Environment Agency permitting decisions

Variation

We have decided to issue the variation for Peterborough Power Station operated by Centrica PB Limited.

The permit number is EPR/AP3233LU.

The variation number is EPR/AP3233LU/V003.

The application was submitted and determined as a substantial variation.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Structure of this document

- Key issues: emissions to air; noise; emissions monitoring
- Annex 1 the decision checklist
- Annex 2 the consultation and web publicising responses

Key issues of the decision

Introduction

This substantial variation for Peterborough Power Station authorises Centrica PB Limited to install one or two new gas turbines with a (total) electrical generating capacity of approximately 120 MW to operate in open cycle mode. The turbine(s) will have an aggregated maximum thermal input of 330 MW_{th}. The existing two gas turbines at the site have an aggregated thermal capacity of 790 MW_{th}.

The new open cycle gas turbine unit(s) will have a net overall efficiency, at full load, of between 36 – 44 per cent. Emissions to air from the turbine(s) will be via a 45m stack or two 45m stacks within a common windshield. The permit was previously varied to authorise operation of the existing gas turbines in open cycle mode for a maximum of 500 hours annually. The operating techniques currently in use will be maintained along with existing management procedures.

A pre-operational condition included in the variation requires the operator to submit detailed designs of the new turbine(s) including drainage system, abatement and location plans to the Environment Agency. The operator shall take a review of the final design / plans for the new units to ensure that:

1) The final design will meet the requirements of BAT;
2) The application still accurately reflects the final operating proposals; and
3) The environmental impact assessment still accurately reflects the predicted impacts from the proposal.

The operator shall submit a written report to the Environment Agency for approval, 6 months prior to construction, detailing the findings of this review prior to the installation of the gas turbine(s).

Operating gas turbines in open cycle is not considered a best available technique (BAT) due to reduced energy efficiency and the potential increase of pollutants to air in comparison to operating gas turbines in combined cycle mode. However, operating in open cycle enables a quick start up time of 20 minutes in order to provide energy to the National Grid to maintain electrical generation for emergency use. This variation will enable the Operator to install two additional gas turbines for operation in open cycle mode. It does not set BAT for open cycle operation.

The existing gas turbines are currently operated in open cycle mode under contractual agreement with the National Grid. The variation application states that there is no mechanical system in place that would allow the existing gas turbines to switch efficiently between open and combined cycle modes of operation. The by-pass stack configuration for the existing gas turbines are fixed structures to allow the plant to operated in open cycle mode. Following the commissioning of the new gas turbine(s), the proposal is to operate all turbines in open cycle mode on a permanent basis in line with a further planned contractual agreement with National Grid. Use of the existing heat recovery steam generation (HRSG) plant would no longer be required.

During open cycle operation the facility will only burn natural gas and the main pollutant of concern from the plant will be NO_2. This is in line with the previous variations V002 where the Operator assessed impact from NO_2 whilst operating the plant in unabated open cycle mode. The Operator is restricted to a period of unabated operation in open cycle for 500 hours in any one year. Their emissions impact assessment has modelled the impact of emissions conservatively for operation for 4,380 hours in one year (at 12 hours per day) for this variation. This approach has been taken on the basis that the full operational potential of the installation is for 12 hours per day; 6 hours in the morning and early evening to meet peak demand loads during the day.

The Short Term Operating Reserve (STOR) contract requires the power station to generate power within specific windows to support the energy requirement of the National Grid. These typically occur six days per week for two periods per day of between approximately 5-6 hours. Generally open cycle runs would typically be two hours or less. Where runs exceed two hours a condition in the existing permit requires the Operator to report runs where:

a) 10% of open cycle operations in a quarter exceed 2 hours in length; or

b) Any open cycle operation exceeds 4 hours in length;

the Operator shall notify the Environment Agency in writing, as soon as possible, specifying the time, date and duration of the run(s), and the reasons and purpose for which the run(s) was (were) required. This condition also applies to the operation of new turbine(s) that are to be installed at the site.

As outlined in a previous variation, operating gas turbines in open cycle mode to serve the STOR requirements of the National Grid is part of improving the resilience of the electrical supply industry and therefore contributes to the emergency preparedness of the country. Under the provisions set out in Annex V of the Industrial Emissions Directive, gas turbines for emergency use that operate for less than 500 hours are not covered by the emission limit values set out in that part of the directive. In these cases, the Operator of such plants shall record operating hours as a means of monitoring and demonstrating control of emissions.

There are no emission limits or monitoring requirements in the permit whilst operating in open cycle. The Operator has specific conditions in the existing permit relating to the length of runs and reporting requirements when operating in open cycle mode. This variation does not change these conditions. There will be no change to emission limits from those set out in the permit. The limits associated with the combined cycle mode operation remain in the permit following this variation as the commissioning of the new turbines will not take place for a period of time following variation issue.

Emissions to Air

Assessment of impact from operating in open cycle mode using the by-pass stacks at the installation only considers emissions of NO_2 to air. This is consistent with the approach carried out previously in variation V002 of this permit. We accept that emissions of carbon monoxide and particulates from gas turbines fired on natural gas will be insignificant.

Human Health Risk Assessment

The Applicant's background NO_2 data is taken from the Department for Environment, Food and Rural Affairs (DEFRA) background maps for the year 2013. We believe that the background value used by the applicant is appropriate for the background at the nearest sensitive receptors which are situated on the edge of the Peterborough settlement.

There is one Air Quality Management Area (AQMA) within 2 km of the installation. Peterborough City Council has declared an AQMA for sulphur dioxide approximately 0.3 km east of the installation. Natural gas is a fuel inherently low in sulphur and therefore emissions of sulphur from the installation have not been modelled and the proposal is unlikely to have a significant impact on the AQMA.

Air dispersion modelling utilising the Atmospheric Dispersion Modelling System (ADMS) software tool was used to assess the predicted impact of nitrogen oxide (NO_x) emissions from the installation including the proposed additional gas turbine unit(s), on ground level air quality NO_2 concentration values.

The best available techniques reference document (BREF) wish list specifies that "*For existing and new plants operating less than 500 hours per annum, BAT is the optimisation of primary measures to minimise NO_x*". NO_x emissions from the proposed new unit(s) will be controlled using low-NO_x (DLN) burners as a minimum. The selection of the final abatement techniques will be based on recommendations from the turbine manufacturer. The Operator has stated that the installation of primary NO_x abatement will limit NO_x emissions from the new turbine(s) to a maximum of 50 mg/m^3. This is consistent with the value set out in the document 'UK wish list Large Combustion Plant BREF review UKTWG1' issued May 2011 and the BAT associated emissions levels (AELs) listed in the draft Best Available Techniques (BAT) Reference Document for the Large Combustion Plants, June 2013.

Table 1 predicts the likely worst case maximum process contribution (PC) to ground level concentrations of NO_2 predicted by the detailed dispersion modelling of the emissions from the plant. This is based on a maximum operating regime of 500 hours per annum. The results in table 1 assume that the two existing gas turbine units are operated in open cycle mode without emissions abatement, as permitted under the existing environmental permit.

Table 1 - Maximum predicted long term Process Contribution (PC) of NO_2

Reference period	EQS	PC (µg/m^3)	PC as % of EQS	Background (µg/m^3)	PEC (µg/m^3)	PEC as % of EQS
Annual mean	40	0.5	1.1	12.7	13.2	32.9

Table 1 above indicates that the annual process contribution (PC) is slightly greater than 1% of the relevant long term air quality standard and therefore cannot be considered insignificant. However, the Predicted Environmental Concentration (PEC) is less than 70%. Where the PEC is less that 70% of the relevant environmental quality standard (EQS) we can conclude that it is

unlikely that the emissions from the installation will cause an exceedance of the air quality standard. The maximum annual average PC contours generated from the modelling show that at the nearest residential the PC will have reduced to 0.3µg/m^3 which is below 1% of the EQS and can be considered insignificant. There is therefore no requirement to consider the potential In-combination impacts.

The applicant has modelled the worst case impact. The installation is limited to 500 hours operation per year, where as the model assumes operation of each turbine for 12 hours each day throughout the year, a total of 4,380 hours. The limitation in operational hours also indicates that the long term impact of operation in open cycle mode is likely to be insignificant.

Table 2 . Maximum predicted short term process contribution of NO_2

Reference period	EQS	PC (µg/m^3)	PC as % of EAL	Background (µg/m^3)	Headroom (EAL - 2 x long term background) (µg/m^3)	PC as % of headroom
1 hour	200	145.9	73.0	25.4	174.6	83.6

Table 2 above indicates that the hourly PC is greater than 10% of the relevant short term EAL and therefore cannot be considered insignificant. The PC is greater than 20% of the headroom between the EQS and the background. However, there is still adequate headroom between the PEC and the EQS. As stated above, the emissions are a worst case assessment and indicate the highest concentration predicted. The data recorded in the table above represents the maximum short term ground level impact prediction from the modelling tool assessment.

The contour map for the modelled NO_2 impacts indicates that this occurs at a location to the north east of the installation boundary near Storey's Bar Road. There are no residential receptors at this location, and impacts will be less than these at the nearest relevant receptors that are location a further 480 m from his location. The maximum hourly PC contours generated from the modelling show that at the nearest residential the PC will have reduced to less than 40µg/m^3 which is approximately 20% of the EQS which is also above the threshold for insignificance and therefore in combination impacts have been considered.

We considered the maximum short term predicted emissions from Peterborough Energy from Waste Plant (EfW) which is approximately 100m to the south west and Peterborough Sustainable Recycling Plant (PSRP) which is proposed for installation 100m to the north east of the installation. The maximum predicted process contributions for the short term NO_x from Peterborough EfW was less than 10% of the EQS and therefore can be considered insignificant and unlikely to act in combination the emissions from Centrica Peterborough. The PSRP which has been permitted since 2005 but not yet built is proposed at a site adjacent to the Centrica Peterborough site. The maximum short term process contribution of oxides of nitrogen was 37% of the short term EQS. Using this conservative estimate for the PC at the

nearest sensitive receptor which is 400m away, the maximum PC would be 57% in combination. The background is an additional 12%. The PEC would therefore be 69% of the short term EQS. There is still adequate headroom between the PEC and the EQS to indicate that the emissions are unlikely to result in an exceedance of the EQS.

We have reviewed the Operator's modelling and we agree with the Operators' conclusions that although the short term PCs can not be considered insignificant; taking the background concentration into account the PEC of NO_2 are unlikely to result in an exceedance of the respective EQSs.

Based on our checks we are satisfied that the impact on short term air quality does not require the further reduction of the aggregated period of operation below 500 hours per year. The long term impact from operating in the open cycle mode for this limited period will be insignificant.

Based on the addition of two gas turbines operating in open cycle mode and the modelling submitted by the Operator, emissions from the stacks are not likely to result in an exceedance of the relevant air quality standards.

Ecological Sites

The following Special Areas of Conservation (SAC), Special Protection Areas (SPA) or Ramsar sites are within 10km of this installation:

- Orton Pit SAC
- Nene Washes SAC, SPA and Ramsar

The following Site of Special Scientific Interest (SSSI) is within 2km of this installation:

- Nene Washes SSSI

Castlethorpe Tufas Site of Special Scientific Interest (SSSI) is also within the relevant distance criterion of 2km. However, this site is designated only for geological features and there is no mechanism for NO_x emissions to impact this site. Therefore no further assessment of this site is considered necessary.

There are 4 Local Wildlife Sites (LWS) within 2km of the installation. These are:

- Adderley and Storey's Bar Road Drains;
- Cat's Water Drain;
- Eyebury Road Pits;
- Northey Gravel Pit.

The predicted impacts at these sites are shown in the tables below.

Table 3 – Predicted long term process contributions

Receptor and designation	Substance and reference period	Critical level (µg/m^3)	Background	PC (µg/m^3)	PC as % of critical level	PEC*
Orton Pit SAC/SSSI	NO_x annual	30	19.2	0.03	0.11	-

Nene Washes Ramsar/SAC/SPA/SSSI	NO_x annual	30	15.9	0.10	0.34	-
Adderley and Storey's Bar Road Drains LWS	NO_x annual	30	15.9	0.52	1.75	54.7
Cat's Water Drain LWS	NO_x annual	30	15.9	0.19	0.62	-
Eyebury Road Pits LWS	NO_x annual	30	15.3	0.14	0.48	-
Northey Gravel Pit LWS	NO_x annual	30	15.9	0.13	0.44	-

*Background or PEC not considered if PC is less than 1% of critical level

Long term process contributions for all European Habitats Site, SSSIs and non-statutory sites listed above except Adderley and Storey's Bar Road Drains LWS are predicted to be below 1% of the critical level and can therefore be considered insignificant. The PEC at the Adderley and Storey's Bar Road Drains LWS site is 54.7% of the critical level, which demonstrates adequate headroom to indicate that an exceedance of the critical level at the site is unlikely.

Table 4 – Predicted short term process contributions

Receptor and designation	Substance and reference period	Critical level (µg/m^3)	Background	PC (µg/m^3)	PC as % of critical level	PEC/ critical level
Orton Pit SAC/SSSI	NO_x daily	75	19.2	9.2	12.3	37.9
Nene Washes Ramsar/SAC/SPA/SSSI	NO_x daily	75	15.9	38.8	51.7	72.9
Adderley and Storey's Bar Road Drains LWS	NO_x daily	75	15.9	262.4	349.9	365.8
Cat's Water Drain LWS	NO_x daily	75	15.9	32.1	42.8	63.9

Eyebury Road Pits LWS	NO_x daily	75	15.3	28.9	38.5	58.8
Northey Gravel Pit LWS	NO_x daily	75	15.9	41.5	55.3	76.5

Short term process contributions for all European Habitats sites, SSSIs and LWSs listed above except Adderley and Storey's Bar Road Drains LWS indicate that there is adequate headroom show that an exceedance of the critical level at the sites is unlikely. The Operator has predicted that the PC at Adderley and Storey's Bar Road Drains LWS has the potential to exceed the critical level for daily NO_x. The additional gas turbine(s) will be fitted with low NO_x burners. The new unit(s) will have a maximum hourly concentration of 50 mg/m^3 of NO_2 compared to the existing units which have an aggregated maximum hourly concentration of 295 mg/m^3. There is the potential for a reduction in emissions were the new turbine(s) to be used in preference to the existing turbines. The predicted increase in emissions as a result of the installation of the new unit(s) would therefore be a maximum of 16.9% of the existing emissions were all units to be run in combination.

The modelled prediction is based on continuous operation for 12 hour periods. This is a worst case scenario that does not reflect the lower risk from operations at the installation which would normally involve running periods of less than two hours duration twice a day. Impacts from nitrogen oxides on aquatic features are likely to be long term and therefore this short term exposure is unlikely to have a significant impact on the LWS.

We agree with the applicant's conclusions with respect to the impacts at ecological receptors.

As the normal operating periods at the installation will be significantly less than the modelled hours, we consider that the daily mean critical level is unlikely to be exceeded at the LWSs.

As the short term process contribution for Nene Washes SAC and SPA and Orton Pit SAC did not screen out as insignificant, an in-combination assessment was carried out and documented in Appendix 11 dated 27/09/2014. The in-combination impact indicated that an exceedance of the relevant short term critical level at the site is unlikely. The Appendix 11 was sent to Natural England for information only.

Table 4 – Predicted nutrient nitrogen deposition

Receptor and designation	Critical load	PC (kgN/ha/yr)	PC as % of critical load
Orton Pit SAC/SSSI	10	0.007	0.07
Nene Washes Ramsar/SAC/SPA/SSSI	30	0.014	0.05
Adderley and Storey's Bar Road Drains LWS	10	0.076	0.76

Cat's Water Drain LWS (not sensitive to acid deposition)	10	0.027	0.27
Eyebury Road Pits LWS	20	0.021	0.10
Northey Gravel Pit LWS	20	0.019	0.10

Predicted nitrogen deposition PCs are less than 1% of the critical load and can therefore be considered insignificant and unlikely to affect the sites.

Table 5 – Predicted acid deposition

Receptor and designation	Critical load	PC (kgN/ha/yr)	PC as % of critical load
Orton Pit SAC/SSSI	7.11	0.007	0.010
Nene Washes Ramsar/SAC/SPA/SSSI	4.86	0.014	0.043
Adderley and Storey's Bar Road Drains LWS	Not sensitive to acid deposition	0.076	-
Cat's Water Drain LWS (not sensitive to acid deposition)	Not sensitive to acid deposition	0.027	-
Eyebury Road Pits LWS	4.73	0.021	0.062
Northey Gravel Pit LWS	4.73	0.019	0.057

Predicted acid deposition PCs are less than 1% of the critical load and can therefore be considered insignificant and unlikely to affect the sites.

We agree with the applicant's conclusions with respect to the impacts at ecological receptors and that there is a low risk of the impacts from annual mean and 24 hour NO_x exceeding the relevant critical levels or loads.

Noise

There is the potential for an increase in noise emissions as a result of the installation of the new gas turbine(s). It is anticipated that the overall noise produced by the plant will be of a constant and steady nature during operational hours in a similar pattern to the operation of the existing plant. The main sources of intermittent noise will be the operation and testing of safety valves which will be carried out during daytime. The following key measures are proposed to minimise noise emitted from the plant:

- Gas turbines enclosed within acoustic enclosures.
- Gas turbine intake/exhaust fitted with silencers.

The noise impact of the proposed site has been assessed in accordance with BS 4142. The two nearest sensitive receptors were considered in the assessments. The results of the assessment indicate that predicted noise levels at both nearest sensitive receptors is less than a 5 dB increment and therefore is unlikely to cause annoyance or result in complaints. We agree with the conclusions reached by the operator.

We are satisfied that appropriate measures have been taken to minimise the potential for noise emissions and impact from the facility.

Emission Monitoring

There are no changes to the existing permit regarding monitoring and emission limits, and therefore no predicted material impact from this variation. As stated in the introduction above, under Annex V of the Industrial Emissions Directive (IED), gas fired plant that operate less than 500 hours per year for emergency use are not covered by emission limits. Although the Operator will not be required to monitor emissions from the by-pass stacks during this limited period of open cycle mode operation, they are required to record and report their operating hours in this mode of operation. This requirement is covered by condition 2.3.5 of the existing permit.

There will be no change to emission limits from those set out in the previous variation.

The emission points for the gas turbines and their related mode of operation are detailed in table 5 below.

Table 5

Gas turbine	Emission point in Open Cycle
GT 1	A2
GT 2	A4
GT 3 and/or GT4	A9 and/or A10

There are no other changes to the existing facility.

Annex 1: decision checklist

This document should be read in conjunction with the Duly Making checklist, the application and supporting information and permit/ notice.

Aspect considered	Justification / Detail	Criteria met Yes
Consultation		
Scope of consultation	The consultation requirements were identified and implemented. The decision was taken in accordance with Regulatory Guidance Note 6 on High Profile Sites, our Public Participation Statement and our Working Together Agreements.	✓
Responses to consultation and web publicising	The web publicising and consultation responses (Annex 2) were taken into account in the decision. The decision was taken in accordance with our guidance.	✓
Operator		
Control of the facility	We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with Environmental Permitting Regulations Regulatory Guidance Note 1 Understanding the meaning of operator.	✓
European Directives		
Applicable directives	All applicable European directives have been considered in the determination of the application.	✓
The site		
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility. A plan is included in the original permit and the operator is required to carry on the permitted activities within the site boundary. The installation boundary has not changed as a result of this variation and therefore the plan showing the boundary in the permit has not been updated.	✓
Biodiversity, Heritage, Landscape and Nature Conservation	The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat. A full assessment of the application and its potential to affect the sites has been carried out as part of the permitting process. We consider that the application will not affect the features of the sites. See key issues section for further details.	✓

Aspect considered	Justification / Detail	Criteria met Yes
	An Appendix 11 for information only and a full application consultation pack were sent to Natural England: see Annex 2 for further information.	
Environmental Risk Assessment and operating techniques		
Environmental risk	We have reviewed the operator's assessment of the environmental risk from the facility. The operator's risk assessment is satisfactory. **See key issues section for further information.**	✓
Operating techniques	We have reviewed the techniques used by the operator and compared these with the relevant guidance notes. See key issues section for further information.	✓
The permit conditions		
Pre-operational conditions	We have included a pre-operational condition in the variation which requires the operator to specify the details of proposed gas turbines including, selected number, model, abatement and commissioning plan in writing to the Environment Agency for approval prior to installation.	✓
Incorporating the application	We have specified that the applicant must operate the permit in accordance with descriptions in the application, including all additional information received as part of the determination process. These descriptions are specified in the Operating Techniques table in the permit.	✓
Reporting	We have specified reporting in the permit. Operating hours in open cycle mode are required to be reported for the new turbine(s), in order to demonstrate compliance with permit conditions that limit the operating hours.	✓
Operator Competence		
Environment management system	There is no known reason to consider that the operator will not have the management systems to enable it to comply with the permit conditions. The decision was taken in accordance with Regulatory Guidance Note 5 on Operator Competence.	✓

Annex 2: Consultation and web publicising responses

Summary of responses to consultation and web publication and the way in which we have taken these into account in the determination process. (Newspaper advertising is only carried out for certain application types, in line with our guidance.)

Response received from
The Director of Public Health, NHS Peterborough
Brief summary of issues raised
Copy of Public Health England (PHE) consultation response forwarded to the Environment agency.
Summary of actions taken or show how this has been covered
See comments below with regard to consultation response from PHE.

Response received on 31/07/14 from
Environmental Protection Team, Peterborough City Council
Brief summary of issues raised
The Environmental Protection Team are unaware of any complaints or any actions which have been taken with respect to noise.
Summary of actions taken or show how this has been covered
No further action required.

Response received on 31/07/14 from
Planning Department, Peterborough City Council
Brief summary of issues raised
The Planning Department have previously made comments to the applicant with regard to the noise assessment submitted with the planning application. A revised noise assessment was submitted with the consultation response which the Planning Department confirmed had addressed the following issues which had previously been raised: • Consideration of the noise limits already imposed on the plant through planning. • The restriction on low frequency noise imposed by the existing noise limits. The Planning Team have confirmed that a planning noise condition is already applicable to the development.
Summary of actions taken or show how this has been covered
The standard condition 3.4 relating to noise and vibration is included in the permit. Noise has been considered in the key issues section of the decision document. The noise impact of the proposed site has been assessed in accordance with BS 4142. The two nearest sensitive receptors were considered in the assessments. The results of the assessment indicate that predicted noise levels at both nearest sensitive receptors is less than a 5 dB increment and therefore is unlikely to cause annoyance or result in complaints. We agree with the conclusions reached by the operator. We are satisfied that appropriate measures have been taken to minimise the

potential for noise at the facility. No further action is required.

Response received on 30/07/14 from
Public Health England (PHE)
Brief summary of issues raised
PHE recommend that any Environmental Permit issued for the site should contain conditions to ensure that potential emissions to air of nitrogen dioxide (NO_2) do not impact upon public health. PHE notes that the applicant has conducted air quality dispersion modelling, which predicts that air quality standards will not be exceeded. However they state that the assumptions and methodology for calculating the background hourly NO_2 levels is unclear, and suggest that the Environment Agency may wish to confirm the validity of this approach. The plant is expected to be in use during times of peak demand (early morning and early evening), which are likely to coincide with peak traffic flow and higher NO_2 concentrations. Based solely on the information contained in the application provided, PHE has no other significant concerns regarding risk to health of the local population from this proposed activity, providing that the applicant takes all appropriate measures to prevent or control pollution, in accordance with the relevant sector technical guidance or industry best practice. In relation to potential risk to public health, PHE recommend that the Environment Agency also consult the following relevant organisations: • the local authority for matters relating to impact upon human health of noise, odour, dust and other nuisance emissions; • the Director of Public Health for matters relating to wider public health impacts.
Summary of actions taken or show how this has been covered
The Environmental Permit contains requirements for the operator to report on the number of hours of operation that the gas turbines are operated in open cycle. The application contains a commitment to low nitrogen oxide burners and to a NO_x concentration of 50mg/m^3 which is considered BAT. The Applicant's background NO_2 data is in line with that which is presented in the DEFRA background maps for the year 2013. We believe that the background value used by the applicant is appropriate for the background at the nearest sensitive receptors. The Local Authority Environmental Protection Team, Planning Department and the Director of Public Health were consulted on this application. Their comments and our consideration of their responses are summarised in earlier sections of this Annex. No further action is considered necessary.

Response received from
Food Standards Agency
Brief summary of issues raised
No response received.
Summary of actions taken or show how this has been covered
No further action required.

Response received from
National Grid Plant Protection, National Grid
Brief summary of issues raised
No response received
Summary of actions taken or show how this has been covered
No further action required.

Response received from
Health and Safety Executive
Brief summary of issues raised
No response received.
Summary of actions taken or show how this has been covered
No further action required.

Response received on 31/07/14 from
Natural England (in response to full consultation pack)
Brief summary of issues raised
Natural England commented that they would expect the modelling and assessment to include consideration of cumulative impacts with similar schemes, including Green Energy Parks Energy from waste (EfW) and Fengate EfW plant, which are situated to the north and south of Peterborough Power Station and any relevant proposals. They also stated that daily mean NO_X impacts from the Plant are assessed as insignificant for a number of ecological receptors including Orton Pit SSSI and SAC as the predicted environmental concentration is less than 70 per cent of the critical level and not at risk of exceedence of the standard. For the Nene Washes SSSI, SAC, SPA, Ramsar site the PEC is just above 70 per cent of the critical level hence impacts cannot be screened out as insignificant. However, the assessment considers that since the PEC is below the critical level, it is unlikely it will be exceeded. Natural England commented that the assessment is based on an absolute worst case scenario in that it is assumed that full load operation of the Plant for 24 hours coincides with the day of poorest dispersion conditions. Given the 500 hour/year limit on the operation of the Plant in the Environmental Permit and its likely operating pattern, the assessment considers this to be a highly conservative and unrealistic assumption, hence impacts on the Nene Washes are considered insignificant. Whilst this approach seems reasonable, the assessment will need to include consideration of in-combination impacts, particularly in relation to European sites. The applicant should be requested to provide details of the effects of acid and nitrogen deposition, in-combination with other relevant schemes or proposals.
Summary of actions taken or show how this has been covered
Short term process contributions and PEC values indicate that for all European Habitats sites and SSSIs there is considerable headroom between the PEC and the daily Critical Level value such that an exceedance of the critical level at these sites is very unlikely. The applicant has modelled the worst case impact. The installation is limited to 500 hours operation per year, where as the model assumes operation of each turbine for 12 hours each day

throughout the year, a total of 4,380 hours.

Predicted long term PCs and nitrogen and acid deposition PCs are all less than 1% of the critical load for European Sites and SSSIs and can therefore be considered insignificant and unlikely to affect the sites. As the short term PCs for NO_x are over the 10% threshold for significance, an in combination assessment has been carried out with other permissions in the area.

This was documented in Appendix 11 dated 29/11/2014 and sent to Natural England for information only. The Appendix 11 concluded that there emissions of NO_x from the Centrica Peterborough site are unlikely to result in an exceedance of the critical level either alone or in-combination.