Thames river basin district: climate change risk assessment worksheet

Name (as on your part A application form): Amazon Data Services Uk Ltd

Our permit reference number (if you have one): EPR/BP3546QP/A001

Your document reference number: 284474 Appendix 05-01

Risk assessment worksheet for the 2050s

Thames river basin district

You must carry out a climate change risk assessment for any new bespoke waste and installations permit applications if you expect to operate for more than 5 years. Use the user guide to complete the table. You can add in extra pages if necessary.

Consider how your operations will be affected by the changes in weather and climate described in the table. Consider any changes to average climate conditions that may impact on your operations, for example extreme rainfall.

Also consider:

- critical thresholds - where a 'tipping point' is reached, for example a specific temperature where site processes cannot operate safely
- changes to averages - for example an entire summer of higher than expected rainfall causing waterlogging
- where hazards may combine to cause more impacts

You can add in other climate variables if you wish.

If you have stated on your application form that you do not expect to be operational in 2050, you must still consider climate change risks for the time you do intend to operate. Whilst the variables are for the 2050s, this is an estimated date and you may experience these conditions before then.

This worksheet will sit in your management system. It must appear on the management system summary you submit with your application, even if you do not need to submit the whole risk assessment with your application.

If your pre-mitigation risk score (column D) is 5 or higher, you must complete columns E to H.

Potential changing climate variable	**A** **Impact**	**B** **Likelihood**	**C** **Severity**	**D** **Risk** (B x C)	**E** **Mitigation** (what will you do to mitigate this risk)	**F** **Likelihood** (after mitigation)	**G** **Severity** (after mitigation)	**H** **Residual risk** (F x G)
1. Summer daily maximum temperature may be around 7°C higher compared to average summer temperatures now.	Potential for greater use of back-up generators on-site (with increased emissions to air and diesel use) through more frequent. However, National Grid stated[1] that significant impacts on the electricity supply are unlikely in the event of increased in temperature. The Air Quality Assessment accompanying the Application (reference 284474-EP-AQA) states that there is a low risk of significant impacts as a result of an emergency scenario with all back-up generators operating for up to 68 hours.	1	3	3	n/a	n/a	n/a	n/a
2. Winter daily maximum temperature could be 4°C more than the current average, with the potential for more extreme temperatures, both warmer and colder than present.	No negative impact expected.	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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3. The biggest rainfall events are up to 20% more intense than current extremes (peak rainfall intensity)*.	A Flood Risk Assessment was provided to support the planning application, which includes the final drainage strategy and an assessment demonstrating that the flood risk is appropriately mitigated in the design (Appendix 03-03). In-line with the National Planning Policy Framework, an allowance of 40% change for the effects of climate change to the year 2115 has been accounted for in the design. As a result, the proposed surface water drainage strategy will serve to improve the resilience of the existing Site to the anticipated changes in rainfall patterns.	1	3	3	n/a	n/a	n/a	n/a
4. Average winter rainfall may increase by 36% on today's averages.	As above	1	3	3	n/a	n/a	n/a	n/a

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5. Sea level could be as much as 0.6m higher compared to today's level *.	No negative impact expected. The Environment Agency (EA) Flood Map[2] indicates that the site is located with Flood Zone 1. The annual probability of flooding is classified as less than 1 in 1000 in the absence of any flood defences. The Dacorum Borough Council Strategic Flood Risk Assessment (SFRA) does not note any historical flooding occurring within the site. The risk of rivers and sea flooding was therefore considered to be low (reference Appendix 03-03)	1	1	1	n/a	n/a	n/a	n/a
6. Drier summers, potentially up to 42% less rain than now.	No negative impact expected. Water use is not integral to back-up generator use.	1	1	1	n/a	n/a	n/a	n/a

Potential changing climate variable	A Impact	B Likelihood	C Severity	D Risk (B x C)	E Mitigation (what will you do to mitigate this risk)	F Likelihood (after mitigation)	G Severity (after mitigation)	H Residual risk (F x G)
7. At its peak, the flow in watercourses could be 35% more than now, and at its lowest it could be 75% less than now.	No negative impact expected. An additional attenuation tank will be located next to the existing attenuation tank providing an addition of approximately 563m^3 of storage, providing a total storage of approximately 1364m^3. It is proposed to reuse the existing drainage network where possible. The existing Hydro-Brake® flow control chamber and corresponding discharge rate will remain unaltered. This will ensure the allowable maximum discharge rate of 30.77l/s (agreed with Thames Water – see Appendix 03-03) will not be exceeded during the worst case 1 in 100 year event with a 40% allowance for climate change enhancement. (reference Appendix 30-03) No abstraction of surface water will take place	n/a	n/a	n/a	n/a	n/a	n/a	n/a

1) National Grid, 2016. Climate Change Adaptation Reporting, Second Round Response. July 2016. Available at <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/566151/climate-adrep-national-grid.pdf> Accessed March 2022

2) EA / UK Government, 2019. Check the long term flood risk for an area in England, Environment Agency, 2019. Available at < https://www.gov.uk/check-long-term-flood-risk> Accessed March 2022

*Indicates data has come from climate change allowances as part of the spatial planning process. Evidence from your planning submission is acceptable evidence for this worksheet.