

# ENVIRONMENTAL PERMIT VARIATION APPLICATION, DOCKLANDS CAMPUS

## Environmental Risk Assessment

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of Europe Ltd  
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## 1.0 Introduction

SLR Consulting Limited (SLR) has been instructed by Telehouse International Corporation of Europe Limited (Telehouse) to prepare an Environmental Permit (EP) variation application for the Telehouse South (TS) data centre (EP reference EPR/EP3507SL), located at Blackwall Way, Poplar, London, E14 2EH.

The EP variation addresses the following:

- Consolidation of the currently separately permitted Docklands data centre (now referred to as Telehouse North (TN)) (EP reference EPR/SP3237JU), located on Coriander Avenue, London, with the TS EP. The combined TN and TS data centres will be referred to as the Docklands Campus.
- TS is undergoing extensive refurbishment, including the replacement of diesel-fired standby generators (SBGs); the EP variation application includes details of the planned changes.
- Since issue of the TN EP, a number of SBGs, which were included as 'future SBGs' in the EP, have been installed, as agreed with the EA in accordance with the EP pre-operational condition. At the request of the EA, the EP variation includes details of all the SBGs currently in place at TN.

This document provides an Environmental Risk Assessment (ERA) for the proposed change in operations at the TN and TS data centres.

### 1.1 Methodology

This ERA has been prepared in support of the permit application and has been undertaken in accordance with the Environment Agency (EA) guidance *Risk assessments for your environmental permit*<sup>1</sup> (2016). The purpose of the assessment is to identify any significant risks that may affect receptors and demonstrate that the risk of pollution or harm will be acceptable by taking the appropriate measures to manage these risks.

This ERA uses the following approach, as set out in the EA's guidance, for identifying and assessing the risks from the proposed PFA processing facility:

- Step One** Identify and consider risks for your Site and the sources of the risks;
- Step Two** Identify the receptors at risk from the Site;
- Step Three** Identify the possible pathways from the sources of the risks to the receptors;
- Step Four** Assess the risks relevant to your specific activity and check they are acceptable and can be screened out;
- Step Five** State what you will do to control risks if they are too high; and
- Step Six** Submit your risk assessment as part of your application.

### 1.2 Proposed Changes

#### Telehouse North

A number of permitted SBGs have been installed since issue of the original permit, as agreed with the EA in accordance with the EP pre-operational condition. Namely, Telehouse have installed the following SBGs:

- 3 SBGs (MTU 20V4000G23) in West Building, each being 5.37MWth (total thermal rated input 16.11MWth); and

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<sup>1</sup> <https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit> accessed February 2023.

- 2 SBGs (MTU 20V4000G34F(EO)) in North (N2) Building, each being 6.805MWth (total thermal rated input 13.61MWth).

Based on the existing and additional SBGs, the aggregated total combustion capacity for the TN data centre will now be 125.61MWth.

### Telehouse South

TS data centre is undergoing extensive refurbishment. The EP variation application includes details of the planned changes, including:

- Removal of all existing SBGs and replacement with 10 x diesel fired SBGs ((MTU 20V4000G94LF), to be located in the South Support Building (SSB) (previously referred to as EUB), each SBG being 8.816MWth) fitted with SCR abatement to reduce nitrous oxide (NO<sub>x</sub>) emissions;
- Installation of 2 AdBlue bulk storage tanks in the SSB which will feed AdBlue to the SCR abatement systems;
- Changing of the existing horizontal SBG stacks to vertical stacks;
- Removal of the 3 natural gas-fired boilers and calorifiers; and
- Decommissioning and future removal of the 2 diesel bulk storage tanks.

The 10 new containerised SBGs will be installed in the SSB, being externally housed on Level 2 of this building. Each replacement SBG will be designed with individual fuel belly tanks (18,000 litre capacity per SBG and provided with 110% containment) located under each generator container.

A new fuel and AdBlue distribution network will be installed within the SSB, including a new diesel fill point and AdBlue fill point which will be located at ground level of the SSB; this will enable the delivery by bulk tanker of diesel to the SBGs and AdBlue to the 2 AdBlue bulk tanks (to be located on level 1 of the SSB).

In addition, all existing generator stacks at the datacentre will be changed from horizontal to vertical. The planned maintenance and testing regime for the generators will also change (refer to the BAT-OT document for details (Ref: 410.064698.00001 BATOT)).

Based on the replacement SBGs, the aggregated total combustion capacity for the TS data centre will now be 88.16MWth.

The total rated thermal input (under standby power operating conditions) of the TN and TS data centres combined as part of the changes will be approximately 233.16MWth.

## 2.0 Identifying the Risks

This section considers the potential risks to the environment listed in the EA’s guidance to identify those which will apply to the proposed activities and which require assessment, and to screen out those which are not relevant.

The EA guidance identifies the potential risks that may require assessment for ‘most sites’ as follows:

- any discharge, for example sewage or trade effluent to surface or groundwater;
- accidents;
- odour (not for standalone water discharge and groundwater activities);
- noise and vibration (not for standalone water discharge and groundwater activities);
- uncontrolled or unintended (‘fugitive’) emissions, for which risks include dust, litter, pests and pollutants that should not be in the discharge;
- visible emissions, e.g. smoke or visible plumes; and
- release of bioaerosols, for example from shredding, screening and turning, or from stack or open point source release such as a biofilter.

In addition, the EA guidance identifies risks from specific activities for which additional risk assessments must be completed depending on the activity being carried out and where substances are released or discharged into the environment. The EA guidance *Risk assessment for installations, waste and mining waste operations and landfill sites* indicates that the following additional risk assessments may be required for this Site:

- risks of air emissions;
- the global warming impact of air emissions;
- risks to groundwater; and
- risks to surface water from hazardous pollutants, sanitary and other pollutants.

Potential risks can be screened out if they are not relevant for the site or by carrying out tests to check whether they are within acceptable limits or environmental standards. If they are, any further assessment of the pollutant is not necessary because the risk to the environment is insignificant.

Table 2-1 provides a summary of the risks for the proposed changes described in section 1.2, identifying those that can be screened out as not relevant (grey shaded) and the type of risk assessment carried out for those that are identified as relevant.

**Table 2-1**  
**Scope of Risk Assessment**

Risk Type	Relevant	Justification	Type of Risk Assessment
Air Emissions	Yes	Potential for emissions to air from each SBG stack	Quantitative - Air Quality Detailed Dispersion Modelling and Impact Assessment
Global Warming Impact	Yes	Direct releases of CO <sub>2</sub> from SGBs Indirect releases power requirements (grid)	Qualitative

Risk Type	Relevant	Justification	Type of Risk Assessment
Groundwater	No	No direct or indirect releases to groundwater	Not required
Surface Water	No	Direct releases (of uncontaminated surface water) to surface water (the River Thames) via an outfall located off site. Run-off from potentially contaminated areas (e.g., where the SBGs and associated belly tanks are located) has been considered in 'Fugitive emissions'.	Not required
Accidents	Yes	Potential for emissions from equipment failure, etc.	Qualitative
Odour	No	No	Not required
Noise & Vibration	Yes	Potential noise from operation of SBGs and SCR abatement systems	Quantitative – Noise Risk Assessment
Fugitive emissions	Yes	Emissions to air during transferring substances in and out of storage/tank breathing. Runoff from potentially contaminated areas (e.g. where the SBGs and associated belly tanks are located).	Qualitative
Visible emissions	Yes	Potential for visible emissions from each SBG stack	Qualitative
Bioaerosols	No	None emitted	Not required



## 3.0 Telehouse North Site Setting and Receptors

This section identifies the potentially sensitive receptors in the vicinity of the data centre for TN that could be harmed (at potentially significant risk) by emissions from the activities within the proposed changes in the permit.

The guidance<sup>1</sup> requires all receptors that are near the data centre and could reasonably be affected by the proposed activities to be identified and considered as part of the ERA. The following distances have been used to identify the relevant receptors:

- a radius of 500m from the proposed permit boundary has been adopted for all other potentially sensitive receptors (for example, residential, commercial, industrial, agricultural and surface water receptors); and a 2km radius for SSSIs and other sites of cultural and ecological.

### 3.1 Site Setting

The site (centred at NGR TQ 38770 81090) is located off Coriander Avenue, London, E14 2AA.

The surrounding area is predominantly commercial and residential in use. The site falls within the Tower Hamlets Air Quality Management Area. A summary of the immediate environmental site setting is provided in Table 3-1.

The site location and environmental site setting is shown on Drawings 001, 003 and 004, respectively.

**Table 3-1**  
**Surrounding Land Uses of Telehouse North Site**

Boundary	Description
North	Local road network including Coriander Ave, Oregano Dr, East India Dock Road (A13), residential apartments and properties, and Braithwaite Park.
East	Travelodge London Docklands Central (adjacent), Leamouth Road (A1020), residential apartments (Russet House, approx. 55m, Handlebury House, approx. 85m), Tower Hamlets Transport Complex (Government office), a service depot, the River Lea, beyond which lies Limmo Peninsula Ecological Park and a railway line.
South	Local road network including Saffron Avenue and East India Dock Road (A1261), residential high-rise apartments, a railway line, beyond which is Virginia Quay Park, residential properties and the River Thames.
West	Commercial properties, including Global Switch data centre, local road network including Rosemary Drive, Coriander Avenue, Nutmeg Lane, Clove Crescent, an area of open water beyond which are several commercial and hospitality premises (circa 140m from the site boundary) including London Campus (UWS), East India Building (London University), York St John University, Pure Gym. The A102 is circa 320m from the site.

The immediate surrounding land use is described in further detail below.

### 3.1.1 Industrial and Commercial Premises

The site is predominantly surrounded by commercial properties. The closest commercial properties to the site are a Travelodge hotel, located directly adjacent to the east of the site, and a data centre (Global Switch) 20m to the west.

### 3.1.2 Residential Areas

The closest residential properties to the site are apartment complexes approximately 40m to the north which include Sailors House, Artisan House and Lighterman Point, among others, and 55m to the east which includes Russet House. There are further residential complexes within the area located 100m and 180m to the south, 355m to the west and 370m to the east.

### 3.1.3 Local Transport Network

The site is accessed from Coriander Avenue.

The A13 (East India Dock Road) runs generally east/west adjacent to the northern boundary of the site, whilst the A1020 (Leamouth Road) is adjacent to the east of the site. Saffron Avenue runs adjacent to the southern boundary of the site. The East India Dock Road and Tunnel lie 25m to the south and the A102 runs approximately 315m to the west.

The Dockland Light Railway (DLR) is present approximately 150m to the south of the site. East India DLR train station is approximately 150m to the south of the site.

### 3.1.4 Surface Water Features

There is an artificial pond approximately 20m to the southwest and several other artificial ponds 130m to the west. The East India Dock Basin is located 200m to the southeast.

The River Lea lies 130m to the east of the site whilst the River Thames lies approximately 370m to the south.

### 3.1.5 Recreational Areas

There are numerous areas dedicated to public use in the vicinity of the site. The closest recreational area is Virginia Quay Park 180m to the south of the site. Further afield is Limmo Peninsula Ecological Park 230m to the east, Braithwaite Park and unnamed playing fields 145m and 265m to the north respectively and Robin Hood Gardens approximately 380m to the west.

There are several public footpaths in the area including the Prime Meridian Walk which leads from East India rail station to the River Thames.

### 3.1.6 Educational Facilities

There are two education facilities within 500m of the site, namely Culloden Primary School located approximately 230m to the northwest and Woolmore Primary School located approximately 360m to the west.

## 3.2 Geology, Hydrogeology & Hydrology

### 3.2.1 Geology

British Geological Survey<sup>2</sup> (BGS) data indicates the following general geological sequence beneath the site:

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<sup>2</sup> British Geological Survey, [www.bgs.ac.uk](http://www.bgs.ac.uk), accessed February 2023.

- Fluvial sedimentary deposits of alluvium (clay, silt, sand, peat) that is normally soft to firm consolidated, compressible silty clay, but can contain layers of silt, sand, peat and basal gravel, formed between 11.8 thousand years ago and the present during the Quaternary Period. A stronger, desiccated surface zone may be present; and
- The bedrock beneath the site is a sedimentary combination of clay, silt and sand of the London Clay Formation. Sedimentary bedrock formed between 56 and 47.8 million years ago during the Palaeogene period.

### 3.2.2 Hydrogeology

A search on the Multi-Agency Geographical Information for the Countryside (MAGIC)<sup>3</sup> map revealed that the bedrock beneath the site is classified as unproductive strata, meaning that it has low permeability with negligible significance for water supply or river base flows.

The superficial geology beneath the site is classified as a Secondary (undifferentiated) aquifer, meaning that it is not possible to determine whether the bedrock comprises either permeable layers capable of supporting water supplies at a local level or predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

The site is not located within or near a Source Protection Zone.

### 3.2.3 Hydrology

A search of the MAGIC<sup>4</sup> map revealed that the groundwater vulnerability is medium to low.

The site lies within a Flood Zone 3, defined as “land having a 1 in 100 or greater annual probability of river flooding”<sup>5</sup>.

## 3.3 Ecology and Cultural Heritage

The European ecological receptors within 10km and national ecological and cultural receptors within 2km of the site were identified using MAGIC.

### 3.3.1 Ecology

#### European/International Sites

There are several designated European or International sites located within 10km of the site boundary. These sites include:

- Epping Forest Special Area of Conservation (SAC)
- Lee Valley Special Protection Area (SPA); and
- Lee Valley Ramsar Site

There are five Sites of Special Scientific Interest within 10km of the site boundary. These sites include:

- Walthamstow Marshes and Reservoirs
- Epping Forest

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<sup>3</sup> Multi Agency Geographical Information for the Countryside, [www.magic.gov.uk](http://www.magic.gov.uk), accessed February 2023

<sup>4</sup> Multi Agency Geographical Information for the Countryside, [www.magic.gov.uk](http://www.magic.gov.uk), accessed February 2023.

<sup>5</sup> Flood Map for Planning, <https://flood-map-for-planning.service.gov.uk>, accessed in February 2023.

- Abbey Wood
- Oxleas Woodlands
- Gilbert's Pit (Charlton)

Three Local Nature Reserves have also been identified within 2km of the proposed permit boundary. Their locations are presented on Drawing 004. These sites include:

- Tower Hamlets Cemetery Park;
- Ackroyd Drive; and
- Mudchute Park Farm.

Furthermore, there are numerous Local Wildlife Sites within the area.

None of the following ecological receptors have been identified within 2km of the proposed permit boundary:

- National Nature Reserve;
- Areas of Outstanding Natural Beauty;
- National Parks
- Ancient Woodland;
- RSPB Reserves; and
- Woodland Trust Sites.

### 3.4 Cultural Heritage

Searches of MAGIC confirm that none of the following are within 2km of the application site:

- Scheduled monuments;
- World Heritage Sites;
- Registered Parks and Gardens; and
- Registered Battlefields.

Multiple listed buildings are present within the 2km radius of the site. There are five Grade I listed buildings within 2km of the site, the closest is Blackwall Basin which lies approximately 1,015m to the southwest. There are many Grade II listed buildings within a 2km radius of the site, the nearest being East India Dock Wall and Gateway located approximately 30m to the east of the site. There are nine Grade II\* listed buildings within 2km of the site, with the East India Dock House, former Financial Times Print Works, approximately 125m to the west.

The locations of these listed buildings are presented on Drawing 004.

### 3.5 Receptors

Table 3-2 details receptors that could potentially be affected by the site.

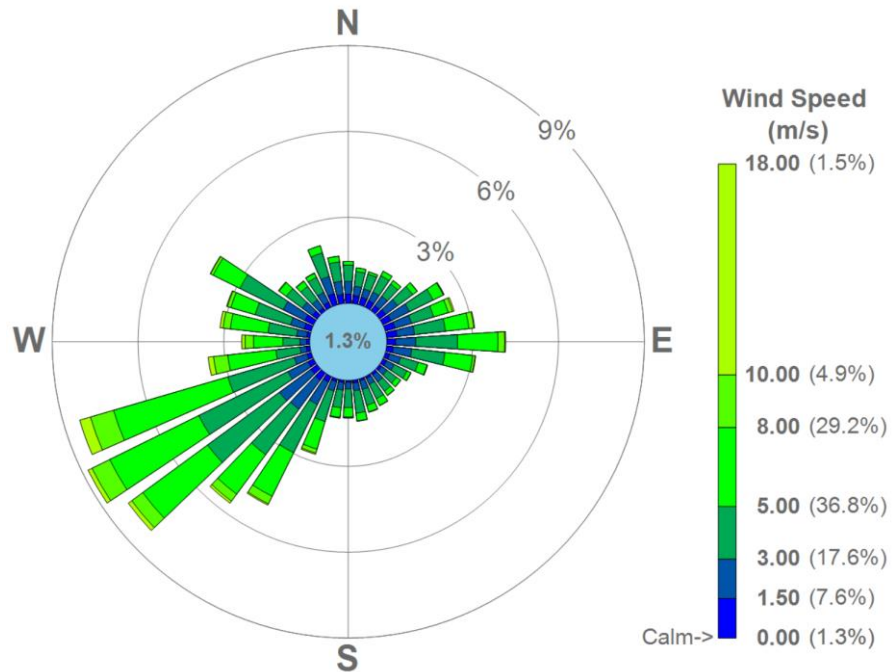
**Table 3-2**  
**Identified Receptors at Telehouse North Site**

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (m)
<b>Identified receptors within 500m of the Environmental Permit Boundary as shown on Drawing 003</b>			
East India Dock Road (A13)	Local Transport Network	North	Adjacent
Leamouth Road (A1020)	Local Transport Network	East	Adjacent
Saffron Avenue	Local Transport Network	South	Adjacent
Travelodge	Commercial	East	Adjacent
Global Switch datacentre	Commercial	West	20
Open Land	Open Land	South	20
Artificial ponds	Surface Water	Southwest	20
East India Dock Road and Tunnel	Local Transport Network	South	25
Residential Buildings including Sailors House	Residential	North	40
Residential Buildings including Russet House	Residential	East	55
Commercial Properties	Commercial	East	60
Tower Hamlets Transport Complex (Government Office)	Commercial	Northeast	95
Residential Apartments	Residential	South	100
Footpaths	Recreational	South	105
Commercial Properties	Commercial	West	130
Artificial ponds	Surface Water	West	130
River Lea	Surface Water	East	130
Braithwaite Park	Recreational	North	145
East India DLR Train Station	Local Transport Network	South	150
Dockland Light Railway	Local Transport Network	South	150
Open land	Open Land	Southeast	150
High Rise Apartments associated with Newport Avenue	Residential	South	180
Virginia Quay Park	Recreational	South	180
East India Dock Basin	Surface Water	Southeast	200

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (m)
Culloden Primary School	Educational	Northwest	230
Limmo Peninsula Ecological Park	Ecological	East	230
Tower Hamlets Town Hall and Planning Department	Commercial	West	260
Playing Fields	Recreational	North	265
Residential Properties associated with Ashton Street	Residential	West	355
Woolmoor Primary School	Educational	West	360
Residential Buildings associated with London City Island	Residential	East	370
River Thames	Surface Water	South	370
Robin Hood Gardens	Ecological/ Cultural	West	380
<b>Identified receptors within 2km and 10km of the Environmental Permit Boundary as shown on Drawing 004</b>			
East India Dock Wall and Gateway	Grade II Listed Building	East	30
East India Dock House	Grade II* Listed Building	West	125
Mudflats	Priority Habitat	East	130
Blackwall Basin	Grade I Listed Building	Southwest	1,015
Coastal Saltmarsh	Priority Habitat	South	1,160
Deciduous Woodland	Priority Habitat	North	1,190
Tower Hamlets Century Park	Local Nature Reserve	Northwest	1,900
Ackroyd Drive	Local Nature Reserve	Northwest	1,900
Mudchute Park Farm	Local Nature Reserve	South	1,975
Gilbert's Pit (Charlton)	SSSI	Southeast	3,690
Epping Forest	SSSI	North	5,420
Oxleas Woodlands	SSSI	Southeast	6,660
Walthamstow Marshes and Reservoirs	SSSI	Northwest	6,770
Epping Forest	SAC	North	6,935
Lee Valley	SPA and Ramsar Site	Northwest	7,740
Abbey Wood	SSSI	East	9,370

### 3.5.1 Wind Rose

A wind rose from London City Meteorological Station, approximately 4.1km to the east of the site, is provided in Figure 3-1 for 2015-2019. It shows that wind is predominantly from a southwest direction, with winds from the north, east and south-south-east relatively infrequent.



**Figure 3-1**  
London City Meteorological Station Wind Rose, using 2015-2019

## 4.0 Telehouse South Site Setting and Receptors

This section identifies the potentially sensitive receptors in the vicinity of the data centre for TS that could be harmed (at potentially significant risk) by emissions from the activities within the proposed changes in the permit.

Again, the following distances have been used to identify the relevant receptors:

- a radius of 500m from the proposed permit boundary has been adopted for all other potentially sensitive receptors (for example, residential, commercial, industrial, agricultural and surface water receptors); and
- a 2km radius for SSSIs and other sites of cultural and ecological.

### 4.1 Site Setting

TS data centre (centred at NGR TQ 38643 80627) is within the London Borough of Tower Hamlets, located at 1 Blackwall Way, Paul Julius Cl, London E14 2EH.

The site is bound by Thames Path and then Aspen Way (A1261) to the north, it is surrounded by open ground to the east, an apartment complex with commercial properties to the west, and the River Thames to the south. The site falls within the Tower Hamlets Air Quality Management Area.

A summary of the immediate environmental site setting is provided in Table 4-1.

The site location and environmental site setting is shown on Drawings 001, 003 and 004, respectively.

**Table 4-1**  
**Surrounding Land Uses of Telehouse South Site**

Boundary	Description
North	Local road network including Thames Path (NE Extension) and Aspen Way (A1261) adjacent to the site, Dockland Light Railway approx. 80m from the site boundary, residential properties approx. 120m from the site, beyond which are commercial/industrial premises, the A102 and Robin Hood Gardens approx. 260m to the northwest; further residential properties are present 320m to the northwest.
East	New residential development that is under construction directly adjacent to the east/northeast, beyond which are residential properties approx. 110m from the site, and Virginia Quay Park (recreational park) approx. 170m from the site, and further afield East India Dock Basin.
South	River Thames (adjacent), Blackwall Tunnel and commercial premises (on the opposite side of the River Thames) including The O2 Arena approx. 370m from the site boundary.
West	Radisson Blu Hotel directly adjacent, beyond which are various residential apartment complexes and hospitality premises approx. 70m from the site boundary. Further afield are commercial premises approx. 180m from the site, the A1206, beyond which is Poplar Dock Marina approx. 310m from the site boundary.

The immediate surrounding land use is described in further detail below.



#### 4.1.1 Commercial Premises

The closest commercial premises lie in the adjacent apartment complex immediately to the west of the site, that includes East River Spa and Elasko Fitness Centre. Further commercial premises are located opposite Aspen Way (A1261), approximately 100m to the north of the site.

#### 4.1.2 Residential Areas

The closest residential properties will be a new residential development that is under construction directly adjacent to the east/northeast. Other nearby residential properties include residential apartment complexes located adjacent to the west of the site, including Charrington Tower and Columbia West Apartments. There are further residential complexes within the area located approximately 110m to the east and 260m to the northwest.

#### 4.1.3 Local Transport Network

The site is accessed off the Thames Path (NE Extension) via Paul Julius Close.

Aspen Road (A1261) is located 20m to the north of the site, followed by the Dockland Light Railway with Blackwall train station located approximately 150m to the northwest. The Blackwall Tunnel runs approximately 25m to the west of the site underground, with the entrance located approximately 200m to the northwest.

#### 4.1.4 Surface Water Features

The nearest surface water feature to the site is the River Thames directly adjacent to the west of the site. There are artificial ponds located approximately 180m to the northeast and several other artificial ponds 210m to the north. The East India Dock Basin is located 415m to the east. Poplar Dock Marina is located approximately 290m to the west of the site.

#### 4.1.5 Recreational Areas

There are some recreational areas within 500m of the site boundary, with Virginia Quay Park being the closest located approximately 185m to the east of the site.

There are several public footpaths in the area, including the Prime Meridian Walk which leads from East India rail station to the River Thames located approximately 150m to the east of the site.

#### 4.1.6 Educational Facilities

There is one education facility within 500m of the site; this is Woolmore Primary School which lies approximately 370m to the northwest.

### 4.2 Geology, Hydrogeology & Hydrology

#### 4.2.1 Geology

British Geological Survey<sup>6</sup> (BGS) data indicates the following general geological sequence beneath the site:

- Fluvial sedimentary deposits of alluvium (clay, silt, sand, peat) that is normally soft to firm consolidated, compressible silty clay, but can contain layers of silt, sand, peat and basal gravel, formed between 11.8 thousand years ago and the present during the Quaternary Period. A stronger, desiccated surface zone may be present; and

<sup>6</sup> British Geological Survey, [www.bgs.ac.uk](http://www.bgs.ac.uk), accessed February 2023.

- The bedrock beneath the site is a sedimentary combination of clay, silt and sand of the London Clay Formation. Sedimentary bedrock formed between 56 and 47.8 million years ago during the Palaeogene period.

#### 4.2.2 Hydrogeology

A search on the MAGIC<sup>7</sup> map revealed that the bedrock beneath the site is classified as unproductive strata, meaning that it has low permeability with negligible significance for water supply or river base flows.

The superficial geology beneath the site is classified as a Secondary (undifferentiated) aquifer, meaning that it is not possible to determine whether the bedrock comprises either permeable layers capable of supporting water supplies at a local level or predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

The site is not located within or near a Source Protection Zone.

#### Hydrology

A search of the MAGIC<sup>8</sup> map revealed that the groundwater vulnerability is medium to low.

The site lies within a Flood Zone 3, defined as “land having a 1 in 100 or greater annual probability of river flooding”<sup>9</sup>.

### 4.3 Ecology and Cultural Heritage

The European ecological receptors within 10km and national ecological and cultural receptors within 2km of the site were identified using MAGIC.

#### 4.3.1 Ecology

##### European/International Sites

There are several designated European or International sites located within 10km of the site boundary. These sites include:

- Epping Forest Special Area of Conservation (SAC)
- Lee Valley Special Protection Area (SPA); and
- Lee Valley Ramsar Site.

There are five Sites of Special Scientific Interest within 10km of the site boundary. These sites include:

- Walthamstow Marshes and Reservoirs
- Epping Forest
- Abbey Wood
- Oxleas Woodlands
- Gilbert’s Pit (Charlton).

One Local Nature Reserve was identified within 2km, Mudchute Park Farm lies approximately 1,515m to the southwest of the site.

<sup>7</sup> Multi Agency Geographical Information for the Countryside, [www.magic.gov.uk](http://www.magic.gov.uk), accessed February 2023

<sup>8</sup> Multi Agency Geographical Information for the Countryside, [www.magic.gov.uk](http://www.magic.gov.uk), accessed February 2023.

<sup>9</sup> Flood Map for Planning, <https://flood-map-for-planning.service.gov.uk>, accessed in February 2023.

Furthermore, there are numerous Local Wildlife Sites within the area.

None of the following ecological receptors have been identified within 2km of the proposed permit boundary:

- National Nature Reserve;
- Areas of Outstanding Natural Beauty;
- National Parks
- Ancient Woodland;
- RSPB Reserves; and
- Woodland Trust Sites.

### 4.3.2 Cultural Heritage

Searches of MAGIC map confirm that none of the following are within 2km of the application site:

- Scheduled monuments;
- World Heritage Sites;
- Registered Parks and Gardens; and
- Registered Battlefields.

Multiple listed buildings are present within a 2km radius of the site. There are four Grade I listed buildings within 2km of the site, the closest is Blackwall Basin which lies approximately 640m to the southwest. There are many Grade II listed buildings within a 2km radius of the site, the nearest being Blackwall Dock approximately 50m to the east, and Blackwall Tunnel Ventilation Shaft approximately 50m to the west. There are nine Grade II\* listed buildings within 2km of the site, with the East India Dock House, former Financial Times Print Works, approximately 360m to the north.

The locations of these listed buildings are presented on Drawing 004.

## 4.4 Receptors

Table 4-2 details receptors that could potentially be affected by the site.

**Table 4-2**  
**Identified Receptors at Telehouse South Site**

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (m)
<b>Identified receptors within 500m of the Environmental Permit Boundary as shown on Drawing 003</b>			
Thames Path (NE Extension)	Local Transport Network	North	Adjacent
Open Ground	Open Ground	East	Adjacent
River Thames	Surface Water Feature	South	Adjacent
New residential development (currently under construction)	Residential	East, Northeast	Adjacent

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (m)
Apartment complex with commercial premises, including Radisson Blu Hotel, East River Spa and Elasko Fitness Centre	Residential/Commercial	West	Adjacent
Aspen Way (A1261)	Local Transport Network	North	20
Blackwall Tunnel	Local Transport Network	West	25
Commercial Properties, including Rosa's Thai Café and Arvin Roofing	Commercial	North	100
High Rise Apartments and Apartment Complex	Residential	East	110
Footpaths	Recreational	East	150
Blackwall DLR Train Station	Local Transport Network	Northwest	150
Dockland Light Railway	Local Transport Network	North	150
Artificial pond	Surface Water Feature	Northeast	180
Virginia Quay Park	Recreational	East	185
Artificial ponds	Surface Water Feature	North	210
Tower Hamlets Town Hall and Planning Department	Commercial	North	250
Apartment Complex	Residential	Northwest	260
Robin Hood Gardens	Recreational	Northwest	285
Poplar Dock Marina	Surface Water Feature	West	290
East India Dock Road and Tunnel (A13)	Local Transport Network	Northeast	310
Several commercial premises on opposite side of the River Thames including the O2 Arena	Commercial	South	370
Woolmoor Primary School	Educational	Northwest	370
East India Dock Basin	Surface Water Feature	East	415
<b>Identified receptors within 2km and 10km of the Environmental Permit Boundary as shown on Drawing 004</b>			
Mudflats	Priority Habitat	East	35
Blackwall Dock	Grade II Listed Building	East	50
Blackwall Tunnel Ventilation Shaft	Grade II Listed Building	West	50
East India Dock House	Grade II* Listed Building	North	360
Blackwall Basin	Grade I Listed Building	Southwest	640

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (m)
Coastal Saltmarsh	Priority Habitat	Southeast	930
Deciduous Woodland	Priority Habitat	South	1,160
Mudchute Park Farm	Local Nature Reserve	Southwest	1,515
Gilbert's Pit (Charlton)	SSSI	Southeast	3,550
Epping Forest	SSSI	North	5,420
Oxleas Woodlands	SSSI	Southeast	6,430
Walthamstow Marshes and Reservoirs	SSSI	Northwest	7,135
Epping Forest	SAC	North	7,460
Lee Valley	SPA and Ramsar Site	Northwest	8,200
Abbey Wood	SSSI	East	9,420

#### 4.4.1 Wind Rose

A wind rose from London City Meteorological Station, approximately 4.1km to the east of the site, is provided in Figure 3-1 for 2015-2019. It shows that wind is predominantly from a southwest direction, with winds from the north, east and south-south-east relatively infrequent.

## 5.0 Environmental Risk Assessment

This section considers the potential pathways between source and receptor and where appropriate, the assessment demonstrates how the risk of pollution or harm from both the TN and TS data centres can be mitigated by measures to manage these risks and/or block the pathways.

The Installation will not produce any process effluent or release bioaerosols, and there will be no point source emissions to groundwater or land from the application activities. Uncontaminated surface water runoff from the SBG roof area and the fuel/AdBlue delivery area will drain to the on-site surface water drainage system, where it will be directed via a newly installed full retention Class 1 forecourt petrol interceptor and Vortex separator, prior to discharge into the River Thames via the existing outfall, which is subject to a Port of London Authority consent. There will be no changes in the nature/composition of the surface water runoff at TS as a result of the proposed changes.

There will be several point source emissions to air associated with each diesel-fired SBG stack and the potential for visible emissions from these stacks.

Therefore, only the following potential impacts are considered further in this risk assessment:

- Air emissions;
- Global Warming Impact;
- Accidents;
- Noise & Vibration;
- Fugitive Emissions; and
- Visible Emissions.

### 5.1 Telehouse North

An assessment in terms of hazards posed, receptors and pathways, along with management and residual risks for the hazards/impacts identified above from the operation of TN data centre is presented in Tables 5-1 to 5-5 for each of the activities summarised in Section 1.2, in accordance with the risks identified in Table 2-1 of this report.

The assessment for the TN data centre is largely the same as the assessment carried out in the ERA prepared in June 2018 for the Docklands Data Centre EP Application (SLR ref. 410.04438.00001 ERA), this reflects the fact that there have no significant changes at the data centre.

**Table 5-1**  
**Telehouse North Data Centre: Air Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Emissions from SBG stacks during planned maintenance and testing & emergency outage	Various residential, recreational, commercial and ecological receptors identified in drawings 003 & 004	Air	<p>The MTU-based SBGs of the North 2 and West building accord with the 2g TA-Luft standard. The older SBGs (of the North and East Buildings) accord with the 4g TA-Luft standard. The TN SBGs are subject to an EP; the additional SBGs installed in North 2 and West buildings have been approved by the EA via the EP pre-operational condition.</p> <p>A detailed risk assessment of the impact on air quality of emissions of combustion products from the data centre SBGs is presented in Section 4 of this EP application (410.064698.00001_AERA). The findings of the assessment for routine testing and maintenance operations are that for planned maintenance and testing significant impacts are considered unlikely.</p> <p>In the highly unlikely event of a 36 hour 'electrical grid outage' there is potential for impacts on certain receptors.</p> <p>Telehouse has developed an Air Quality Emergency Action Plan (AQEAP); this has been incorporated into Telehouse's EMS. The AQEAPs detail the management actions to be taken in the event of an emergency outage</p>	<b>Low</b> due to management measures and limited operational hours	<p>Pollution, harm to environment and human health</p> <p><b>Medium</b></p>	<b>Low</b>

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>of the national electricity transmission system that could result in the prolonged usage of the SBGs which could potentially result in adverse impacts on local air quality.</p> <p>The TN &amp; TS AQEAPs will be consolidated into one AQEAP and submitted to the EA. The consolidated AQEAP, once approved by the EA will be provided to the Local Authority.</p> <p>Planned preventative maintenance (PPM) is in place for the maintenance and testing of the SBG's; maintenance is conducted in accordance with the manufacturer requirements.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).</p>			
Visible emissions from the SBGs stacks, typically on start-up of the generators.	All receptors identified in drawings 003 & 004	Air	<p>Planned preventative maintenance (PPM) is in place for the maintenance and testing of the SBGs; maintenance is conducted in accordance with manufacturer requirements.</p> <p>Telehouse has implemented visual checks for visible emissions from the SBGs during start up.</p>	<b>Low</b> due to maintenance measures and limited operational hours	Pollution, harm to environment and human health <b>Very Low</b>	<b>Not significant</b>



**Table 5-2**  
**Telehouse North Data Centre: Noise Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Noise from vehicular movements (fuel deliveries)	Industrial, commercial, residential and ecological receptors identified in drawings 003 & 004	Air (propagation)	<p>The data centre is operational 24 hours a day, 7 days a week. On-site vehicles are required to adhere to a considerate speed limit.</p> <p>Fuel oil deliveries are carried out during daytime hours except in the case of emergency outage situations where more frequent deliveries may be required.</p> <p>Any noise complaint received will be logged. An appropriately designated person will investigate the complaint and will take action to identify the source of the noise and remedial measures implemented where appropriate.</p> <p>The Site Manager is responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).</p>	<p>Occasional deliveries of fuel oil (once per week).</p> <p><b>Low</b></p>	<p>Localised, slight, short-term noise nuisance.</p> <p><b>Very low</b></p>	<b>Not significant</b>
Noise from operation of the SBGs	Industrial, commercial, residential and ecological	Air (propagation)	SBGs are located inside buildings.	<b>Low</b> due to the mitigation	Nuisance <b>Low</b>	<b>Not significant</b>

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
	receptors identified in drawings 003 & 004		<p>All equipment is maintained and operated in accordance with the manufacturer's guidance and maintained in good working order.</p> <p>The noise assessment prepared for the EP variation application (Ref: 410.064698.00001/Noise Assessment) has concluded that the planned maintenance and testing of the SBGs is not predicted to result in excessive levels of noise that could adversely impact identified sensitive receptors.</p> <p>Any noise complaint received will be logged. An appropriately designated person will investigate the complaint and will take action to identify the source of the noise and remedial measures will be implemented where appropriate.</p> <p>The Site Manager is responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).</p>	measures in place		

**Table 5-3**  
**Telehouse North: Fugitive Emissions Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
<b>To Air:</b>						
<p>Emissions during the transfer of substances in and out of storage (filling and emptying).</p> <p>Emissions during tank breathing, i.e. emissions due to temperature increases resulting in vapour space expansions and subsequent emissions.</p>	<p>Industrial, commercial, and residential receptors identified in drawings 003 &amp; 004</p>	<p>Air</p>	<p>Best practices are adhered to for all fuel loading activities. Such measures will not remove potential for emissions but will limit the duration of such releases.</p> <p>Deliveries of diesel are from operator approved suppliers and are undertaken in accordance with delivery procedures which form part of the Environmental Management System.</p> <p>Above ground bulk diesel storage tanks are of single skin steel construction and are located in bunded tank rooms designed to contain 110% of the tank volume, or where there is more than one tank 125% of the largest tank. The tank room bunds have leak detection.</p> <p>Below ground diesel tanks are of double skinned steel construction and have leak detection.</p> <p>All diesel bulk storage tanks have overfill indication and audible alarms.</p>	<p><b>Low</b></p>	<p>Pollution, Harm to Environment and Human Health</p> <p><b>Low</b></p>	<p><b>Low</b></p>

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>SBG belly tanks are either single or double skinned. These belly tanks are located within bunded SBG buildings; the bunds are alarmed. Belly tanks have a fuel level gauge, low level/high level/high high level alarms. The SBG belly tanks are automatically filled from the diesel bulk storage tanks.</p> <p>Fuel transfer pipelines from the bulk storage tanks consist of double skinned buried lines; for buried self-draining pipelines these are single skinned, the angle of the pipework ensuring that any residual diesel drains back to the storage tank. The fuel transfer pipelines for the North 2 building are double skinned with leak detection. To minimise the risk of corrosion all pipework is painted or is constructed of corrosion resistant material.</p> <p>Above ground diesel pipework is typically jointed single skinned.</p> <p>On site fuel storage and associated pipework is inspected for leaks, corrosion and mechanical integrity. Tests are scheduled as required</p> <p>The belly tanks and bulk storage tanks are monitored to detect any leaks, via the building management system (BMS).</p>			

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			Spill kits will be available at the sites. Spill procedures are in place, as part of the Environmental Management System.  Areas where fuel is stored is subject to daily visual inspections as part of daily operational activities.  The Site Manager is responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).			
<b>To Water</b>						

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Runoff from potentially contaminated areas (e.g. car park and where the generators, associated diesel belly tanks are located) Percolation of contaminated water	Land Groundwater Bedrock	Overland Percolation through the ground	<p>Site surfacing comprises hardstanding with block paving for some car parking areas. Car parking areas and on-site roads are kerbed to retain surface water run-off to drain, in the main via suitably sized oil interceptors to municipal sewer. Requirement for drainage grids to be protected with a drain cover during fuel deliveries and for deliveries to be supervised by the fuel vehicle driver and the appointed facilities management contractor to reduce the risk of spillages during fuel deliveries.</p> <p>The generators and associated diesel belly tanks are housed internal to the data centre buildings; these areas benefit from concrete surfacing.</p> <p>The interceptors are regularly inspected and maintained; all retained oil/sludge is removed by suitably licensed contractors.</p> <p>No oily water is permitted to leave the site under normal operating conditions.</p> <p>The integrity of the diesel storage tanks/belly tanks are subject to daily visual inspection by site personnel as part of daily operations. Any defects</p>	<b>Very low</b>	Pollution, Harm to Environment  <b>Medium</b>	<b>Not significant</b>

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>or weaknesses spotted in a tank or containment measures will be repaired as soon as practicable.</p> <p>Uncontaminated surface water runoff which is discharged via the on-site surface water drainage pass via oil interceptors prior to discharge into municipal combined sewer at TN.</p> <p>The Site Manager is responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).</p>			

**Table-5-4**  
**Telehouse North Data Centre: Accidents Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Leak from on-site fuel, oil storage	Soil, groundwater	<p>Overland</p> <p>Percolation through the ground from above ground storage tanks (ASTs) and associated pipework</p> <p>Percolation through the ground from below ground storage tanks (USTs) and associated pipework</p>	<p>Above ground bulk diesel storage tanks are of single skin steel construction and are located in bunded tank rooms designed to contain 110% of the tank volume, or where there is more than one tank 125% of the largest tank. The tank room bunds have leak detection.</p> <p>Below ground diesel tanks are of double skinned steel construction and have leak detection.</p> <p>All diesel bulk storage tanks have overfill indication and audible alarms.</p> <p>SBG day tanks are either single or double skinned. These day tanks are located within bunded SBG buildings; the bunds are alarmed. Day tanks have a fuel level gauge, low level/high level/high high level alarms.</p>	<b>Low</b>	<p>Risk of soil and groundwater contamination</p> <p><b>Medium</b></p>	<b>Low</b>



What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>Fuel transfer pipelines from the bulk storage tanks consist of double skinned flooded buried lines; for buried self-draining pipelines these are single skinned, the angle of the pipework ensuring that any residual diesel drains back to the storage tank. The fuel transfer pipelines for North 2 building are double skinned with leak detection. To minimise the risk of corrosion all pipework is painted or is constructed of corrosion resistant material.</p> <p>Above ground diesel pipework is typically jointed single skinned.</p> <p>On site fuel storage and associated pipework is scheduled for testing for leaks, corrosion and mechanical integrity every 5 years.</p> <p>The Site Manager is responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).</p>			

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Discharge of fuel oil outside bunded or kerbed area	Surface water, soil and groundwater	Over Land, Percolation through the ground Surface water	<p>Best practices are adhered to for all fuel loading/unloading activities. All suppliers are required to adhere to the current Carriage of Dangerous Goods (ADR) Regulations.</p> <p>Any spillage that does occur will be cleaned/contained immediately using absorbent material in the spill kits provided on-site and on fuel delivery vehicles.</p> <p>Deliveries of diesel are from operator approved suppliers and will be undertaken in accordance with delivery procedures that have been developed as part of the Environmental Management System.</p> <p>Any spillage that does occur will be cleaned up/contained immediately using absorbent material in the spill kits provided on-site, in accordance with the spill procedure. All spills will be removed from site by a suitably licensed waste contractor.</p> <p>The Site Manager is responsible for implementing risk management measures in conjunction with the Operating Techniques (Ref: 410.064698.00001/BATOT).</p>	<b>Low</b>	<p>Risk of soil and groundwater contamination</p> <p><b>Medium</b></p>	<b>Low</b>

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Fire	Industrial, commercial, residential, surface water, recreational and ecological receptors identified in drawings 003 & 004  Groundwater  Bedrock	Air (smoke), water run-off	<p>A Fire Risk Assessment has been undertaken for the facility; this was completed by an external company.</p> <p>Each building has a fire alarm which is subject to regular testing. Foam suppressant systems are in place with the exception of North Building where one bulk diesel tank room has a gas fire suppressant system and a water suppressant system for the other two bulk diesel tank rooms.</p> <p>The SBGs will automatically shut down in the event of a fire. With the exception of N2 Building, all day tanks will automatically drain back to the bulk diesel tanks. For N2 Building, in the event of a fire diesel will drain to a below ground dump tank; there is capacity for only 1 x day tank to drain back to this dump tank.</p>	<b>Very low</b>	<p>Potential explosion hazard.</p> <p>Release of emissions to air resulting from oxygen starved combustion of fuel oil.</p> <p>Potential for fire to spread to other areas of plant.</p> <p>Water contamination (runoff)</p> <p><b>Medium</b></p>	<b>Low</b>
Security and Vandalism	Industrial, commercial, residential and surface	Air / Land	<p>The following security measures are in place:</p> <ul style="list-style-type: none"> <li>• 24/7 security team on site</li> <li>• 24/7 Telehouse support team on site</li> </ul>	<b>Very low</b>	Pollution, Harm to Environment and Human Health	<b>Not significant</b>

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
	water receptors Personnel on site		<ul style="list-style-type: none"> <li>Site access control system</li> <li>Site perimeter security measures</li> <li>CCTV.</li> </ul> <p>The Site Manager is responsible for implementing risk management measures in conjunction with the Operating Techniques (Ref: 410.064698.00001/BATOT).</p>		<b>Low</b>	
Flooding	Personnel on site  Industrial, commercial, residential, surface water, recreational and ecological receptors identified in drawings 003 & 004	Land, Water	<p>According to the UK government Flood Map for Planning, the data centre lies within flood zone 3. Land and property in flood zone 3 have a 1 in 100 or greater annual probability of river flooding.</p> <p>The data centre not been subject to flooding since operation by Telehouse.</p> <p>Evacuation procedures will be implemented in the event of flooding.</p> <p>The Site Manager is responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).</p>	<b>Low</b>	<b>Medium</b>	<b>Not significant</b>

**Table 5-5**  
**Telehouse North Data Centre: Global Warming Potential (GWP)**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Generation of CO <sub>2e</sub> emissions	National and global air quality and climate change	Air	<p>Operation of the generators involves the combustion of diesel fuel to generate electricity for use at the data centre in the event of an emergency outage of the National Grid supply of electricity. The generators are subject to planned maintenance and testing. The combustion of diesel results in the generation of CO<sub>2e</sub> emissions.</p> <p>Telehouse is a participant to a Climate Change Agreement, (CAA) for the data centre sector. Energy management techniques have been implemented to monitor, record and track energy consumption at the data centre.</p> <p>To achieve the reductions that will be required under the CCA energy reduction targets are established in the Environmental Management System.</p> <p>Energy consumption has been considered in the BATOT document (Ref: 410.064698.00001/BATOT).</p>	<b>Medium</b>	<p>Harm to environment,                      Harm to human health</p> <p><b>Medium</b></p>	<b>Medium</b>

## 5.2 Telehouse South

An assessment in terms of hazards posed, receptors and pathways, along with management and residual risks for the hazards/impacts identified from the operation of TS data centre is presented in Tables 5-6 to 5-10 for the proposed changes to the activities summarised in Section 1.2, in accordance with the risks identified in Table 2-1 of this report.

**Table 5-6**  
**Telehouse South Data Centre: Air Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Emissions from SBG stacks during planned maintenance and testing & emergency outage	Various residential, recreational, commercial and ecological receptors identified in drawings 003 & 004	Air	<p>The replacement 10 SBGs (MTU 20V4000G94LF) will be US EPA Tier 2 (optimized emissions). In addition, SCR abatement will be installed on the 10 SBGs. The SCR abatement is designed to reduce NO<sub>x</sub> emissions to &lt;236mg/m<sup>3</sup> at 5% oxygen.</p> <p>A detailed risk assessment of the impact on air quality of emissions of combustion products from the data centre SBGs is presented in this EP application (410.064698.00001_AERA). The findings of the assessment for routine testing and maintenance operations are that planned maintenance and testing will not result in an adverse impact on air quality.</p> <p>In the highly unlikely event of a 36 hour 'electrical grid outage' there is potential for impacts on certain receptors.</p> <p>Telehouse has developed an Air Quality Emergency Action Plan (AQEAP); this has been incorporated into Telehouse's EMS. The AQEAPs detail the management actions to be taken in the event of an emergency outage of the national electricity transmission system that could</p>	<p><b>Low</b> due to management measures, limited operational hours and SCR abatement on the SBGs to minimise NO<sub>x</sub> emissions</p>	<p>Pollution, harm to environment and human health</p> <p><b>Medium</b></p>	<p><b>Low</b></p>

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>result in the prolonged usage of the SBGs which could potentially result in adverse impacts on local air quality.</p> <p>The TN &amp; TS AQEAPs will be consolidated into one AQEAP and submitted to the EA. The consolidated AQEAP, once approved by the EA will be provided to the Local Authority.</p> <p>PPM will be in place for the maintenance and testing of the SBG's; maintenance will be conducted in accordance with the manufacturer requirements.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).</p>			
Visible emissions from the SBGs stacks, typically on start-up of the generators.	Various residential, recreational, commercial and ecological receptors identified in drawings 003 & 004	Air	<p>Planned preventative maintenance (PPM) will be in place for the maintenance and testing of the SBGs at the TS data centre; maintenance will be conducted in accordance with manufacturer requirements.</p> <p>Telehouse will implement visual checks for visible emissions from the SBGs during start up.</p>	<b>Low</b> due to maintenance measures and limited operational hours	Pollution, harm to environment and human health  <b>Very Low</b>	<b>Not significant</b>



**Table 5-7**  
**Telehouse South Data Centre: Noise Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Noise from vehicular movements (fuel deliveries)	Industrial, commercial, residential and ecological receptors identified in drawings 003 & 004	Air (propagation)	<p>TS data centre will be operational 24 hours, seven days a week. On-site vehicles are required to adhere to a considerate speed limit.</p> <p>Fuel oil deliveries and AdBlue deliveries will only be carried out during daytime hours except in the case of emergency outage situations where more frequent deliveries may be required.</p> <p>Any noise complaint received will be logged. An appropriately designated person will investigate the complaint and will take action to identify the source of the noise and remedial measures implemented where appropriate.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).</p>	<b>Low</b>	Localised, slight, short-term noise nuisance.  <b>Very low</b>	<b>Not significant</b>
Noise from operation of the SBGs	Industrial, commercial, residential and ecological	Air (propagation)	The SBGs will be housed within bespoke container units fitted with noise attenuation measures.	<b>Low</b> due to the mitigation	Nuisance <b>Low</b>	<b>Not significant</b>

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
	receptors identified in drawings 003 & 004		<p>All equipment will be maintained and operated in accordance with the manufacturer's guidance and maintained in good working order.</p> <p>The noise assessment prepared for the EP variation application (Ref: 410.064698.00001/Noise Assessment) has concluded that the planned maintenance and testing of the SBGs is not predicted to result in excessive levels of noise that could adversely impact identified sensitive receptors.</p> <p>Any noise complaint received will be logged. An appropriately designated person will investigate the complaint and will take action to identify the source of the noise and remedial measures will be implemented where appropriate.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).</p>	measures in place		

**Table 5-8**  
**Telehouse South Data Centre: Fugitive Emissions Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
<b>To Air:</b>						
Emissions during the transfer of substances in and out of storage (filling and emptying).  Emissions during tank breathing, i.e. emissions due to temperature increases resulting in vapour space expansions and subsequent emissions.	Industrial, commercial, and residential receptors identified in drawings 003 & 004	Air	Best practices will be adhered to for all fuel and AdBlue loading activities. Such measures will not remove potential for emissions but will limit the duration of such releases.  Deliveries of diesel & AdBlue will be from operator approved suppliers and will be undertaken in accordance with delivery procedures which form part of the Environmental Management System.  Refurbishment of TS will involve removal of all existing permitted SBGs and associated fuel systems along with the two existing underground bulk fuel tanks.  10 new containerised SBGs will be installed in the South Support Building (SSB), each with individual 18,000 litre belly tanks (provided with 110% containment) and will be designed to British Standard BS799 Part 5 2010 (Oil Burning Equipment. Carbon steel oil storage tanks. Specification). The SBG belly tanks will be filled	<b>Low</b>	Pollution, Harm to Environment and Human Health  <b>Low</b>	<b>Low</b>

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>directly from refuelling vehicles. The diesel belly tanks will have the following protection measures:</p> <ul style="list-style-type: none"> <li>• Tank level gauge.</li> <li>• High and low level alarms connected to the BMS.</li> <li>• A pressure delivery over-fill prevention valve.</li> <li>• Leak detection alarms connected to the BMS.</li> <li>• The SBGs will have pressure relief valves to prevent over pressurisation of diesel supplied from the belly tanks.</li> <li>• To minimise the risk or corrosion all pipework will be painted or constructed of corrosion resistant material.</li> </ul> <p>AdBlue will be stored in two 17,000l bulk storage tanks. These tanks will be located on level 1 of the SSB. Adjacent to each tank will be a urea tank pump to enable the refilling of these bulk tanks from tanker deliveries at ground level of the SSB.</p> <p>Each AdBlue bulk storage tank will be of stainless-steel construction; the tanks will be double skinned and provided with a bund (bund capacity 316 litres). Each bulk tank will be fitted with level sensors, a tank level gauge and high/low level alarms. There</p>			

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>will be a sensor in the AdBlue bund which will alarm on the detection of excessive liquid in the bund.</p> <p>A new fuel distribution system and AdBlue distribution system will be installed within the SSB, with a new fill point located externally at ground level of the SBB which will allow the delivery of fuel directly to the SBGs, and AdBlue to the 2 bulk storage tanks, by bulk road tanker.</p> <p>The AdBlue bulk tanks will be subject to regular preventative maintenance to minimise the risk of leaks.</p> <p>The SBG belly tanks and 2 AdBlue tanks will be monitored to detect any leaks, via the BMS.</p> <p>Spill kits will be available at the site. Spill procedures are in place, as part of the Environmental Management System.</p> <p>Areas where fuel and AdBlue is stored will be subject to daily visual inspections as part of daily operational activities.</p> <p>The Site Manager will be responsible for implementing risk management measures in</p>			

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).			
<b>To Water</b>						
Runoff from potentially contaminated areas (e.g. loading area for the bulk delivery of diesel and AdBlue and where the generators and associated diesel belly tanks are located) Percolation of contaminated water	Land Groundwater Bedrock	Overland percolation through the ground	The existing SBGs in TS will be removed from the plant area in the main DTC and SSB and will be replaced by 10 new SBGs which are to be located on level 1 (roof level) of the SSB.  A new fill point for diesel and AdBlue will be located at ground level of the SSB in a dedicated loading area to allow bulk tankers to park and connect to the fill points. The loading area, which will be concrete surfaced with raised kerbing around the perimeter, will be cambered so that any runoff will drain towards a central drainage channel. This floor drain will direct the runoff via the surface water drainage system to a newly installed full retention Class 1 forecourt petrol interceptor designed with a holding capacity of 7,600 litres. This interceptor will have high level silt and oil alarms. The interceptor will be isolated during tanker offloading operations for diesel & AdBlue via an isolation valve; closure of this valve will be an automated process via the site's BMS.	<b>Very low</b>	Pollution, Harm to Environment  <b>Medium</b>	<b>Low</b>

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>Tertiary containment will be provided by the roof level of the SSB where the generators will be located, and by the contoured hardstanding of the area where the road tanker refuelling area and refuelling point will be located, additionally raised kerbing will be present along the site perimeter.</p> <p>The integrity of the diesel storage tanks/belly tanks and AdBlue tanks will be subject to periodic visual inspection by site personnel as part of daily operations. Any defects or weaknesses spotted in a tank or containment measures will be repaired as soon as practicable.</p> <p>The interceptor will be subject to regular emptying and maintenance by an appointed specialist contractor.</p> <p>All interceptor oil/sludge will be removed by suitably licensed contractors.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).</p>			

**Table 5-9**  
**Telehouse South Data Centre: Accidents Risk Assessment and Management Plan**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Leak from on-site fuel, oil and AdBlue storage	Soil, groundwater	Overland Percolation through the ground from ASTs and associated pipework.	<p>Refurbishment of TS will involve removal of all existing SBGs and associated fuel systems along with the two existing underground bulk fuel tanks.</p> <p>10 new containerised SBGs will be installed in the SSB, each with individual 18,000 litre belly tanks (provide with 110% containment), which will be designed to British Standard BS799 Part 5 2010 (Oil Burning Equipment. Carbon steel oil storage tanks. Specification). The belly tanks will be filled directly from refuelling vehicles. The diesel belly tanks will have the following protection measures:</p> <ul style="list-style-type: none"> <li>• Tank level gauge.</li> <li>• High and low level alarms connected to the BMS.</li> <li>• A pressure delivery over-fill prevention valve.</li> <li>• Leak detection alarms connected to the BMS.</li> <li>• The generator sets will have pressure relief valves to prevent over pressurisation of diesel supplied from the belly tanks.</li> <li>• To minimise the risk or corrosion all pipework will be painted or constructed of corrosion resistant material.</li> </ul>	<b>Low</b>	Risk of soil and groundwater contamination  <b>Medium</b>	<b>Low</b>



What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>AdBlue will be stored in two 17,000l bulk storage tanks located on level 1 of the SSB. Each bulk storage tank will be of stainless steel construction; the tanks will be double skinned and provided with a bund (bund capacity 316 litres). Each bulk tank will be fitted with level sensors, a tank level gauge and high/low level alarms. There will be a sensor in the AdBlue bund which will alarm on the detection of excessive liquid in the bund.</p> <p>The diesel belly tanks and AdBlue bulk tanks will be filled from a ground level fill point, as described previously.</p> <p>During tanker offloading operations for diesel and AdBlue, the interceptor will be isolated via an isolation valve; closure of this valve will be an automated process via the site's BMS.</p> <p>The diesel belly tanks and AdBlue tanks will be subject to regular preventative maintenance to minimise the risk of leaks.</p> <p>The integrity of diesel and AdBlue tanks will be subject to daily visual inspection by site personnel as part of standard daily operations. Any defects or weaknesses spotted in a tank or containment measures will be repaired as soon as practicable.</p>			

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>On site fuel and AdBlue storage and associated pipework will be scheduled for testing for leaks, corrosion and mechanical integrity every 5 years.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).</p>			
Discharge of fuel oil or AdBlue outside bunded or kerbed area	Surface water, soil and groundwater	Over Land Percolation through ground Water	<p>Best practices will be adhered to for fuel and AdBlue loading activities which will limit the duration of potential emission releases. Diesel fuel suppliers will be required to adhere to the current Carriage of Dangerous Goods (ADR) Regulations.</p> <p>Deliveries of diesel and AdBlue will be from operator approved suppliers and will be undertaken in accordance with delivery procedures that have been/will be developed as part of the Environmental Management System.</p> <p>Operational areas, roads and external surfacing will benefit from impermeable surfacing to prevent percolation of any spilt/leaked fuel or potentially contaminated runoff to soil and groundwater.</p>	<b>Low</b>	<p>Risk of soil and groundwater contamination</p> <p><b>Medium</b></p>	<b>Low</b>

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			<p>Any spillage that does occur will be cleaned up/contained immediately using absorbent material in the spill kits which will be provided on-site in accordance with the spill procedure. All spills will be removed from site by a suitably licensed waste contractor.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the Operating Techniques (Ref: 410.064698.00001/BATOT).</p>			
Fire	Industrial, commercial, residential, surface water, recreational and ecological receptors identified in drawings 003 & 004  Groundwater  Bedrock	Air (smoke), water run-off	<p>The site will benefit from a fire alarm system and associated fire suppression systems inside the SSB. The SBG container units themselves will each have independent fire suppression systems.</p> <p>Tertiary containment will be provided by the roof level of the SSB where the SBGs will be located, and by the contoured hardstanding of the area where the road tanker refuelling area and refuelling point will be located; additionally raised kerbing will be present along the site perimeter.</p> <p>Emergency Procedures will be maintained and reviewed as part of the EMS; these will detail the actions to be taken in the event of a fire.</p>	<b>Very low</b>	Potential explosion hazard  Release of emissions to air resulting from oxygen starved combustion of fuel oil  Potential for fire to spread to other areas of plant	<b>Low</b>

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
			The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).		Water contamination (runoff) <b>Medium</b>	
Security and Vandalism	Industrial, commercial, residential and surface water receptors identified in drawings 003 & 004  Personnel on site	Air/Land	The following security measures will be in place at TS: <ul style="list-style-type: none"> <li>• 24/7 security team on site (normally 2 guards minimum per shift system)</li> <li>• Minimum of circa 8 staff (comprising security and facilities management personnel) on site.</li> <li>• CCTV</li> <li>• Site access control system</li> <li>• Site perimeter security measures</li> <li>• Vehicle management systems.</li> </ul> The Site Manager will be responsible for implementing risk management measures in conjunction with the Operating Techniques (Ref: 410.064698.00001/BATOT).	<b>Very low</b>	Pollution, Harm to Environment and Human Health  <b>Low</b>	<b>Not significant</b>
Flooding	Personnel on site	Land, Water	According to the UK government Flood Map for Planning, the data centre is within flood zone 3. Land and property in flood zone 3 have a 1 in 100 or greater annual	<b>Low</b>	<b>Medium</b>	<b>Not significant</b>

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
	Industrial, commercial, residential, surface water, recreational and ecological receptors identified in drawings 003 & 004		<p>probability of river flooding.</p> <p>The data centre has not been subject to flooding since operation by Telehouse.</p> <p>Evacuation procedures will be implemented in the event of flooding.</p> <p>The Site Manager will be responsible for implementing risk management measures in conjunction with the operating techniques document (Ref: 410.064698.00001/BATOT).</p>			

**Table 5-10**  
**Telehouse South Data Centre: Global Warming Potential (GWP)**

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the overall risk
What has the potential to cause harm?	What is at risk what do I wish to protect?	How can the hazard get to the receptor?	What measures will you take to reduce the risk? Who is responsible for what?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains? The balance of probability and consequence
Generation of CO <sub>2e</sub> emissions	National and global air quality and climate change	Air	<p>Operation of the new replacement SBGs will involve the combustion of diesel fuel to generate electricity for use at the data centre in the event of an emergency outage of the National Grid supply of electricity. The SBGs will be subject to planned maintenance and testing. The combustion of diesel will result in the generation of CO<sub>2e</sub> emissions.</p> <p>Telehouse is a participant to a Climate Change Agreement, (CAA) for the data centre sector. Energy management techniques will be implemented to monitor, record and track energy consumption at the data centre.</p> <p>To achieve the reductions that will be required under the CCA energy reduction targets will be established in the Environmental Management System.</p> <p>Energy consumption has been considered in the BATOT document (Ref: 410.064698.00001/BATOT).</p>	<b>Medium</b>	Harm to environment, Harm to human health  <b>Medium</b>	<b>Medium</b>

## 6.0 Conclusion

The ERA has separately considered sensitive receptors to the Telehouse North and Telehouse South data centres and assessed the potential risks from the data centres based on the balance between the probabilities of exposure and the magnitude of the consequences of those exposures. Overall, with measures in place to manage potential risks, no significant environmental risks have been identified at the facility from either TN or TS data centre.

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