Gate Burton Energy Park

Preliminary Environmental Information Report

Volume 3, Appendix 9-D: Summary of Non-Significant Effects on Water Environment Receptors

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Gate Burton Energy Park Limited

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Quality information

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1.1 Purpose of this appendix

1.1.1 This PEI Report appendix provides a summary of the non-significant effects that are described in **PEI Report Volume 1, Chapter 9: Water Environment**. As discussed within **PEI Report Volume 1**, **Chapter 9: Water Environment**, no significant effects have been identified.

1.2 Summary of Non-Significant Effects

Table 1 Summary of non-significant effects on surface and groundwater quality and resource during construction for both the Solar and Energy Storage Park and Grid Connection Route

Receptor	Importance (Value)	Description of Impact	Magnitude of Impact	Effect category
River Trent	Very High	Impact on water quality from fine sediment mobilisation and chemical spillages	Negligible	Slight adverse (not significant)
Marton Drain; Seymour Drain; Tributary of the Till and Skellingthorpe Main Drain	High Importance	Impact on water quality from fine sediment mobilisation and chemical spillages	Negligible	Slight adverse (not significant)
Padmoor Drain; Mother Drain; Causeway Drain; Littleborough Lagoon; Coates Wetland and Cottam Wetland	Medium Importance	Impact on water quality from fine sediment mobilisation and chemical spillages	Negligible	Not significant
Agricultural drainage ditches and small ponds	Low Importance	Impact on water quality from fine sediment mobilisation and chemical spillages	Negligible	Neutral (not significant)
Groundwater	Medium	Impact on groundwater flow	Negligible	Neutral (not significant)
Groundwater	Medium	Impacts on water supplies (abstraction licenses/PWS)	Negligible	Neutral (not significant)
Groundwater	Medium	Impact on groundwater quality from mobilisation of contaminants	Negligible	Neutral (not significant)
Groundwater	Medium	Potential for groundwater ingress at HDD launch / receiving and jointing pits	Minor	Slight adverse (not significant)

Table 2 Summary of non-significant flood risk effects during construction – Solar and Energy Storage Park

Receptor	Importance (Value)	Description of Impact	Magnitude of Impact	Effect category
Flooding from fluvial sources during construction	Very high (construction workers)	Increased flood risk could put workers at risk	Negligible	Slight (not significant)
Flooding from surface water sources during construction	Very high (construction workers)	Increased flood risk could put workers at risk	No change	Neutral (not significant)
Flooding from ground water sources during construction	To be confirmed following further information.	Increased flood risk could put workers at risk	To be identified in the ES	Effect to be identified in the ES
Flooding from artificial sources and drainage infrastructure during construction	Very high (construction workers)	Increased flood risk could put workers at risk	No change	Neutral (not significant)

Table 3 Summary of non-significant effects on Flood Risk during construction – Grid Connection route

Receptor	Sensitivity (Value)	Description of Impact	Magnitude of Impact	Effect category
Flooding from fluvial sources during construction	Very high (construction workers)	Increased flood risk could put workers at risk	Negligible	Slight (not significant)
Flooding from surface water sources during construction	Very high (construction workers)	Increased flood risk could put workers at risk	No change	Neutral (not significant)
Flooding from ground water sources during construction	To be confirmed following further information	Increased flood risk could put workers at risk	To be identified in the ES	Effect to be identified in the ES
Flooding from artificial sources and drainage infrastructure during construction	Very high (construction workers)	Increased flood risk could put workers at risk	No change	Neutral (not significant)

Table 4 Summary of non-significant effects on surface and groundwater quality, watercourse morphology and water resource during operation for both the Solar and Energy Storage Park and Grid Connection Route

Receptor	Sensitivity (Value)	Description of Impact	Magnitude of Impact	Effect category
Tributary of the Till	High Importance	Impact on water quality from routine runoff and spillages	Negligible	Slight adverse (not significant)
Agricultural drainage ditches	Low Importance	Impact on water quality from routine runoff and spillages	Negligible	Neutral (not significant)
River Trent	Very High Importance	Improved water quality from taking land out of agricultural usage	No change	Neutral (not significant)
Marton Drain; Seymour Drain; Tributary of the Till, Till and Skellingthorpe Main Drain	High Importance	Improved water quality from taking land out of agricultural usage	No change	Neutral (not significant)
Tributary of the Till	Low Importance (for morphology)	Impact on morphology related to new drainage outfalls	Negligible	Slight adverse (not significant)
Agricultural drainage ditches	Low Importance (for morphology)	Impact on morphology related to new access track crossings	Minor	Neutral (not significant)
Marton Drain, Seymour Drain, Agricultural Drainage Ditches	Low Importance (for morphology)	Impact on morphology related to open cut installation of grid connection pipeline	Moderate	Slight adverse (not significant)
Groundwater	Medium Importance	Impact on groundwater quality from rainfall runoff from solar PV panels, and chemical spillages.	Negligible	Not significant
Groundwater	Medium Importance	Impact on groundwater recharge from changing land use, with potential impact on groundwater abstraction	Negligible	Not significant

Table 5 Summary of non-significant flood risk effects during Operation – Solar and Energy Storage Park

Receptor	Sensitivity (Value)	Description of Impact	Magnitude of Impact	Effect category
Flooding from surface water sources during operation	Low majority of site, to high in shallow areas.	Increased surface water flood risk on or off site due to the Scheme.	No change	Neutral (not significant)
Flooding from fluvial sources during operation	Low, with very high around Padmoor drain.	Increased fluvial flood risk on or off site due to the Scheme	No change	Neutral (not significant)
Flooding from ground water sources during operation	Very low - Low	Increased ground water flood risk on or off site due to the Scheme	No change	Neutral (not significant)
Flooding from artificial sources and drainage infrastructure during operation	Low	Increased flood risk from artificial sources or drainage infrastructure on or off site from the Scheme.	No change	Neutral (not significant)

Table 6 Summary of non-significant effects on Flood Risk during Operation – Grid Connection Route

Receptor	Sensitivity (Value)	Description of Impact	Magnitude of Impact	Effect category
Flooding from fluvial sources during operation	Mostly very high in River Trent floodplain.	Increased fluvial flood risk on or off site due to the Scheme	No change	Neutral (not significant)
Flooding from surface water sources during operation	Low majority of site, to high in shallow areas.	Increased surface water flood risk on or off site due to the Scheme.	No change	Neutral (not significant)
Flooding from ground water sources during operation	To be confirmed following further information	Increased ground water flood risk on or off site due to the Scheme	To be identified in the ES	Effect to be identified in the ES
Flooding from artificial sources and drainage infrastructure during operation	Low	Increased flood risk from artificial sources or drainage infrastructure on or off site from the Scheme.	No change	Neutral (not significant)