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INTRODUCTION

- 7.1 Annex B to TAN 21 requires a consideration of amenity and nuisance, addressing:
- the compatibility of the proposed development with existing or neighbouring land uses;
 - measures to prevent and control land contamination, light pollution, noise, smell, dust, birds and vermin, litter; and
 - any emissions associated with the proposed operations.
- 7.2 Consideration of the potential effects of land contamination, noise, light pollution and odour are addressed in the ES (Volume 2). In this respect:
- Land Quality (contamination) is addressed in Chapter 5, whilst Chapter 10 also considers the potential for contamination of the water environment;
 - Dust, litter, odour and emissions are addressed in Chapter 6 (Air Quality);
 - Light pollution is considered in Chapter 7 (Landscape and Visual Impact); and
 - Noise is considered in Chapter 9.
- 7.3 In accordance with the guidance in TAN21, it is not necessary to duplicate these assessments. As such, this chapter will summarise the findings of the assessments and set out the measures that would be adopted to ameliorate any identified impacts.
- 7.4 It should also be noted that a consideration of odour, litter, vermin and birds are also addressed in the application for an Environmental Permit.

SURROUNDING LAND USE

- 7.5 As has been described in Chapter 2 above, the application site is located within an established industrial area (Deeside Industrial Park), characterised by heavy industrial operations.
- 7.6 To the west of the application site lies the UPM Shotton Paper Mill with associated biomass CHP plant. The paper mill comprises a large industrial complex with a number of buildings of varying height, together with a flue stack (understood to be around 60m in height). To the south is the former GDF Power Station, with its two flue stacks; it is understood that this facility is in the process of being decommissioned and removed from the site. To the southwest is the TATA steelworks, again being a series of large buildings. National Grid has obtained planning permission for, and has begun works on, a new converter station on the site immediately to the south of the GDF power station (planning permission ref. 050340). In the wider context there are other power generating facilities in the Deeside area, each with associated stacks and cooling equipment.

- 7.7 The application site, in common with adjoining land, is allocated in the Development Plan for employment uses, with other land surrounding it designated as part of the Deeside Development Zone.
- 7.8 In the context of waste policy, the Development Plan also identifies the application site as being appropriate for waste management uses through policy EWP6. As such it can be concluded that the application site is suitable for the proposed land use.
- 7.9 The application site is remote from any large areas of residential development or other sensitive uses, such as schools, hospitals and care homes; it is also similarly remote from any individual dwellings. The nearest residential areas are located in Connah's Quay more than 2km away to the south (in the vicinity of the B5129); Garden City (off Sealand Avenue) to the southeast. The villages of Puddington and Burton, which are within England, are also more than 2km away to the northeast and north respectively. Examination of aerial photography and OS mapping show individual properties lying to the south of Burton, in the vicinity of Burton Mere Fisheries, which are around 1.7km from the northern boundary of the proposed application site.
- 7.10 Outline planning permission has been granted for the Northern Gateway Site approximately 2.3km¹ to the south west of the application site.

LAND CONTAMINATION

- 7.11 As noted above, Chapters 5 and 10 of the ES should be referred to.
- 7.12 In relation to measures to limit potential pollution, the following are suggested.

Detailed Design Phase/Pre-construction Phase

- 7.13 The following additional studies would be carried out in order to fully determine the mitigation measures required with regard to potential contamination risks. These would be undertaken prior to finalisation of the detailed design of the development and prior to commencement of construction works:
- completion of Piling Risk Assessment to further assess the potential risk to controlled waters from selected piling methods, where these are required for geotechnical reasons. The piles will not be driven deeper than the extent of the Tidal Flat Deposits.
 - development of a Remediation Strategy and/or Earthworks Strategy will be required that specifies how the areas of shallow Ash Made Ground and any chemically or geotechnically unsuitable materials are to be remediated or managed, including compaction.
 - a Soil Management Plan will be prepared as part of the Construction Environmental Management Plan (CEMP) detailing methods of soil

¹ Measured centre to centre using Google Earth

handling and storage and how this will be undertaken using best practice guidance contained within the DEFRA Construction Code of Practice for the Sustainable Use of Soils on Construction-sites (DEFRA, 2009). This will ensure no loss of the quality of (clean) soil due to the process of handling, storage and its re-use on-site.

- the development of a Materials Management Plan (MMP) (in accordance with CL:AIRE Code of Practice for the Definition of Waste) or alternatively environmental permits / exemptions may be necessary to control the re-use of any site won soil arisings or the excavation and re-use of made ground or other site-won mineral materials.
- the development of a Construction Environmental Management Plan (CEMP) will be required for the redevelopment works. This should include the standard 'tried and tested' construction methods referred to under the Standard Construction Methods section above.

Construction Phase

7.14 The following preliminary remedial actions that may be considered necessary to address the potentially significant contamination risks that may arise during the construction phase are:

- implementation of a watching brief during the redevelopment works to identify potentially impacted shallow soils (Ash Made Ground) and 'unforeseen contamination'.
- selective removal and treatment of hydrocarbon impacted, ashy, deleterious and / or visually impacted Made Ground during the redevelopment works in areas of proposed services / drainage, and areas of proposed soft landscaping. This will mitigate potential risks to future site users from potential dermal contact, inhalation and ingestion of contaminated soil.
- where surface water infiltration features are proposed (eg SUDS / swales) the shallow Ash Made Ground layer should be removed and reused elsewhere on site under hardstanding or buildings as a general back fill. This will mitigate potential risks of leaching into the underlying secondary aquifer.
- recovery and re-use of screened, segregated or treated materials in accordance with the Site Specific Reuse Criteria (SSRUC) and MMP for the proposed land use.
- incorporation of 'clean' material in areas of placement of plastic utilities, and / or analysis of site-won material against SSRUC (for potential reuse); and
- in accordance with the CEMP and particular construction phase; operate a surface water management system to prevent uncontrolled surface run-off and vertical and lateral migration of potential contaminants to groundwater and down-gradient surface water receptors (local ditches etc.).

Operational Phase

7.15 The implementation of the above mitigation measures would remove the potential effects identified during the operational phase.

- 7.16 The proposed development drainage design would limit the vertical and lateral migration of any soils leachate from the Ash Made Ground (due to rainfall infiltration), by providing a large increase in the impervious surface area across this area. Therefore, with the development in place, rainfall would be intercepted and positively drained (via an impervious piped drainage system) to discharge into constructed swales and ponds around the sites perimeter to the west and north of the developed areas. This means that 'clean' rainfall is routed away from contaminated ground and can recharge the groundwater system via the 'clean' ground conditions below the ponds and lakes and could have the effect of reducing the concentrations of pollutants in the on and off-site water environment.

DUST, LITTER, ODOUR AND EMISSIONS

- 7.17 As noted above, Chapter 6 of the ES should be referred to.

Dust

Construction Phase

- 7.18 Mitigation measures that would to be employed may include as appropriate:

- damping down dusty surfaces;
- controlling the speed of mobile plant crossing un-surfaced areas;
- mechanical road sweeper on public road; and
- covering HGV's carrying dusty materials.

- 7.19 These would be detailed in a Construction Environmental Management Plan prior to construction.

Operational Phase

- 7.20 The following dust mitigation measures have been designed in to the Proposed ERF:

- materials (waste, recyclate etc) imported or exported from the application site would be transported in enclosed or covered vehicles. Waste vessels that are not enclosed would be sheeted (or netted) to ensure no escape of waste materials during transit;
- incoming waste to the ERF would be unloaded directly into the waste bunker inside the waste reception building;
- all vehicle movements would take place on surfaced roadways and manoeuvring areas and a programme of periodic road sweeping/cleaning would be in place;
- all storage and handling of APC materials, both raw and used, would be undertaken within the building in enclosed vessels and silos, and transported from the ERF in enclosed tankers; and
- IBA from the ERF would be quenched and directed by covered conveyor to a processing (sorting, screening etc) area prior to storage and then

recycling into an aggregate product. Spray suppression would be used to prevent fugitive emission from the IBA storage area, which is enclosed by a wall.

Litter

Construction Phase

7.21 Litter is not usually a problem during the construction phase of a development. Measures would be detailed in a Construction Environmental Management Plan prior to construction

Operational Phase

7.22 Given the high degree of designed in mitigation in the form of containment of potential sources of litter (refer to the sub-section on dust above) from the proposed ERF, there are no sources of litter exposed to the ambient atmosphere. Consequently, the potential for fugitive release of litter is low.

Odour

Construction Phase

7.23 Odour is not usually a problem during the construction phase.

Operational Phase

7.24 The receipt, storage and handling of waste at the proposed ERF represents a potential source for the generation of odour.

7.25 HGVs importing waste would be weighed when entering the site and directed to the tipping hall, with all HGVs being covered during transit to prevent waste and odour releases to the environment during the journey. Incoming waste vehicles would enter the tipping hall and reverse up to the waste storage bunker once inside the hall. HGVs would then leave the tipping hall on the opposite side of the building to ensure a one-way system, thus minimising conflict with other vehicles.

7.26 Measures that would mitigate the generation and fugitive release of odours designed in to the proposed ERF are as follows:

- the waste would be delivered in enclosed or covered vessels prior to discharge into the bunker within the reception area in the main ERF building;
- the tipping hall employs a double door system, whereby an internal door to the bunker only opens when the external door to the tipping hall is closed;
- waste would be present at the ERF for no more than a few days pending treatment, and therefore the potential for the generation of odour and bio-aerosols due to biological activity would be minimised; and

- air from the waste reception area would be actively extracted to serve as combustion air, thus maintaining a degree of negative pressure in this part of the building, and achieving a high degree of containment of any generated odours within the reception area.

7.27 Under the Environmental Permit, an Odour Management Plan would be prepared.

Emissions

7.28 A detailed assessment of emissions from the flue stack is presented in Appendix 6/1 to the ES and should be referred to.

BIRDS AND VERMIN

7.29 Pests and vermin would be controlled primarily by strict management of the tipping hall and waste storage areas. As far as practicably possible, waste would be contained within the tipping halls and bunker, and mixed to ensure no areas of putrefied waste forms give rise to odours and suitable habitats for pests and vermin. No waste would be stored outside of the ERF building.

7.30 Buildings would be robustly constructed and doorways would be closed whenever practicable: for example, the tipping hall at the ERF would have individual doors for each tipping bay that would remain closed until a vehicle is in position to reverse in to the bay. Once in the bay, the doors would close, sealing the bay again prior to the tipping chute being opened by the vehicle driver.

7.31 Operational procedures would ensure that wastes are only stored in appropriately designated areas and for the minimum period of time.

7.32 A local pest control company would be retained to maintain pest control in the unlikely event that professional pest control assistance is required.

7.33 Staff would undertake checks for the presence of pests within operational areas as part of normal operation.

7.34 Management practices would also be used to prevent fly problems arising in the first instance. The applicant would reduce the impact from flying pests further by retaining the services of a competent registered pest control contractor.

7.35 In the event of flies or other insects being introduced within the incoming waste, insecticides offering fast knockdown and long term treatment would be used.

7.36 The applicant would require all sub-contractors to clean their areas each day and dispose of waste in bins located around the site(s), reducing the opportunities for flies and pests to thrive. This waste would be removed by a sub-contractor and disposed of at a suitably licensed facility.

NOISE

- 7.37 As noted above, Chapter 9 of the ES should be referred to.
- 7.38 The noise assessment has concluded that at all locations assessed the predicted noise rating level is below the prevailing background noise level. The cumulative assessment has shown that noise levels generated by the proposed Parc Adfer ERF could lead to a negligible increase of 0.1dB in the ambient noise levels at the nearest noise-sensitive properties to the application site. Such an increase would not be noticeable above the normal fluctuations in ambient noise levels in the area.
- 7.39 Based on the results of the assessment, mitigation measures to reduce any potential noise impacts at the nearby noise-sensitive receptors are considered un-necessary

LIGHT POLLUTION

- 7.40 As noted above, Chapter 7 of the ES should be referred to.
- 7.41 A detailed lighting scheme is set out in Appendix 3/1 to this Volume which sets out the lighting levels for the ERF.