the site preparation, construction and operational phases of the project. Schemes included within the assessment are listed in Chapter 2: Assessment Methodology/Significance Criteria of the main ES.

**Residual Impacts and Conclusions**

**NTS.66** The Development is considered not to have significant adverse impacts on the environment. A number of minor and moderate impacts have been identified, including:
- landscape impacts from nearby receptors with moderate impacts only affecting those receptors closest to the site,
- minor habitat loss (ephemeral/short perennial, grassland and open water habitat) during construction,
- impacts upon water supply and drainage networks, and the disturbance of shallow groundwater are anticipated to result in minor adverse impacts, although they are only temporary during the construction phase.

**NTS.67** Any adverse effects associated with noise, air quality, ground conditions and transportation are considered negligible.

**NTS.68** It is considered that there are significant social and economic benefits that will arise from the Proposed Development including:
- Boost to the local and regional economy with new jobs and spending;
- 38% contribution to sub-regional renewable energy targets to help reduce reliance on non-renewable energy.