

Notice of variation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Centrica PB Limited

Peterborough Power Station
Storeys Bar Road
Peterborough
Cambridgeshire
PE1 5NT

Variation application number
EPR/AP3233LU/V003

Permit number
EPR/AP3233LU

Peterborough Power Station

Permit number EPR/AP3233LU

Introductory note

This introductory note does not form a part of the notice

The following notice gives notice of the variation of an environmental permit.

This variation authorises the installation of one or two new gas turbines with an aggregated electrical generating capacity of approximately 120MWe. The new turbine(s) will be configured for operation as open cycle gas turbines (OCGT). A pre-operational condition requires the operator to submit details of the final design for the proposed turbine(s) to the Environment Agency for approval prior to installation.

Only natural gas will be used as fuel for the new turbine(s). Natural gas will be supplied by the National Grid national transmission system and no natural gas will be stored on site. The proposed unit(s) will operate for less than 500 hours per year in open cycle mode in line with the open cycle operating regime of the existing units. Emissions to air from the new unit(s) will be via emission points A9 and/or A10 from a dedicated 45m stack. If two new gas turbine units are installed, emissions to air will be through two flues within a common windshield.

The permit was previously varied to authorise operation of the existing combined cycle 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.

Primary NO_x abatement in the form of low NO_x burners as a minimum will be installed with the new turbines.

The schedules specify the changes made to the original permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application AP3233LU received	Duly made 20/03/06	
Request for extension to determination period	Request made 16/08/06	Request accepted 25/08/06.
Request for extension to determination period	Request made 24/10/06	Request accepted 03/11/06.
Permit determined AP3233LU	29/12/06	Original permit issued to Centrica PB Limited.
Application EPR/AP3233LU/V002 (PAS Ref. HP3333CU)	Duly made 13/07/12	Application to vary the permit to allow open cycle operation.
Additional information	17/10/12	Comments on draft variation notice
Additional information	02/11/12	Information regarding emergency use
Additional information	02/12/12	Comments on draft variation notice
Variation determined EPR/AP3233LU/V002	18/12/12	Variation notice issued.
Variation application EPR/AP3233LU/V003	Duly made 17/06/14	Application to vary permit to add an additional 120MW gas turbine(s).
Additional information	02/10/14	Further details on operating mode.
Variation determined EPR/AP3233LU/V003 (PAS Billing reference: RP3036VH)	10/12/14	Varied permit issued.

End of introductory note

Notice of variation

Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies

Permit number
EPR/AP3233LU

issued to:
Centrica PB Limited (“the operator”)

whose registered office is

Millstream
Maidenhead Road
Windsor
Berkshire
SL4 5GD

company registration number **04262250**

to operate an installation at

Peterborough Power Station
Storeys Bar Road
Peterborough
Cambridgeshire
PE1 5NT

to the extent set out in the schedules.

The notice shall take effect from 10/12/2014.

Name	Date
Rachael Grills	10/12/2014

Authorised on behalf of the Environment Agency

Schedule 1 – conditions to be deleted

None

Schedule 2 – conditions to be amended

The following conditions are amended as a result of the application made by the operator

Table S1.1 referred to in condition 2.1.1 is amended as follows.

Table S1.1 activities		
Activity listed in Schedule 1 of the EPR regulations	Description of specified activity	Limits of specified activity
Section 1.1 A(1) (a): Burning any fuel in an appliance with a rated thermal input of 50 megawatts or more.	<p>Production of electricity from two gas turbines in combined cycle (GT1 and GT2) each with a maximum nominal thermal input of 395 MW operating on natural gas with gas oil as a back-up fuel.</p> <p>Production of electricity from three or four gas turbines (GT1, GT2 and GT3 and/or GT4) in open cycle operating mode. GT1 and GT2 will emit to air via two bypass stacks and GT3 and/or GT4 will emit to air via one or two flues within a dedicated 45m stack.</p> <p>Gas turbines GT3 and/or GT4 will have a maximum aggregated thermal input of 330 MW.</p>	<p>From receipt of raw materials to despatch of products and waste.</p> <p>Open cycle operation using natural gas only.</p>
Directly Associated Activities		
Directly associated activity.	Gas oil storage.	From receipt of raw materials to dispatch for use. Maximum storage capacity 21,000 m ³ .
Directly associated activity.	Surface water drainage to Racecourse Drain.	Handling and storage of site drainage from external areas of the site, including the gas oil loading area, until discharged to the Racecourse drain.
Directly associated activity.	Operation of two heat recovery steam generators (HRSGs).	From receipt of raw materials to dispatch of products and waste.
Directly associated activity.	Operation of one steam turbine.	From input of steam to dispatch of products and waste.
Directly associated activity.	Filtration, ion exchange water treatment.	From receipt of raw materials to dispatch to chemical effluent

		and dirty water system.
Directly associated activity.	Miscellaneous utility systems (including emergency diesel generator, lubrication systems, control systems).	From receipt of raw materials to dispatch for use.

Condition 2.3.1 is amended such that table S1.2 is amended to:

Table S1.2 Operating techniques		
Description	Parts	Date received
Application	The responses to sections 2.1 and 2.2 of the Application.	20/03/06
Variation Application EPR/AP3233LU/V002	Section 5 and Section 6 of the Supporting Information Document referenced Doc. Ref. 1 - 'Application for a Variation to Environmental Permit AP3233LU for Peterborough Power Station'.	13/07/12
Variation Application EPR/AP3233LU/V003	Part C2 and C3 of the application and referenced supporting documentation.	17/06/14

Condition 2.6 is amended as follows.

2.6 Pre-operational conditions

2.6.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table have been completed.

Table S1.4 Pre-operational measures for future development		
Reference	Operation	Pre-operational measures
1	Installation of gas turbine(s) GT3 and/or GT4	<p>The operator shall submit a report to the Environment Agency providing detailed design(s) for the new gas turbine(s) including drainage systems, proposed abatement and a finalised location plan.</p> <p>The operator shall undertake a review of the final detailed design/ plans for the new unit(s) prior to construction to ensure that:</p> <ol style="list-style-type: none"> 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. <p>The operator shall submit a written report to the Environment Agency for approval, 6 months prior to construction, detailing the findings of this review.</p>

Table S4.1 referred to in condition 3.1.1 is amended as follows.

Table S4.1 Point source emissions to air from Gas Turbines

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 on site plan in schedule 2	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	Gas turbine 1 fired on natural gas	125mg/m ³ Note 1	Daily mean of validated hourly averages	Continuous	BS EN 14181 Note 3
A1 on site plan in schedule 2	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	Gas turbine 1 fired on natural gas	375 mg/m ³ Note 2	Hourly mean	Continuous	BS EN 14181 Note 3
A1 on site plan in schedule 2	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	Gas turbine 1 fired on gas oil	230 mg/m ³ Note 1	Daily mean of validated hourly averages	Continuous	BS EN 14181 Note 3
A1 on site plan in schedule 2	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	Gas turbine 1 fired on gas oil	690 mg/m ³ Note 2	Hourly mean	Continuous	BS EN 14181 Note 3
A2 on site plan in schedule 2	No parameters set	Gas turbine 1 bypass stack	-	-	-	No permanent sampling access required
A3 on site plan in schedule 2	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	Gas turbine 2 fired on natural gas	125mg/m ³ Note 1	Daily mean of validated hourly averages	Continuous	BS EN 14181 Note 3
A3 on site plan in schedule 2	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	Gas turbine 2 fired on natural gas	375mg/m ³ Note 2	Hourly mean	Continuous	BS EN 14181 Note 3
A3 on site plan in schedule 2	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	Gas turbine 2 fired on gas oil	230 mg/m ³ Note 1	Daily mean of validated hourly averages	Continuous	BS EN 14181 Note 3
A3 on site plan in schedule 2	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	Gas turbine 2 fired on gas oil	690 mg/m ³ Note 2	Hourly mean	Continuous	BS EN 14181 Note 3
A4 on site plan in schedule 2	No parameters set	Gas turbine 2 bypass stack	-	-	-	No permanent sampling access required

Table S4.1 Point source emissions to air from Gas Turbines

Emission point ref. & location	Parameter	Source	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A5 on site plan in schedule 2	No parameters set	Flue gases from 1.6 MWth auxiliary boiler	-	-	-	No permanent sampling access required
A6 on site plan in schedule 2	No parameters set	Black start generator exhaust	-	-	-	No permanent sampling access required
A7 on site plan in schedule 2	No parameters set	Flue gases from two fire water pumps	-	-	-	No permanent sampling access required
A8 on site plan in schedule 2	No parameters set	Vent from hydrochloric acid storage scrubber	-	-	-	No permanent sampling access required
A9 on emission release points plan in application EPR/AP323 3LU/V003	No parameters set	Gas turbine 3 stack	-	-	-	No permanent sampling access required
A10 [located within a common windshield at point A9 on emission release points plan in application EPR/AP323 3LU/V003	No parameters set	Gas turbine 4 stack	-	-	-	No permanent sampling access required
Note 1	This limit does not apply during start-up, shut-down, recommissioning after maintenance overhauls and for the first 30 minutes after a fuel changeover.					
Note 2	This limit applies for periods not exceeding six hours for NO _x reduction system planned maintenance or on up to two occasions per year when generation testing is being completed.					
Note 3	In the event of failure of the continuous NO _x monitors installed to measure concentrations in the discharge to air, or in the event of a requirement for the maintenance or recalibration, records of normal steam flow into the gas turbine combustion chambers will be acceptable as an alternative evidence that the levels of NO _x are being controlled within the limits specified.					

Table S5.3 referred to in condition 4.2.1 is amended to:

Table S5.3 Performance parameters		
Parameter	Frequency of assessment	Units
Water usage	Annually	m ³
Gas usage per MWh generation	Annually	m ³ /MWh
Gas oil usage per MWh generation	Annually	t/MWh
Thermal efficiency	Annually	%
Energy usage	Annually	MW
Waste disposed of per MWh generation	Annually	t/MWh
Total mass release of oxides of nitrogen	Annually	tonnes
Open cycle operating hours for emission points A2, A4, A9	Quarterly	Total hours, total number of runs, duration of longest run and number of runs >2 hrs duration.

Table S5.4 referred to in conditions 4.2.1 and 4.2.2 is amended as follows.

Table S5.4 Reporting forms				
Media/parameter	Reporting format	Starting point	Agency recipient	Date of form
Air	Form Air – 2 continuous monitoring or other form as agreed in writing by the Agency	01/01/07	SI	01/01/07
Air	Form Air - 9 Open Cycle or other form as agreed in writing by the Agency	10/12/14	SI	10/12/14
Energy	Form Air – 7 Energy Usage summary or other form as agreed in writing by the Agency	01/01/07	SI & Central office	01/01/07
Water usage	Form water usage1 or other form as agreed in writing by the Agency	01/01/07	SI	01/01/07
Other performance indicators	Form performance 1 or other form as agreed in writing by the Agency	01/01/07	SI	01/01/07

Schedule 3 – conditions to be added

None