SITE CONDITION REPORT

Avonmouth Generation Plant

For full details, see H5 *SCR guide for applicants* v2.0 4 August 2008

COMPLETE SECTIONS 1-3 AND SUBMIT WITH APPLICATION

DURING THE LIFE OF THE PERMIT: MAINTAIN SECTIONS 4-7

AT SURRENDER: ADD NEW DOC REFERENCE IN 1.0; COMPLETE SECTIONS 8-10; & SUBMIT WITH YOUR SURRENDER APPLICATION.

1.0 SITE DETAILS	
Name of the applicant	Spango Generation Limited
Activity address	Land off Severn Road, Hallen, South Gloucestershire
National grid reference	ST 54352 81245

Document reference and dates for Site Condition Report at permit application and surrender	Application: • Site Condition Report Avonmouth v1 November 2023 • Appendix K1 Phase II Ground Investigation Report (GIP Ltd – Ground Investigation report for a proposed substation at Severn Road, Avonmouth, Bristol, 21st January 2019) • Appendix K2 Phase II Ground Investigation Report (Appendices continued for GIP Ltd – Ground Investigation report for a proposed substation at Severn Road, Avonmouth, Bristol, 21st January 2019)

Document references for site plans (including location and boundaries)	Application: • Appendix A Site Plan

Note:
In Part A of the application form you must give us details of the site's location and provide us with a site plan. We need a detailed site plan (or plans) showing:

- Site location, the area covered by the site condition report, and the location and nature of the activities and/or waste facilities on the site.
- Locations of receptors, sources of emissions/releases, and monitoring points.
- Site drainage.
- Site surfacing.

If this information is not shown on the site plan required by Part A of the application form then you should submit the additional plan or plans with this site condition report.

2.0 Condition of the land at permit issue	
Environmental setting including: • geology • hydrogeology • surface waters	The site is located along the northeastern side of Severn Road approximately 5km to the north west of Bristol. At the time of the investigation the site comprised an undeveloped field with a surface cover of long grass. The southwestern boundary consisted of a drainage ditch with Severn Road beyond. The remaining boundaries were made of a hedgerow containing a number of mature trees. Since the original investigation, a battery energy storage system has been constructed adjacent to the south western boundary of the site.

	Geology, Hydrogeological and Surface Waters • The nearest surface watercourse is a drainage ditch which runs around the entire site perimeter. • There are no recorded pollution incidents to controlled waters within 2km of the site. • There are no water abstraction points within 1km of the site. • The bedrock at the site is classified as a 'Secondary Aquifer - B' with the overlying superficial soils classified as 'Unproductive Strata'. • The site is not located within a Groundwater Source Protection Zone. • The site lies within an area 'Benefiting from Flood Defences. • There are no BGS Recorded or Historical Landfill sites within 500m of the site. **Published Geological Information** Within the accuracy of the available geological information (BGS Sheet 250 and 264, Chepstow and Bristol, 1:50,000 Scale solid and drift edition) the 'solid' geology beneath the site comprises the Mercia Mudstone Group of the Triassic Period. The 'solid' geology is shown to be masked by a superficial cover of Tidal Flat Deposits comprised of 'clay, silt, sand and gravel'. There are no geological faults within influencing distance of the site. **Unexploded Ordnance (UXO)** A detailed UXO risk assessment was conducted by 1st Line Defence Limited as part of the works (Appendix D within Appendix K Phase II Ground Investigation Report). The report concluded that there is a Low to Medium Risk from items of unexploded German aerial delivered and Allied Ordnance across the site. UXO awareness briefings were issued during fieldworks in accordance with the proposed mitigation measures.
Pollution history including: • pollution incidents that may have affected land • historical land-uses and associated contaminants • any visual/olfactory evidence of existing contamination • evidence of damage to pollution prevention measures	An Envirocheck Desk Study report has been obtained from Landmark (Appendix D within Appendix K Phase II Ground Investigation Report) which gives details of historical site usage and also comments upon the environmental setting of the site. The main features of note contained with the historical maps of the Envirocheck report are: **1881-1999:** The site remains as an undeveloped field enclosure from the first edition to the final map editions. A main road forms the southwestern border as at present day and a drain is shown along the southern and northern boundary. An industrial estate is shown on the 1971-1972 plan and remains to the present day although the surrounding area remains undeveloped.
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	From the site walkover, the current potential sources of contamination are limited as the site comprised a disused field. Historically, the site has remained undeveloped. **Assessment of Risk to Human Health** Given the presence of a thin cover of made ground in the exploratory locations, soil samples were tested for a general range of commonly occurring contaminants, including: • Organics : poly aromatic hydrocarbons (PAH), phenols • Metals / semi metals : arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, vanadium, zinc • Non metals : soluble sulphide, cyanide, sulphur, asbestos

	All of the tests confirmed that levels of any contaminants were either not detected or below the Critical Concentrations (Cc) value from the Contaminated Land Exposure Assessment (CLEA) model. Asbestos was not encountered within any of the samples. **Assessment of Risk to Controlled Waters** The 'solid' geology which underlie the site are classified as a 'Secondary Aquifer' and the overlying superficial soils are classified as 'Unproductive Strata'. The site is not located within a groundwater Source Protection Zone and groundwater has not been recorded during intrusive works. However, a drainage ditch forms the site perimeter. On balance, in view of the site setting, site history and from the chemical test results it is therefore considered that the risk the site poses to 'Controlled Waters' is deemed to be 'low'. It is considered unlikely that a specific risk assessment for impact on controlled water should be carried out.
Baseline soil and groundwater reference data	The prevailing ground conditions were determined with the use of five windowless sampler boreholes (WS1 to WS5) and five machine excavated trial pits (T1 to T5). Soil samples were recovered from the boreholes in 1m plastic liners and in-situ SPTs taken at 1m intervals to a maximum depth of 5.45m. The trial pits were excavated to a maximum depth of 3.5m below ground level. All the exploratory holes were undertaken, where appropriate, in accordance with BS5930. Soakaway testing was carried out in broad accordance with BRE365 methodology in TP1 and TP2. A combined gas and groundwater monitoring installation has been installed within WS5. Given the nature of the proposal, ground gas monitoring has not been carried to date although this can be undertaken should the proposals alter. **Encountered Ground Conditions** For full details of the strata encountered reference should be made to the appended engineer verified logs (Appendix A within Appendix K Phase II Ground Investigation Report), however, the salient features of the engineering geology can be summarised as follows: • **Made Ground:** A thin cover of a disturbed topsoil type horizon was recorded to a maximum depth of 0.60m in all of the exploratory locations. The soils typically comprised soft and firm friable clay containing many roots and rootlets. • **Tidal Flat Deposits:** Deposits were recorded below the made ground in all of the exploratory locations to a depth of at least 5.45m. The upper soils comprised variably firm and stiff silty clay containing many rootlets to depths typically in the order of 1.00m to 2.00m. The lower deposits comprised very soft and soft silty clay. This was evident on the borehole SPT N' values which were consistently 0 (self weight penetration). Occasional peat horizons and organic rich inclusions were recorded within selected exploratory locations. • **Groundwater:** Groundwater was not encountered within any of the exploratory locations during the short period of time they remained open during drilling/excavation.
Supporting information	• *Source information identifying environmental setting and pollution incidents* • *Historical Ordnance Survey plans:* • *Site reconnaissance* • *Historical investigation / assessment / remediation / verification reports*

	• *Baseline soil and groundwater reference data* All supporting information is contained within the following reports: • Appendix K1 Phase II Ground Investigation Report (GIP Ltd – Ground Investigation report for a proposed substation at Severn Road, Avonmouth, Bristol, 21st January 2019) • Appendix K2 Phase II Ground Investigation Report (Appendices continued for GIP Ltd – Ground Investigation report for a proposed substation at Severn Road, Avonmouth, Bristol, 21st January 2019)

3.0 Permitted activities	
Permitted activities	Section 1.1 Part A(1)(a) of The Environmental Permitting (England and Wales) Regulations 2010 ('The EPR Regs'): *Burning any fuel in an appliance with a rated thermal input of 50 or more megawatts.*
Non-permitted activities undertaken	• Management of surface water drainage • Storage of lubricating oil
Document references for: • plan showing activity layout; and • environmental risk assessment.	• Appendix A Site Plan • Appendix I Environmental Risk Assessment

Note:

In Part B of the application form you must tell us about the activities that you will undertake at the site. You must also give us an environmental risk assessment. This risk assessment must be based on our guidance (*Environmental Risk Assessment - EPR H1*) or use an equivalent approach.

It is essential that you identify in your environmental risk assessment all the substances used and produced that could pollute the soil or groundwater if there were an accident, or if measures to protect land fail.

These include substances that would be classified as 'dangerous' under the Control of Major Accident Hazards (COMAH) regulations and also raw materials, fuels, intermediates, products, wastes and effluents.

If your submitted environmental risk assessment does not adequately address the risks to soil and groundwater we may need to request further information from you or even refuse your permit application.

4.0 Changes to the activity	
Have there been any changes to the activity boundary?	If yes, provide a plan showing the changes to the activity boundary.
Have there been any changes to the permitted activities?	If yes, provide a description of the changes to the permitted activities
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?	If yes, list of them
Checklist of supporting information	• Plan showing any changes to the boundary (where relevant) • Description of the changes to the permitted activities (where relevant) • List of 'dangerous substances' used/produced by the permitted activities that were not identified in the Application Site Condition Report (where relevant)

5.0 Measures taken to protect land	
Use records that you collected during the life of the permit to summarise whether pollution prevention measures worked. If you can't, you need to collect land and/or groundwater data to assess whether the land has deteriorated.	
Checklist of supporting information	• Inspection records and summary of findings of inspections for all pollution prevention measures • Records of maintenance, repair and replacement of pollution prevention measures

6.0 Pollution incidents that may have had an impact on land, and their remediation	
Summarise any pollution incidents that may have damaged the land. Describe how you investigated and remedied each one. If you can't, you need to collect land and /or groundwater reference data to assess whether the land has deteriorated while you've been there.	
Checklist of supporting information	• Records of pollution incidents that may have impacted on land • Records of their investigation and remediation

7.0 Soil gas and water quality monitoring (where undertaken)	
Provide details of any soil gas and/or water monitoring you did. Include a summary of the findings. Say whether it shows that the land deteriorated as a result of the permitted activities. If it did, outline how you investigated and remedied this.	
Checklist of supporting information	• **Description of soil gas and/or water monitoring undertaken** • **Monitoring results (including graphs)**

8.0 Decommissioning and removal of pollution risk

Describe how the site was decommissioned. Demonstrate that all sources of pollution risk have been removed. Describe whether the decommissioning had any impact on the land. Outline how you investigated and remedied this.

Checklist of supporting information	• **Site closure plan** • **List of potential sources of pollution risk** • **Investigation and remediation reports (where relevant)**

9.0 Reference data and remediation (where relevant)

Say whether you had to collect land and/or groundwater data. Or say that you didn't need to because the information from sections 3, 4, 5 and 6 of the Surrender Site Condition Report shows that the land has not deteriorated.

If you did collect land and/or groundwater reference data, summarise what this entailed, and what your data found. Say whether the data shows that the condition of the land has deteriorated, or whether the land at the site is in a "satisfactory state". If it isn't, summarise what you did to remedy this. Confirm that the land is now in a "satisfactory state" at surrender.

Checklist of supporting information	• Land and/or groundwater data collected at application (if collected) • Land and/or groundwater data collected at surrender (where needed) • Assessment of satisfactory state • Remediation and verification reports (where undertaken)

10.0 Statement of site condition

Using the information from sections 3 to 7, give a statement about the condition of the land at the site. This should confirm that:

- the permitted activities have stopped
- decommissioning is complete, and the pollution risk has been removed
- the land is in a satisfactory condition.