

The Drax Power (Generating Stations) Order

Land at, and in the vicinity of, Drax Power Station, near Selby, North Yorkshire

Air Quality Technical Note in Relation to Stack Height

(Submitted for Deadline 5)



The Planning Act 2008
The Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009 – Regulation 5(2)(q)

Drax Power Limited

Drax Repower Project

Applicant: DRAX POWER LIMITED
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1 SUMMARY

- 1.1.1 The dispersion modelling presented in Chapter 6 of the Environmental Statement (ES, Examination Library Ref APP-074) was undertaken with the Units X and Y stack heights set at 120m. The effects of downwash (the enhanced mixing in the lee of buildings) from the existing cooling towers (and other buildings) was included with the existing cooling towers set to a height of 114m.
- 1.1.2 At Deadline 3, the Applicant has proposed to change some of the maximum parameters included in Schedule 13 of the draft DCO. This is due to the stack height of the existing cooling towers being confirmed as 116.5m rather than 114m. In order to confirm that these changes do not affect the assessment of air quality impact reported in the Environmental Statement, the dispersion model has been rerun to incorporate the latest information on structure dimensions and proposed stack heights, whilst maintaining the minimum height differential between cooling towers and Unit X & Y stacks of 6m. That is to say, the revised modelling is based on:
- Unit X and Unit Y Stack Height 122.5m (AGL)
 - Cooling Tower Height 116.5m (AGL)
- 1.1.3 Schedule 13 of the draft DCO allows for a maximum stack height of 123m. Any increase in stack height would be expected to result in ground level concentrations of pollutants no greater than those for the 122.5m stack. The model has been run for 5 years of meteorological data, which is unchanged from the ES. The results presented in Tables 1 to 7 below show the maximum modelled concentrations (Process Contribution (PC) and Predicted Environmental Concentration (PEC)) over the 5 years for cases:
- Without SCR (Scenario A_StackSens, corresponding to Scenario A in the ES) and
 - With SCR (Scenario B_StackSens, corresponding to Scenario B in the ES).
- 1.1.4 Model runs with SCR take account of the 120 tpa cap on total ammonia emissions assumed in the ES.
- 1.1.5 For clarity, results presented in the ES are reproduced alongside the updated results below. The results show that, taken across all meteorological years, the slight increase in stack height results in a marginal *reduction* in the impacts of the repowered units but this has no significant impact on the conclusions of the assessment and does not change the significance of effects reached in the assessment.
- 1.1.6 Overall, the conclusion of the sensitivity test to the latest design parameters is that the results presented in the ES represent a realistic worst-case scenario in terms of ground level impacts on air quality.

APPENDIX 1 – CHANGE WITH STACK HEIGHT

120m Stack - ES Results

Table 6-14: Maximum Operational Impact at Human Receptors - Annual Mean NO₂

Receptor	Background	PC	PC as % of Obj	PEC	PEC as % of Obj	Description
Scenario A1 - Combined cycle operation with low NOx (50mg/Nm³)						
Foreman's Cottage	8.5	1.2	2.9%	9.7	24.2%	Negligible
East Yorkshire Caravan	10.9	0.2	0.5%	11.1	27.8%	Negligible
Drax Sports Club	10.9	0.5	1.2%	11.4	28.4%	Negligible
Wren Hall	8.8	0.2	0.4%	9	22.4%	Negligible
3 Pear Tree Avenue	8.5	1.6	3.9%	10.1	25.2%	Negligible
Grange Cottages	9.4	0.5	1.1%	9.9	24.6%	Negligible
Drax Abbey Farm	8.5	1.2	2.9%	9.7	24.2%	Negligible
Read School	9.2	0.2	0.6%	9.4	23.6%	Negligible
Scenario B - Combined cycle operation with SCR (NOx emissions at 30mg/Nm³)						
Foreman's Cottage	8.5	0.6	1.5%	9.1	22.7%	Negligible
East Yorkshire Caravan	10.9	0.1	0.3%	11	27.5%	Negligible
Drax Sports Club	10.9	0.2	0.6%	11.1	27.8%	Negligible
Wren Hall	8.8	0.1	0.3%	8.9	22.3%	Negligible
3 Pear Tree Avenue	8.5	0.8	2.0%	9.3	23.2%	Negligible
Grange Cottages	9.4	0.2	0.6%	9.6	24.1%	Negligible
Drax Abbey Farm	8.5	0.6	1.5%	9.1	22.7%	Negligible
Read School	9.2	0.1	0.3%	9.3	23.3%	Negligible

Table 6-15: Maximum Operational Impact at Human Receptors - Hourly Mean NO₂

Receptor	Background	PC	PC as % of Obj	PEC	PEC as % of Obj	Description
Scenario A1 - Combined cycle operation with low NOx (50mg/Nm³)						
Foreman's Cottage	17.0	21.3	10.7%	38.3	19.2%	Slight Adv.
East Yorkshire Caravan	21.8	14.2	7.1%	36	18.0%	Negligible
Drax Sports Club	21.8	22.5	11.3%	44.3	22.2%	Slight Adv.
Wren Hall	17.6	5.2	2.6%	22.8	11.4%	Negligible
3 Pear Tree Avenue	17.0	20.4	10.2%	37.4	18.7%	Negligible
Grange Cottages	18.8	14	7.0%	32.8	16.4%	Negligible
Drax Abbey Farm	17.0	21	10.5%	38	19.0%	Negligible
Read School	18.4	9.3	4.7%	27.7	13.9%	Negligible
Scenario B - Combined cycle operation with SCR (NOx emissions at 30mg/Nm³)						
Foreman's Cottage	17.0	17.1	8.5%	34.1	17.0%	Negligible
East Yorkshire Caravan	21.8	11.3	5.7%	33.1	16.6%	Negligible
Drax Sports Club	21.8	18	9.0%	39.8	19.9%	Negligible
Wren Hall	17.6	4.2	2.1%	21.8	10.9%	Negligible
3 Pear Tree Avenue	17.0	16.3	8.2%	33.3	16.7%	Negligible
Grange Cottages	18.8	11.2	5.6%	30	15.0%	Negligible
Drax Abbey Farm	17.0	16.8	8.4%	33.8	16.9%	Negligible
Read School	18.4	7.5	3.7%	25.9	12.9%	Negligible

122.5 Stack - Updated Results

Table 1: Maximum Operational Impact at Human Receptors - Annual Mean NO₂ (Compare to Table 6-14)

Receptor	Background	PC	PC as % of Obj	PEC	PEC as % of Obj	Description
Scenario A StackSens - Combined cycle operation with low NOx (50mg/Nm³)						
Foreman's Cottage	8.5	1.1	2.8%	9.6	24.1%	Negligible
East Yorkshire Caravan Park	10.9	0.2	0.5%	11.1	27.8%	Negligible
Drax Sport's and Soc	10.9	0.4	1.1%	11.3	28.4%	Negligible
Wren Hall	8.8	0.2	0.4%	9	22.4%	Negligible
3 Pear Tree Ave	8.5	1.5	3.8%	10	25.0%	Negligible
Grange Cottages	9.4	0.4	1.1%	9.8	24.6%	Negligible
Drax Abbey Farm	8.5	1.1	2.8%	9.6	24.1%	Negligible
Read School	9.2	0.2	0.5%	9.4	23.5%	Negligible
Scenario B StackSens - Combined cycle operation with SCR (NOx emissions at 30mg/Nm³)						
Foreman's Cottage	8.5	0.6	1.4%	9.1	22.7%	Negligible
East Yorkshire Caravan Park	10.9	0.1	0.3%	11	27.5%	Negligible
Drax Sport's and Soc	10.9	0.2	0.6%	11.1	27.8%	Negligible
Wren Hall	8.8	0.1	0.3%	8.9	22.3%	Negligible
3 Pear Tree Ave	8.5	0.8	1.9%	9.3	23.2%	Negligible
Grange Cottages	9.4	0.2	0.6%	9.6	24.1%	Negligible
Drax Abbey Farm	8.5	0.6	1.4%	9.1	22.7%	Negligible
Read School	9.2	0.1	0.3%	9.3	23.3%	Negligible

Table 2: Maximum Operational Impact at Human Receptors - Hourly Mean NO₂ (Compare to Table 6-15)

Receptor	Background	PC	PC as % of Obj	PEC	PEC as % of Obj	Description
Scenario A StackSens - Combined cycle operation with low NOx (50mg/Nm³)						
Foreman's Cottage	17.0	20.8	10.4%	37.8	18.90%	Negligible
East Yorkshire Caravan Park	21.8	13.5	6.8%	35.3	17.70%	Negligible
Drax Sport's and Soc	21.8	22	11.0%	43.8	21.90%	Negligible
Wren Hall	17.6	4.9	2.4%	22.5	11.20%	Negligible
3 Pear Tree Ave	17.0	19.9	10.0%	36.9	18.50%	Negligible
Grange Cottages	18.8	13.6	6.8%	32.4	16.20%	Negligible
Drax Abbey Farm	17.0	20.4	10.2%	37.4	18.70%	Negligible
Read School	18.4	8.8	4.4%	27.2	13.60%	Negligible
Scenario B StackSens - Combined cycle operation with SCR (NOx emissions at 30mg/Nm³)						
Foreman's Cottage	17.0	16.6	8.3%	33.6	16.80%	Negligible
East Yorkshire Caravan Park	21.8	10.8	5.4%	32.6	16.30%	Negligible
Drax Sport's and Soc	21.8	17.6	8.8%	39.4	19.70%	Negligible
Wren Hall	17.6	3.9	2.0%	21.5	10.80%	Negligible
3 Pear Tree Ave	17.0	15.9	8.0%	32.9	16.50%	Negligible
Grange Cottages	18.8	10.9	5.5%	29.7	14.90%	Negligible
Drax Abbey Farm	17.0	16.3	8.2%	33.3	16.70%	Negligible
Read School	18.4	7.1	3.6%	25.5	12.80%	Negligible

120m Stack - ES Results

Table 6-18: Maximum Operational Impact at Ecological Receptors - Annual Mean NH₃

Receptor	Critical Level	Background (µg/m ³)	PC (µg/m ³)	PC as % of Obj.	PEC (µg/m ³)	PEC as % of Obj.
Scenario A1 - Combined cycle operation with low NOx (50mg/Nm³)						
River Derwent	3	2.76	0.00	0.0%	2.76	92%
Lower Derwent	3	2.81	0.00	0.0%	2.81	94%
Breighton Meadows	3	2.81	0.00	0.0%	2.81	94%
Derwent Ings	3	2.76	0.00	0.0%	2.76	92%
Thorne Moor	1	2.39	0.00	0.0%	2.39	239%
Skipwith Common	1	2.42	0.00	0.0%	2.42	242%
Humber Estuary	3	2.92	0.00	0.0%	2.92	97%
Eskhamhorn	3	2.14	0.00	0.0%	2.14	71%
Brockholes	3	2.23	0.00	0.0%	2.23	74%
Orchard Farm	3	2.24	0.00	0.0%	2.24	75%
Scenario B - Combined cycle operation with SCR (NOx emissions at 30mg/Nm³)						
River Derwent	3	2.76	0.04	1.4%	2.80	93%
Lower Derwent	3	2.81	0.02	0.7%	2.83	94%
Breighton Meadows	3	2.81	0.02	0.7%	2.83	94%
Derwent Ings	3	2.76	0.01	0.4%	2.77	92%
Thorne Moor	1	2.39	0.005	0.5%	2.40	240%
Skipwith Common	1	2.42	0.005	0.5%	2.43	243%
Humber Estuary	3	2.92	0.01	0.3%	2.93	98%
Eskhamhorn	3	2.14	0.01	0.2%	2.15	72%
Brockholes	3	2.23	0.01	0.2%	2.24	75%
Orchard Farm	3	2.24	0.01	0.2%	2.25	75%

Table 6-19: Maximum Operational Impact at Ecological Receptors - Annual Mean NO_x

Receptor	Critical Level	Background (µg/m ³)	PC (µg/m ³)	PC as % of Obj.	PEC (µg/m ³)	PEC as % of Obj.
Scenario A1 - Combined cycle operation with low NOx (50mg/Nm³)						
River Derwent	30	16.3	2.2	7.2%	18.4	61%
Lower Derwent	30	15.3	1.2	4.2%	16.6	55%
Breighton Meadows	30	15.3	1.2	4.2%	16.5	55%
Derwent Ings	30	15.3	0.8	2.6%	16.1	54%
Thorne Moor	30	18.6	0.3	1.1%	18.9	63%
Skipwith Common	30	14.8	0.3	1.0%	15.1	50%
Humber Estuary	30	23.2	0.5	1.8%	23.7	79%
Eskhamhorn	30	16.5	0.4	1.2%	16.9	56%
Brockholes	30	17.8	0.4	1.2%	18.2	61%
Orchard Farm	30	17.9	0.3	1.1%	18.2	61%
Scenario B - Combined cycle operation with SCR (NOx emissions at 30mg/Nm³)						
River Derwent	30	16.3	1.3	4.3%	17.6	59%
Lower Derwent	30	15.3	0.7	2.5%	16.1	54%
Breighton Meadows	30	15.3	0.7	2.5%	16.0	53%
Derwent Ings	30	15.3	0.5	1.5%	15.8	53%
Thorne Moor	30	18.6	0.2	0.6%	18.7	62%
Skipwith Common	30	14.8	0.2	0.6%	14.9	50%
Humber Estuary	30	23.2	0.3	1.1%	23.5	78%
Eskhamhorn	30	16.5	0.2	0.7%	16.7	56%
Brockholes	30	17.8	0.2	0.7%	18.0	60%
Orchard Farm	30	17.9	0.2	0.7%	18.1	60%

122.5 Stack - Updated Results

Table 3: Maximum Operational Impact at Ecological Receptors - Annual Mean NH₃ (Compare to Table 6-18)

Receptor	Critical Level	Background (µg/m ³)	PC (µg/m ³)	PC as % of Obj.	PEC (µg/m ³)	PEC as % of Obj.
Scenario A StackSens - Combined cycle operation with low NOx (50mg/Nm³)						
River Derwent	3	2.76	0.00	0.0%	2.76	92%
Lower Derwent	3	2.81	0.00	0.0%	2.81	94%
Breighton Meadows	3	2.81	0.00	0.0%	2.81	94%
Derwent Ings	3	2.76	0.00	0.0%	2.76	92%
Thorne Moor	1	2.39	0.00	0.0%	2.39	239%
Skipwith Common	1	2.42	0.00	0.0%	2.42	242%
Humber Estuary	3	2.92	0.00	0.0%	2.92	97%
Eskhamhorn	3	2.14	0.00	0.0%	2.14	71%
Brockholes	3	2.23	0.00	0.0%	2.23	74%
Orchard Farm	3	2.24	0.00	0.0%	2.24	75%
Scenario B StackSens - Combined cycle operation with SCR (NOx emissions at 30mg/Nm³)						
River Derwent	3	2.76	0.03	1.1%	2.79	93%
Lower Derwent	3	2.81	0.02	0.6%	2.83	94%
Breighton Meadows	3	2.81	0.02	0.6%	2.83	94%
Derwent Ings	3	2.76	0.01	0.3%	2.77	92%
Thorne Moor	1	2.39	0.004	0.4%	2.39	239%
Skipwith Common	1	2.42	0.004	0.4%	2.42	242%
Humber Estuary	3	2.92	0.01	0.3%	2.93	98%
Eskhamhorn	3	2.14	0.01	0.2%	2.15	72%
Brockholes	3	2.23	0.01	0.2%	2.24	75%
Orchard Farm	3	2.24	0.01	0.2%	2.25	75%

Table 4: Maximum Operational Impact at Ecological Receptors - Annual Mean NO_x (Compare to Table 6-19)

Receptor	Critical Level	Background (µg/m ³)	PC (µg/m ³)	PC as % of Obj.	PEC (µg/m ³)	PEC as % of Obj.
Scenario A StackSens - Combined cycle operation with low NOx (50mg/Nm³)						
River Derwent	30	16.3	2.1	6.8%	18.3	61%
Lower Derwent	30	15.3	1.2	4.1%	16.5	55%
Breighton Meadows	30	15.3	1.2	4.1%	16.5	55%
Derwent Ings	30	15.3	0.8	2.5%	16.1	54%
Thorne Moor	30	18.6	0.3	1.0%	18.9	63%
Skipwith Common	30	14.8	0.3	1.0%	15.1	50%
Humber Estuary	30	23.2	0.5	1.8%	23.7	79%
Eskhamhorn	30	16.5	0.4	1.2%	16.9	56%
Brockholes	30	17.8	0.3	1.1%	18.1	60%
Orchard Farm	30	17.9	0.3	1.1%	18.2	61%
Scenario B StackSens - Combined cycle operation with SCR (NOx emissions at 30mg/Nm³)						
River Derwent	30	16.3	1.1	3.5%	17.3	58%
Lower Derwent	30	15.3	0.6	2.1%	16.0	53%
Breighton Meadows	30	15.3	0.6	2.1%	15.9	53%
Derwent Ings	30	15.3	0.4	1.3%	15.7	52%
Thorne Moor	30	18.6	0.2	0.5%	18.7	62%
Skipwith Common	30	14.8	0.2	0.5%	14.9	50%
Humber Estuary	30	23.2	0.3	0.9%	23.5	78%
Eskhamhorn	30	16.5	0.2	0.6%	16.7	56%
Brockholes	30	17.8	0.2	0.6%	18.0	60%
Orchard Farm	30	17.9	0.2	0.6%	18.1	60%

120m Stack - ES Results

Table 6-20: Maximum Operational Impact at Ecological Receptors - Daily Mean NO_x

Receptor	Critical Level	Background (µg/m ³)	PC (µg/m ³)	PC as % of Obj.	PEC (µg/m ³)	PEC as % of Obj.
Scenario A1 - Combined cycle operation with low NO_x (50mg/Nm³)						
River Derwent	75	32.5	36.8	49%	69.3	92%
Lower Derwent	75	30.6	16.7	22%	47.3	63%
Brighton Meadows	75	30.6	16.7	22%	47.2	63%
Derwent Ings	75	30.6	9.5	13%	40.2	54%
Thorne Moor	75	37.1	8.0	11%	45.1	60%
Skipwith Common	75	29.5	6.9	9%	36.4	48%
Humber Estuary	75	46.4	9.1	12%	55.5	74%
Eskhamhorn	75	33.0	15.8	21%	48.8	65%
Brockholes	75	35.6	19.3	26%	54.9	73%
Orchard Farm	75	35.8	11.8	16%	47.6	64%
Scenario B - Combined cycle operation with SCR (NO_x emissions at 30mg/Nm³)						
River Derwent	75	32.5	22.4	30%	54.9	73%
Lower Derwent	75	30.6	12.6	17%	43.3	58%
Brighton Meadows	75	30.6	12.6	17%	43.2	58%
Derwent Ings	75	30.6	6.3	8%	37.0	49%
Thorne Moor	75	37.1	5.7	8%	42.8	57%
Skipwith Common	75	29.5	4.8	6%	34.3	46%
Humber Estuary	75	46.4	6.3	8%	52.7	70%
Eskhamhorn	75	33.0	9.7	13%	42.6	57%
Brockholes	75	35.6	11.6	15%	47.2	63%
Orchard Farm	75	35.8	7.1	9%	42.9	57%

Table 6-21: Maximum Operational Impact at Ecological Receptors – Nitrogen Deposition

Receptor	Critical Level	Background (kgN/ha/yr)	PC (kgN /ha/yr)	PC as % of Obj.	PEC (kgN /ha/yr)	PEC as % of Obj.
Scenario A1 - Combined cycle operation with low NO_x (50mg/Nm³)						
River Derwent			Not Sensitive			
Lower Derwent	20	21.0	0.12	0.6%	21.1	106%
Brighton Meadows	20	21.0	0.12	0.6%	21.1	106%
Derwent Ings	20	20.9	0.07	0.4%	20.9	105%
Thorne Moor	5	19.2	0.03	0.6%	19.2	384%
Skipwith Common	10	19.2	0.03	0.3%	19.2	192%
Humber Estuary	20	20.7	0.05	0.3%	20.8	104%
Eskhamhorn	20	17.9	0.04	0.2%	18.0	90%
Brockholes	10	18.5	0.04	0.4%	18.5	185%
Orchard Farm	10	19.2	0.03	0.3%	19.2	192%
Scenario B - Combined cycle operation with SCR (NO_x emissions at 30mg/Nm³)						
River Derwent			Not Sensitive			
Lower Derwent	20	21.0	0.19	0.9%	21.2	106%
Brighton Meadows	20	21.0	0.19	0.9%	21.2	106%
Derwent Ings	20	20.9	0.11	0.6%	21.0	105%
Thorne Moor	5	19.2	0.05	1.0%	19.2	385%
Skipwith Common	10	19.2	0.05	0.5%	19.2	192%
Humber Estuary	20	20.7	0.08	0.4%	20.8	104%
Eskhamhorn	20	17.9	0.06	0.3%	18.0	90%
Brockholes	10	18.5	0.06	0.6%	18.6	186%
Orchard Farm	10	19.2	0.05	0.5%	19.3	193%

122.5 Stack - Updated Results

Table 5: Maximum Operational Impact at Ecological Receptors - Daily Mean NO_x (Compare to Table 6-20)

Receptor	Critical Level	Background (µg/m ³)	PC (µg/m ³)	PC as % of Obj.	PEC (µg/m ³)	PEC as % of Obj.
Scenario A StackSens - Combined cycle operation with low NO_x (50mg/Nm³)						
River Derwent	75	32.5	35.5	47%	68.0	91%
Lower Derwent	75	30.6	16.6	22%	47.2	63%
Brighton Meadows	75	30.6	16.6	22%	47.2	63%
Derwent Ings	75	30.6	9.4	13%	40.1	53%
Thorne Moor	75	37.1	8.0	11%	45.1	60%
Skipwith Common	75	29.5	6.8	9%	36.3	48%
Humber Estuary	75	46.4	9.1	12%	55.5	74%
Eskhamhorn	75	33.0	15.5	21%	48.5	65%
Brockholes	75	35.6	18.6	25%	54.2	72%
Orchard Farm	75	35.8	11.4	15%	47.2	63%
Scenario B StackSens - Combined cycle operation with SCR (NO_x emissions at 30mg/Nm³)						
River Derwent	75	32.5	21.6	29%	54.1	72%
Lower Derwent	75	30.6	12.6	17%	43.2	58%
Brighton Meadows	75	30.6	12.6	17%	43.1	58%
Derwent Ings	75	30.6	6.3	8%	36.9	49%
Thorne Moor	75	37.1	5.7	8%	42.8	57%
Skipwith Common	75	29.5	4.7	6%	34.2	46%
Humber Estuary	75	46.4	6.3	8%	52.7	70%
Eskhamhorn	75	33.0	9.5	13%	42.4	57%
Brockholes	75	35.6	11.2	15%	46.8	62%
Orchard Farm	75	35.8	6.9	9%	42.7	57%

Table 6: Maximum Operational Impact at Ecological Receptors – Nitrogen Deposition (Compare to Table 6-21)

Receptor	Critical Level	Background (kgN/ha/yr)	PC (kgN /ha/yr)	PC as % of Obj.	PEC (kgN /ha/yr)	PEC as % of Obj.
Scenario A StackSens - Combined cycle operation with low NO_x (50mg/Nm³)						
River Derwent			Not Sensitive			
Lower Derwent	20	21.0	0.11	0.6%	21.1	106%
Brighton Meadows	20	21.0	0.11	0.6%	21.1	106%
Derwent Ings	20	20.9	0.07	0.3%	20.9	105%
Thorne Moor	5	19.2	0.03	0.6%	19.2	384%
Skipwith Common	10	19.2	0.03	0.3%	19.2	192%
Humber Estuary	20	20.7	0.05	0.3%	20.8	104%
Eskhamhorn	20	17.9	0.04	0.2%	18.0	90%
Brockholes	10	18.5	0.03	0.3%	18.5	185%
Orchard Farm	10	19.2	0.03	0.3%	19.2	192%
Scenario B StackSens - Combined cycle operation with SCR (NO_x emissions at 30mg/Nm³)						
River Derwent			Not Sensitive			
Lower Derwent	20	21.0	0.15	0.8%	21.2	106%
Brighton Meadows	20	21.0	0.15	0.8%	21.2	106%
Derwent Ings	20	20.9	0.09	0.5%	21.0	105%
Thorne Moor	5	19.2	0.04	0.8%	19.2	384%
Skipwith Common	10	19.2	0.04	0.4%	19.2	192%
Humber Estuary	20	20.7	0.07	0.3%	20.8	104%
Eskhamhorn	20	17.9	0.05	0.2%	18.0	90%
Brockholes	10	18.5	0.05	0.5%	18.5	185%
Orchard Farm	10	19.2	0.04	0.4%	19.2	192%

120m Stack - ES Results

Table 6-22: Maximum Operational Impact at Ecological Receptors – Acid Deposition (from Nitrogen)

Receptor	Critical Level	Background (kgN/ha/yr)	PC (kgN /ha/yr)	PC as % of Obj.	PEC (kgN /ha/yr)	PEC as % of Obj.
Scenario A1 - Combined cycle operation with low NOx (50mg/Nm³)						
River Derwent	Not Sensitive					
Lower Derwent	4.856	1.50	0.008	0.2%	1.51	31%
Breighton Meadows	4.856	1.50	0.008	0.2%	1.51	31%
Derwent Ings	4.856	1.49	0.005	0.1%	1.50	31%
Thorne Moor	0.462	1.37	0.002	0.5%	1.37	297%
Skipwith Common	0.82	1.37	0.002	0.3%	1.37	167%
Humber Estuary	Not Sensitive					
Eskhamhorn	1.998	1.28	0.003	0.1%	1.28	64%
Brockholes	Not Sensitive					
Orchard Farm	5.071	1.37	0.002	0.0%	1.37	27%
Scenario B - Combined cycle operation with SCR (NOx emissions at 30mg/Nm³)						
River Derwent	Not Sensitive					
Lower Derwent	4.856	1.50	0.013	0.3%	1.51	31%
Breighton Meadows	4.856	1.50	0.013	0.3%	1.51	31%
Derwent Ings	4.856	1.49	0.008	0.2%	1.50	31%
Thorne Moor	0.462	1.37	0.003	0.7%	1.37	297%
Skipwith Common	0.82	1.37	0.003	0.4%	1.37	167%
Humber Estuary	Not Sensitive					
Eskhamhorn	1.998	1.28	0.004	0.2%	1.28	64%
Brockholes	Not Sensitive					
Orchard Farm	5.071	1.37	0.004	0.1%	1.37	27%

122.5 Stack - Updated Results

Table 7: Maximum Operational Impact at Ecological Receptors – Acid Deposition (from Nitrogen)
(Compare to Table 6-22)

Receptor	Critical Level	Background (kgN/ha/yr)	PC (kgN /ha/yr)	PC as % of Obj.	PEC (kgN /ha/yr)	PEC as % of Obj.
Scenario A StackSens - Combined cycle operation with low NOx (50mg/Nm³)						
River Derwent	Not Sensitive					
Lower Derwent	4.856	1.50	0.008	0.2%	1.51	31%
Breighton Meadows	4.856	1.50	0.008	0.2%	1.51	31%
Derwent Ings	4.856	1.49	0.005	0.1%	1.49	31%
Thorne Moor	0.462	1.37	0.002	0.5%	1.37	297%
Skipwith Common	0.82	1.37	0.002	0.2%	1.37	167%
Humber Estuary	Not Sensitive					
Eskhamhorn	1.998	1.28	0.003	0.1%	1.28	64%
Brockholes	Not Sensitive					
Orchard Farm	5.071	1.37	0.002	0.0%	1.37	27%
Scenario B StackSens - Combined cycle operation with SCR (NOx emissions at 30mg/Nm³)						
River Derwent	Not Sensitive					
Lower Derwent	4.856	1.50	0.011	0.2%	1.51	31%
Breighton Meadows	4.856	1.50	0.011	0.2%	1.51	31%
Derwent Ings	4.856	1.49	0.007	0.1%	1.50	31%
Thorne Moor	0.462	1.37	0.003	0.6%	1.37	297%
Skipwith Common	0.82	1.37	0.003	0.3%	1.37	167%
Humber Estuary	Not Sensitive					
Eskhamhorn	1.998	1.28	0.004	0.2%	1.28	64%
Brockholes	Not Sensitive					
Orchard Farm	5.071	1.37	0.003	0.1%	1.37	27%

