

# The Wrexham Gas Fired Generating Station Order

## 14.1: Applicant's comments on submissions made at Examination Deadline 4

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**Planning Act 2008** The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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**Applicant's comments on submissions made at  
Examination deadline 4**

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# 1. Introduction

## OVERVIEW OF THE SCHEME AND THE DCO APPLICATION

- 1.1. Wrexham Power Limited (WPL or '*the Applicant*') has applied to the Secretary of State for a Development Consent Order (DCO) under the Planning Act 2008 (PA 2008). The application for the proposed Wrexham Gas Fired Generating Station Order (*'the Order'*) is for powers to construct, operate and maintain the Power Station Complex Site on land at Bryn Lane on Wrexham Industrial Estate (WIE) in the County and Borough of Wrexham. The Order would also authorise the Applicant to compulsorily acquire land rights to construct, operate and maintain the Gas Connection.
- 1.2. Unless defined in this document, the terms used in this document have the same meaning as in the *Glossary* submitted with the Application (Examination Library Reference APP-156).
- 1.3. WPL is a joint venture company established by St. Modwen Properties V Sarl and Glenfinnan Properties. Both companies have an extensive background in the development and economic regeneration of sites throughout the UK, including experience in the energy sector.
- 1.4. The Power Station Complex Site constitutes a Nationally Significant Infrastructure Project (NSIP) by virtue of section 14(1)(a) and section 15 of the PA 2008, which includes within the definition of an NSIP any onshore generating station in England or Wales of more than 50 megawatts capacity. Under section 31 of the PA 2008 a DCO is required for development to the extent that the development is, or forms part of, an NSIP. Under section 37 of the PA 2008, this can only be granted if an application is made for it to the relevant Secretary of State – in this case, the Secretary of State for Business, Energy and Industrial Strategy.
- 1.5. The Gas Connection element of the Scheme has been consented separately under the Town and County Planning Act 1990 by means of a planning application granted by the local planning authority, Wrexham County Borough Council (WCBC or '*the Council*'), on 5 September 2016. However, powers of compulsory acquisition over the land required for the Gas Connection are being sought as part of the Application. The Environmental Statement (ES) that accompanies the Application has assessed both the Power Station Complex Site and the Gas Connection together pursuant to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 and the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999. In addition, the ES has cumulatively assessed other proposed developments including the Electrical Connection required for the WEC, as agreed with WCBC.

1.6. The Scheme comprises:

- a combined cycle gas turbine (CCGT) power station (the '*Power Station Complex*') (work numbered 1 in Schedule 1 to the Order) which would be fuelled by natural gas and would have a gross rated electrical output of up to 299 megawatts (MWe);
  - temporary and permanent Laydown Areas (works numbered 2A and 2B respectively in Schedule 1 to the Order);
  - surface water drainage works (work numbered 3 in Schedule 1 to the Order);
  - the landscape and ecological mitigation works (work numbered 4 in Schedule 1 to the Order); and
  - the alteration and use of the Kingmoor Park Access Road from Bryn Lane (work numbered 5 in Schedule 1 to the Order)
- (together identified as the 'Power Station Complex Site');* and
- the Gas Pipeline and an Above Ground Installation (AGI) (the '*Gas Connection*').

1.7. The Power Station Complex will occupy a site known as Kingmoor Park South, on the north-eastern side of the WIE, adjacent to Bryn Lane and to the north of a large logistics warehouse and distribution centre operated by XPO Logistics. The Gas Connection Route is approximately 3.5km in length and would largely cross agricultural land, connecting to the AGI Site adjacent to the existing Maelor Gas Works to the south of the WIE.

1.8. The Electrical Connection is not part of the Application, but will be required for the export of electricity.

1.9. An updated *Grid Connection Statement* submitted by WPL in June 2016 (Examination Library Reference OD-006) confirms that the distribution network operator, SPEN, has made a connection offer to the Applicant to export electricity into SPEN's 132kV network via underground cables from the Power Station Complex Site to the Legacy substation south-west of Wrexham. No new overhead lines are required for the export of electricity from the Scheme.

1.10. The detailed specification of the 132 kV underground connection will be determined at a later date by SPEN in its capacity as the statutory undertaker for electrical infrastructure in the area. Any works associated with the underground connection will be consented through the appropriate lawful consenting regime and will be the responsibility of SPEN.

1.11.



**PURPOSE OF THIS STATEMENT**

- 1.12. This statement provides the Applicant's comments on submissions made by Interested Parties for Deadline 4 of the examination, on 4 November 2016. Responses are made in the order set out by the Examining Authority (ExA) in the Examination Library on its project website<sup>1</sup>. The Applicant has also responded to the late submission from CPAT. **Examination Library Reference numbers ('ELR') are used through this report.** Where possible, the Applicant's comments cross-refer to earlier submissions in order to avoid repetition.

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<sup>1</sup> <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010055/EN010055-000937-Examination%20Library.pdf>



## 2. Applicant's comments on Deadline 4 submissions

### REP4-001 – CHRIS BRIGGS

#### Summary of the submission

- 2.1. Mr Briggs raises a wide range of points including:
- a). emissions information that he has received from Natural Resources Wales or the Environment Agency for start-up and shutdown emissions of an unnamed plant.
  - b). daily running hours for the Scheme will be less than stated in the application, which affects the stack height calculation;
  - c). the need to consider other emission sources once the higher stack height calculation has been undertaken;
  - d). personal experience of measuring start-up emissions;
  - e). request for raw data from the CEMS to be published;
  - f). contact with NRW and WCBC regarding noise emissions from Wrexham Industrial Estate and the date that the Applicant's noise survey was undertaken;
  - g). assertion that the Scheme will become the 'stand out' noise on the Wrexham Industrial Estate.
- 2.2. These points will be considered in turn.

#### Applicant's response

***a). Information provided by either NRW or the EA for emissions from an unnamed plant***

- 2.3. From Mr Briggs' answer to First Written Question 1.1.13 (ELR REP1-037), it is understood that he has made a Freedom of Information request to the Environment Agency and Natural Resources Wales for a plant that is '*currently operational in a peaking/short duration mode and is in the configuration mentioned in the Environmental Statement*'. Additionally, Mr Briggs alludes to his discussions with Natural Resources Wales (NRW) and the Environment Agency (EA) concerning start-up and shut-down emissions from CCGT power stations at various times

during the examination.

- 2.4. In his Deadline 4 representation, Mr Briggs has provided data that purports to have come from one of the regulators for a plant similar to the Scheme. These data have been made anonymous, making it impossible for the Applicant to comment on whether it has any relevance to the Application, for example in relation to the size, arrangement and age of the plant. Accordingly, the Applicant would respectfully suggest that little or no weight can be given to this information.
- 2.5. At the Issue-Specific Hearing on Environmental and Other Issues on 23 November 2016, both Mr Briggs and NRW confirmed that the data related to Deeside Power Station, a plant which was constructed in 1994. NRW confirmed that they met Mr Briggs' request for data relating to the specification provided the ES Chapter 8 including manufacturer type. Deeside Power Station has two Alstom Power plc GT13E2 gas turbines with an electrical generation capacity of 166 MW.
- 2.6. The Applicant wishes to comment on Mr Briggs' interpretation of the data and the regulatory regime under which the Scheme will be operated. The regulator has provided Mr Briggs with normalised data. These data would have been provided by the operator of the Deeside plant, presumably, as a condition of its permit. It is unclear whether the data relate to a single day and whether the plant continued to operate between the two time periods presented, what year the data are for nor at what load the plant was operating.
- 2.7. Mr Briggs contends that the Scheme will run for a limited number of hours daily and is likely to start-up and shutdown twice each day rather than running continuously as has been assessed in the Environmental Statement. Mr Briggs suggests also that there are no scientific reasons for the load status or the hourly averaging period.
- 2.8. The Applicant refers the Examining Authority to the requirements of the Industrial Emissions Directive ('IED' - Directive 2010/75/EU). The overarching objectives of the IED are the protection of human health and the environment, and the improvement of environmental quality, by controlling the emissions from industrial activities. The Directive takes an integrated approach to the prevention and control of emissions to air, water and land in addition to waste management, energy efficiency and accident prevention. It sets the Emission Limit Values (ELV) which are to be achieved based on the application of Best Available Techniques (BAT). The IED has been transposed into UK law.
- 2.9. The IED has to be complied with in order for the Scheme to be permitted and to be allowed to operate. The ELVs for gas turbines are set out in Annex V Part 1 of the IED and are 50mg/Nm<sup>3</sup> for NO<sub>x</sub> and 100mg/Nm<sup>3</sup> for CO. Emissions monitoring and confidence intervals are described in Part 3 of Annex V. Assessment of compliance with the IED is set out in Part 4 of Annex V and here it is made clear that emissions during the start-up and shut-down periods *shall be disregarded*.
- 2.10. In order to comply with the IED over a given calendar year, the following conditions

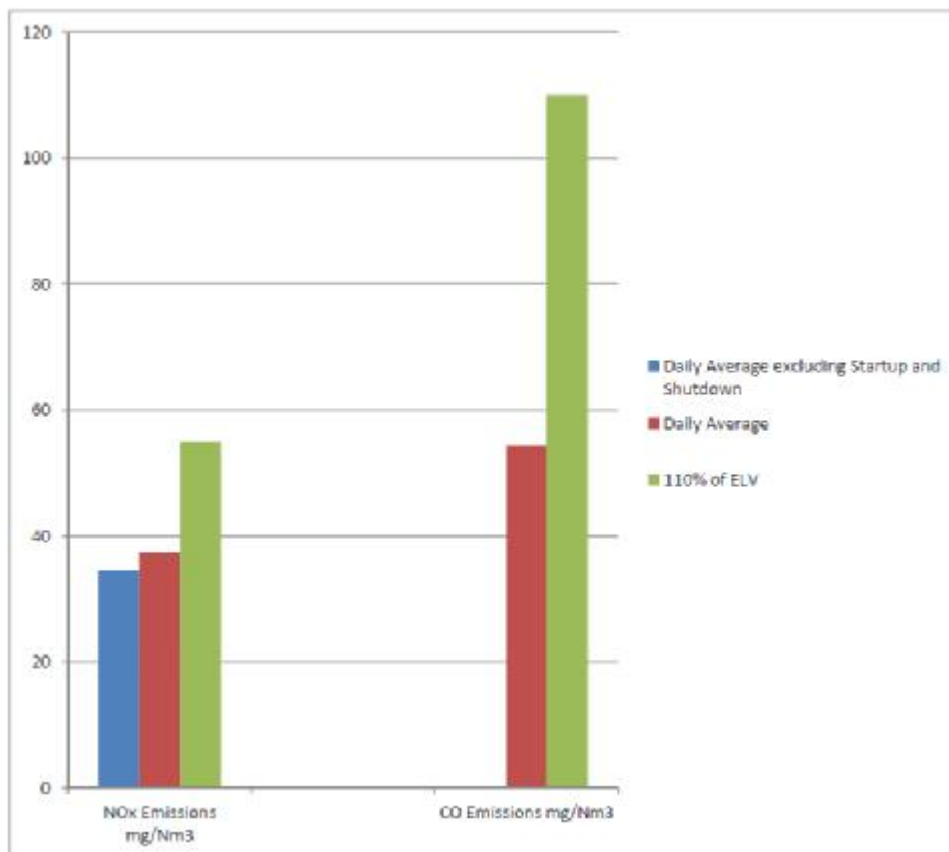
also outlined in Part 4 of Annex V must be adhered to:

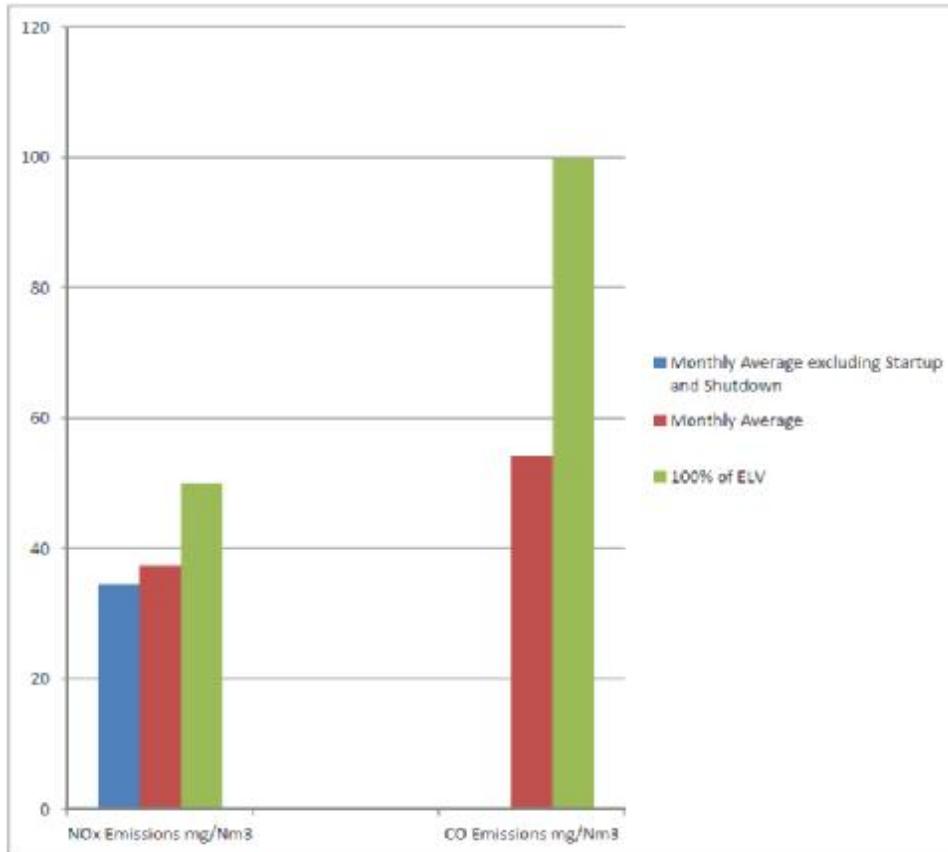
- No validated monthly averages exceeds ELV
- No validated daily average exceeds 110% ELV
- 95% of all validated hourly averages do not exceed 200% of the ELV.

- 2.11. Validated averages are obtained only during periods of normal operation, excluding start-up and shutdown periods, as required by Part 4 of Annex V of the IED. Emissions during start-up and shutdown are instead included in the reporting of annual mass emissions to the regulator. The entire basis of Mr Briggs' representation relies upon assessing emissions over a very short period of time during start-up and shutdown of the gas turbine/s; this is not the basis for assessing compliance with the IED, nor should it form the basis of a stack height determination or Environmental Statement.
- 2.12. The IED takes into account hourly, daily and monthly averages of emissions and their effects on human health rather than transient fluctuations in emissions. The stack height assessment for the Power Station Complex has been undertaken using a standard methodology, in agreement with NRW. This assessment used 200% of the hourly ELV for oxides of nitrogen to verify the height of the Stack to be appropriate and the height is, therefore, considered by the Applicant to be robust. The maximum stack height has been locked in the parameters specified in Requirement 2 of Schedule 2 of the draft Order (ELR REP4-011) as 50m above an AOD of 30m. Mr Briggs' suggestion that the Stack height needs to be recalculated as a result of the data presented in his representation is flawed. This Scheme is no different to any other thermal generating station which has been granted consent or is running in Europe and governed by the IED.
- 2.13. On this basis the Applicant considers it is unreasonable for Mr Briggs to suggest that the stack height assessment should take into account the start-up and shutdown emissions when the parameters for compliance with an environmental permit are set out in the IED and must adhere to BAT. It is thus misleading to suggest that the stack height assessment has been carried out incorrectly, despite the methodology having been agreed with NRW and being in compliance with the IED. There is no other appropriate method of determining the stack height.
- 2.14. Every generation station which is permitted under the IED has to comply with these legal requirements. It would not be reasonable to require a thermal generating station to comply with the ELVs during start up and shutdown periods due to the fact that it is not possible to combust the fuel with low emissions, since the air to fuel ratio is too high to achieve basic flame stability and low emissions simultaneously. Below 70% load, a requirement to achieve the IED ELVs would compromise plant flexibility. The EU Implementing Decision on start-up and shutdown (2012/249/EU) specifies the minimum and maximum loads between which the steady operation of the generating combustion plant is such that the

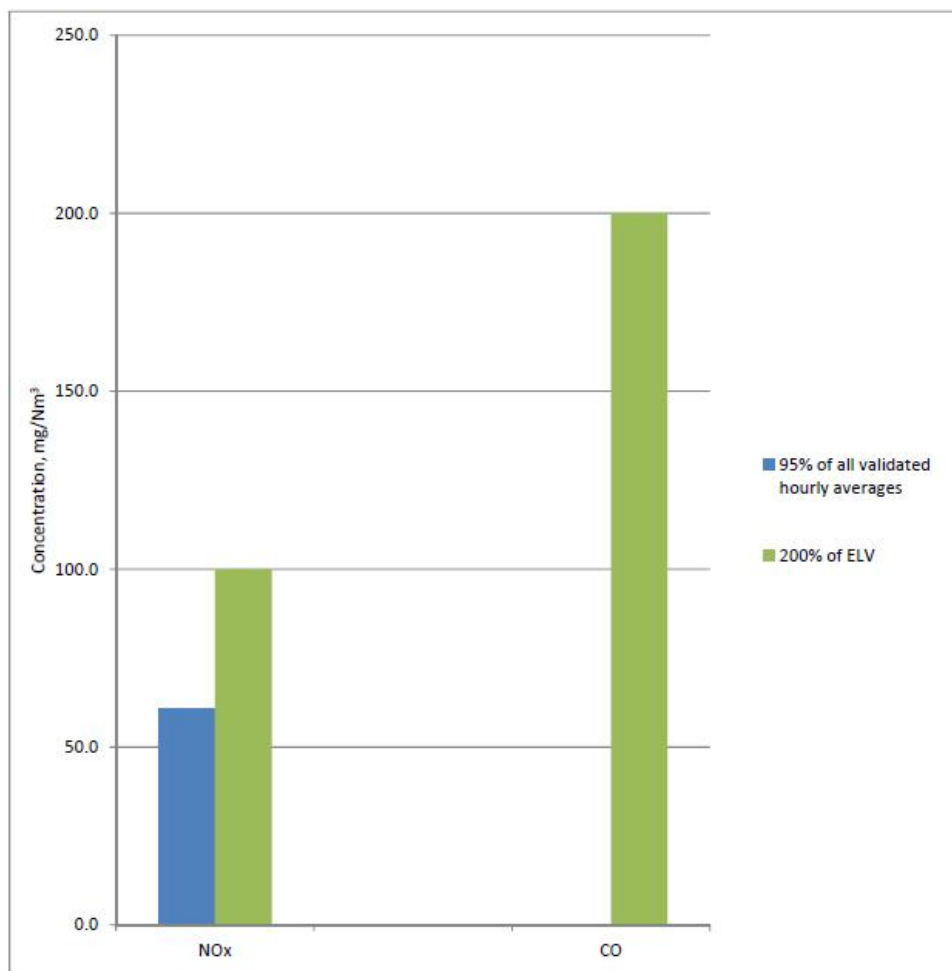
plant is able to safely and reliably deliver its output to a network, grid, heat accumulator or industrial site.

2.15. To assist the Examination the Applicant has taken the emission data provided by Mr Briggs in good faith and has assumed that the Deeside facility operates on a daily basis identically to the emissions data provided, which are assumed to relate to a single day. The Applicant has assessed the data provided to determine compliance of this data with the ELVs as set out in the IED described within paragraph 2.9 and to confirm the robustness of the approach taken for the purposes of the ES, for which the Applicant assessed the Power Station Complex based on continuous operation at the ELVs in the IED. The following graphs demonstrate that the Deeside plant operates within the requirements of the IED and therefore the assessment undertaken for the ES represents a conservative scenario in order to ensure a robust stack height determination.





- 2.16. The green bar in the daily and monthly average charts represents what the Applicant has assessed i.e. the ELVs for NOx and CO set in the IED. The blue bar shows how the data provided by Mr Briggs compares with the ELV. Although not a matter for compliance with the IED, the Applicant has also considered the start-up and shutdown information provided by Mr Briggs, shown as the red bar, to address Mr Briggs' specific concerns. If the start-up and shutdown information was included in the assessment for compliance with the ELVs it can be seen that that which was assessed by the Applicant still represent a worse case.



- 2.17. The blue bar shows the value, derived from the data provided by Mr Briggs, that would be used to establish compliance with the IED for the plant, i.e. the 95<sup>th</sup> percentile of all the hourly averages. In the case of the hourly average, the relevant criterion, shown in green, is 200% of the ELV. This was the value used by the Applicant to verify the findings of the air quality assessment for NOx, as agreed with NRW.
- 2.18. The 95<sup>th</sup> percentile for CO is not visible on the graph, as the data provided by Mr Briggs show that once the plant is running normally there are close to zero emissions of this pollutant (in line with efficient combustion).
- 2.19. NRW, in its Written summary of oral submissions put at hearings held between 27 and 29 September 2016 (ELR REP3-008) stated *'The permit would require a summary of any emissions data to be reported to NRW on a quarterly basis. For information, Annex V, Part 4 of the Industrial Emissions Directive States: 'For the purpose of the calculation of the average emission values, the values measured during the periods referred to in Article 30(5) and (6) and Article 37 as well as during the start-up and shut-down periods shall be disregarded.'*
- 2.20. In addition, NRW, in its answers to Second Written Questions, Question 2.1.2, submitted at Deadline 4 (ELR REP4-004) submission, stated that they are *'not*

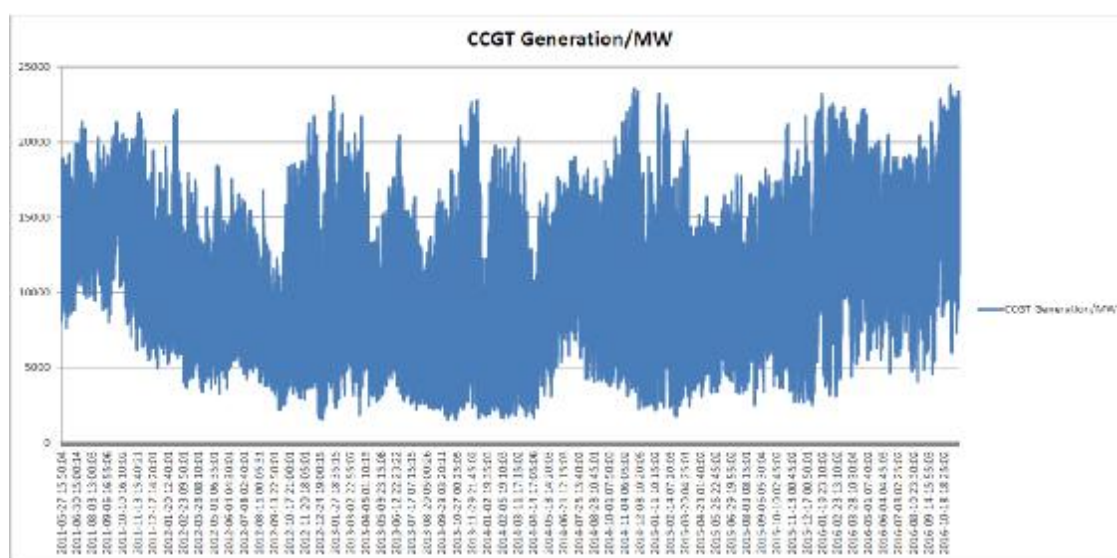


*aware of any changes or new legislation/procedures for assessing EP which result in significantly different stack heights being required.'* The Applicant contends that the stack height and compliance with emission standards is determined by the IED and not by some additional methodology that Mr Briggs is suggesting that is not supported by the regulators.

- 2.21. Mr Briggs asked also for additional information that might not have been available to the regulator, including a check that the CEMS has not 'maxed' out during the measurement of the emissions i.e. whether the instrument reached the upper limit of the available measurement range. The Applicant has not observed any plateau in the data as supplied by Mr Briggs that would indicate that this has happened during the specific periods of operation that Mr Briggs is concerned with, namely the start-up and shutdown periods.
- 2.22. Mr Briggs states a concern regarding the use of a confidence interval in reporting the data and that the actual emissions will be higher than reported. The Applicant agrees with Mr Briggs that as these data have been provided by the regulator, it is not possible to determine whether the appropriate confidence interval has already been applied to the data as presented. However, the basis of assessment of compliance with the IED is to compare *validated* hourly, daily and monthly averages with the ELVs and not a single reading for one minute, as Mr Briggs has done in his response. The IED requires that normalised emissions are calculated ( $\text{mg}/\text{Nm}^3$ ) and from this a defined 95% confidence interval, which in the case of oxides of nitrogen is 20%, is subtracted in order to calculate the 'validated' average over the averaging period in question.
- 2.23. The Applicant disagrees with Mr Briggs that the confidence interval would have been applied twice and therefore the actual emissions would be much higher than reported. The plant operator would have taken the reading from the CEMS, corrected to normalised conditions (the data is at 101.3kPa, 273K on a dry gas basis and corrected to 15% oxygen), applied the confidence interval and then reported the validated average figure(s) to the regulator. CEMS instrumentation may either *under* or *over-estimate* the absolute emission concentration of pollutant in flue gases, in accordance with tolerances specified in the IED.
- 2.24. The IED confidence intervals reflect this known uncertainty and ensure that all plants are assessed for compliance on an equal basis. Sampling and analysis and the quality assurance of CEMS are subject to standards set out in EN 14181 [7] (the quality assurance of Automated Measuring Systems) and EN 15259 [8] (defining measurement locations by the use of duct surveys). The IED also requires annual checking of CEMS using manual reference methods (the Annual Surveillance Test of EN 14181) and specifies that the competent authority is informed of the results of the checking of the CEMS. Any permitted tolerances and the confidence intervals are taken into account in arriving at the ELVs within the IED.

***b). Daily running hours***

2.25. The Applicant considers that electricity generation from combined cycle gas turbine power stations is currently required, and as supported by the National Policy Statements EN-1 and EN-2, and will continue to be required outside of the two peak generating times suggested by Mr Briggs. It is the Applicant's intention to operate the facility at base load throughout the year. Although there are variations throughout the day and year in terms of total generation required, it is highly unusual for there to be no generation from combined cycle gas turbine power stations outside of these two suggested peak times. This can be demonstrated by data obtained from National Grid and shown in the graph below which provides a history of the generation from CCGT plants over a period of time. The graph also shows an upward trend on the reliance on CCGT plants as older plants, including coal fired power stations, come offline.



2.26. Additionally, the data presented by Mr Briggs to illustrate compliance with ELVs do not comply with his assertion that only two peak generating times will be utilised, in that the plant appears to start up at 05:56 and run until shutdown at 20:39 on the day for which the data has been provided. It is, however, not possible to confirm that the data provided apply to the same plant on the same day in the format in which it has been presented by Mr Briggs.

2.27. As existing generating stations come to the end of their economic life replacement facilities of the type proposed by the Applicant will continue to be required. Newer and more efficient facilities of the type proposed by the Applicant are likely to be running as base load, rather than as described by Mr Briggs.

2.28. The Applicant has assessed the emissions, as described in Chapter 8: *Air Quality* of the ES (ELR APP-056) and in paragraph 2.11 above on the basis of constant emissions at the ELVs set out in the IED and a hypothetical case with hourly averages at 200% of the ELV throughout the year. This is considered by the Applicant to represent the realistic 'worst case'. Any other type of operation will be controlled by the EP and compliance with the requirements of the IED and not by merely considering the highest emissions for 1 minute on a single day. The

shortest compliance period in the ELV is one hour, which is commensurate with the shortest exposure period for which there is a health based ambient air quality standard.

- 2.29. The Applicant noted that Mr Briggs raised a concern at the Issue Specific Hearing on Environmental and Other Matters to the effect that the data for the Deeside Power Station might not represent the current day operation of gas turbines. NRW stated at the hearing that the Deeside Power Station demonstrates adherence to the ELVs set in the IED, which is notable as the plant approaches 25 years of operation.
- 2.30. The Applicant would seek to underline that modern gas turbines are of improved efficiency and can achieve much lower emissions than similar sized turbines built over 20 years ago. The assessment presented in the ES Chapter 8 was based on the specification for the GE 206FA turbine, for which the manufacturer suggests an emissions performance of 15ppm NO<sub>x</sub> and 9 ppm CO (approximately 30 mg/Nm<sup>3</sup> and 10 mg/Nm<sup>3</sup> respectively) i.e. well below the ELVs which formed the basis of the assessment for the ES. The 6FA is a down-scaled version of the 7FA, the GE brochure for which (Heavy duty gas turbines) states they have '*pursued several initiatives that directly respond to customer needs, including a 10-minute start-up capability for 7FA gas turbines' and that these can achieve 'stable combustion that is capable of 9 ppm NO<sub>x</sub> and CO emissions within the start-up time'*.
- 2.31. It is to be noted that a facility intended to operate as a peaking plant would likely differ in configuration, in that smaller 'aero-derivative' type simple cycle gas turbines, which are more efficient and quicker to start-up and shut-down, would be selected. Furthermore, during start up and shut down, volume flows will be lower. The hypothetical assessment of hourly emissions presented in the ES Chapter 8, which used twice the ELV for NO<sub>x</sub> to estimate worst-case short-term (hourly) ground level concentrations, used the volumetric flow rate relating to base load operation. In doing so, the mass emission rate used in the hypothetical assessment was conservative. Nevertheless the assessment found (Chapter 8, paragraph 8.231) that the highest total NO<sub>2</sub> concentrations will be just over one quarter of the short-term AQS standard, and thus will have a negligible effect on human health.
- 2.32. A peaking plant, if limited to 1500 hours of operation per annum, could on the basis of lower mass emissions and fewer operational hours, be afforded a lower height stack (as, for instance, was the case for Hirwaun Power Station). The basis of the assessment presented in Chapter 8 of the Environmental Statement remains therefore a realistic 'worst-case' for the purposes of both air quality and landscape and visual impact.

***c). the need to consider other emission sources once the higher stack height calculation***

- 2.33. As explained above, neither the Applicant nor NRW consider that a higher stack height is required and therefore an additional stack height assessment is unnecessary.

- 2.34. At paragraph S.21 of the Applicant's response to Examining Authority's first round question 1.1.2, a graph illustrates the effect of stack height on modelled hourly NO<sub>2</sub> concentrations at sensitive receptors. For a 2+1 with 2 stack configuration (the worst-case scenario selected for the ES) no significant change in ground level concentrations is observed beyond a height of 46 m AOD. It is the shape of this graph that formed the basis of the Applicant's recommended upper limit on stack height. The shape of the graph would not alter for a higher modelled emission rate, since the increase in emissions is directly proportional to the output in terms of ground level concentrations. Accordingly, were a higher emission to have been modelled (a scenario which is not supported based on the preceding text) there would continue to be no further material benefit from a stack above 50 m owing to the fact that the effect of surrounding buildings on the plume has been effectively overcome.
- 2.35. To build a higher stack would be contrary to the application of best available techniques (BAT) the principle underlying the PPC Directive and the associated environmental permitting process. In the hypothetical case that such emissions caused unacceptable ground concentrations (not a situation that applies to this application), it is likely the operator would be required by the regulator to investigate other means by which to manage air quality impacts, such as secondary mitigation techniques.
- 2.36. As no stack height assessment for a higher stack is required, no additional assessment is needed for additional emission sources.

***d). personal experience of measuring start-up emissions***

- 2.37. The Applicant notes Mr Briggs' personal experience in testing industrial emissions. The Applicant appreciates that Mr Briggs doesn't own the data to which he refers in his representations. However, if it is a permitted process the data could have been obtained from the public register for the operation of the plant as a whole, including start-up and shutdown periods. The permit would also specify the ELVs to which the plant must comply. As stated previously, ELVs do not apply during start-up and shutdown.

***e). request for raw data from the CEMS to be published***

- 2.38. The Applicant will comply with the requirements of the Environmental Permit and provide, *inter alia*, the emissions monitoring data in the format required by the permit, to the regulator, NRW. Mr Briggs will be able to obtain this information from the public register.

***f). contact with NRW and WCBC regarding noise emissions from the Wrexham Industrial Estate and the date that the Applicant's noise survey was undertaken***

- 2.39. Mr Briggs has stated on several occasions that he has been in contact with NRW and WCBC since September 2014. He claims that, as a result, noise levels from the Wrexham Industrial Estate have been reduced and that the noise assessment

carried out by the Applicant in July 2014 is now out of date.

- 2.40. This matter was considered at the Issue Specific Hearing on Environmental and Other Issues of 29 September 2016. The Written Summary of the Applicant's Oral Case of that hearing (ELR REP3-015) sets out the points made in paragraphs 7.1 to 7.7. Mr Lawrence, a chartered engineer at Atkins Limited, explained that the Applicant had considered typical noise levels over the course of a week. The Environmental Statement took into account World Health Organisation noise level recommendations. As noise from the Power Station Complex at all properties is shown to be below the recommended night time guidance of 45dB, any reduction in background noise levels from those measured in 2014 would not change the result of that assessment.
- 2.41. In their responses to Second Written Questions, NRW (ELR REP4-003) and WCBC (ELR REP4-006) do not indicate that there are multiple breaches or remedial actions being undertaken by many occupiers of the Wrexham Industrial Estate (WIE) as suggested by Mr Briggs. In its response to Second Written Question 2.10.1, NRW confirms that it is *'investigating a specific noise issue from the Kellogg's factory for which improvements have been requested to address the issue'*. NRW confirms that this should not affect the background assessed in the ES.
- 2.42. In the notes of the unaccompanied site visit of 28 September 2016 (ELR EV-014) the Examining Authority stated that *'A modest contribution to the acoustic background due to noise emissions from the Wrexham Industrial Estate could be observed at all locations visited. This was of the nature of blended noise from multiple sources. No individual peaks, troughs or directional characteristics were apparent and there were no instances of noise with particular percussive or tonal components'*. This observation is representative of the Applicant's observations. The WIE is a large industrial estate with multiple occupiers undertaking a wide variety of light and general industrial processes. Many of the users operate 24 hours a day. The presence of the WIE and the noise generated by its users and the processes that they undertake has been a characteristic of the area for many years. Any future enforcement action taken will only be taken against occupiers who are in breach of their environmental permits or environmental health guidelines. This does not mean that noise emanating from the WIE will cease but that it will be controlled to statutory limits.
- 2.43. NRW and WCBC agree with the Applicant that they are not aware of reasons why the background noise levels would need to be reassessed.
- g). *assertion that the Scheme will become the 'stand out' noise on the Wrexham Industrial Estate.***
- 2.44. As the Applicant has stated above there are multiple noise emitting occupiers on the WIE and there is no evidence to suggest that now or in the future that noise from these occupiers will cease to be heard from the closest houses to the WIE. The finding of the Applicant's assessment on noise and vibration is contained

within chapter 9 of the ES.

- 2.45. The permitted noise from the Power Station Complex would be controlled by the Environmental Permit (EP). In order to obtain an EP the Applicant will need undertake an assessment in accordance with BS4142:2014 – Methods for rating and assessing industrial and commercial sound. The outcome of this assessment will be included as part of the detailed design process that will be undertaken by the Applicant.
- 2.46. Approval of the detailed design will be carried out in accordance with Requirement 2 of the draft Order (ELR REP4-011). Requirement 2 in Schedule 2 of the draft Order compels the Applicant to obtain approval of such detailed design from WCBC. In parallel to the approval of Requirement 2, the Applicant will need to obtain an EP from NRW. Neither WCBC nor NRW will grant consent if the detailed design would result in enforcement proceedings. Additionally, the Applicant would not seek consent for a detailed design which would not meet the requirements set out in the EP.
- 2.47. For these reasons, in addition to the separation distances between the Power Station Complex and the residential receptors and the contribution from other noise sources including road traffic, together with the orientation and layout of the Power Station Complex, that the Applicant does not consider that the Scheme will become the 'stand out' noise on the Wrexham Industrial Estate.

## REP4-002 - KELLOGG COMPANY OF GREAT BRITAIN LIMITED

### Summary of the submission

- 2.48. Kellogg's reiterates its concerns about the risks posed to water quality in a balancing point on its Bryn Lane site from dust arising from the construction of the proposed Power Station Complex and its Electrical Connection.

### Applicant's response

- 2.49. The Applicant acknowledges Kellogg's representation submitted at Deadline 4 (ELR REP4-002) which reiterates their concerns about the risks posed to water quality to a balancing pond located close to its site boundary on Bryn Lane.
- 2.50. The Applicant has already addressed all three of the concerns stated in the Kellogg's Deadline 4 representation. A further assessment of the balancing pond was undertaken by the Applicant and submitted in response to the written representations (ELR REP2-010). This concludes at paragraph 2.121 that *'It may therefore be reasonably assumed that no significant effects will occur to the balancing pond in terms of any increase in TDS or suspended solid concentrations during construction'*.

- 2.51. Paragraphs 2.67 to 2.70 of the Applicant's comments on submissions made at Examination at Deadline 4 (ELR REP4-009) and in its response to the Second Written Question 2.1.3 confirm that the Applicant acknowledges and recognises Kellogg's concern regarding legal compliance in relation to the balancing pond during the construction of the Scheme. As such, for the purposes of mitigation only, the balancing pond will be treated as 'high risk'.
- 2.52. A further revised draft CEMP (Revision 2) was submitted at Deadline 4 (ELR REP4-018) that includes such mitigation measures at paragraph 3.15 applicable to a 'high risk' receptor and as requested by Kellogg's in their Deadline 4 submission.
- 2.53. The Applicant is of the opinion that the mitigation measures proposed are more than adequate to deal with Kellogg's concerns regarding dust during construction of the Scheme. Even before this additional mitigation, the Applicant considered that it was extremely unlikely for construction effects to have a significant effect on the balancing pond and/or the car park. With the 'high risk' mitigation now included, the Applicant considers that there is no conceivable scenario that a breach to Kellogg's permit could occur. Accordingly, the Applicant has gone over and above the mitigation that the Environmental Statement assessment considers necessary and any further mitigation or other measures would be wholly unreasonable and unnecessary and therefore inappropriate.
- 2.54. At the Issue Specific Hearing on Environmental and Other Issues on 23 November 2016 Kellogg's confirmed that the measured outlined in the revised draft CEMP were consider adequate.

## REP4-003 - NATURAL ENGLAND

### Summary of the submission

- 2.55. In response to the Examining Authority's Second Written Question (SWQ) 2.2.1, Natural England confirms that *'the pSPAs within England do not need to be taken into account for HRA [Habitat Regulations Assessment] purposes due to distance. We can also confirm that there are no other consultation processes underway which need to be taken into account'*.

### Applicant's response

- 2.56. This conclusion is consistent with the Applicant's own assessment of the potential for the Scheme to affect the pSPA sites, as explained in the *Applicant's responses to the Examining Authority's Second Written Questions* (ELR REP4-008).

**REP4-004 - NATURAL RESOURCES WALES****Summary of the submission**

- 2.57. In response to SWQ 2.2.1, NRW confirms that it is satisfied with the design approach that the Applicant proposes with respect to the interaction with the Environmental Permitting regime. In response to SWQ 2.1.2, NRW confirms that it is unaware of any changes to Environmental Permitting that would create a need for stacks significantly different to those proposed by the Applicant.
- 2.58. NRW confirms in its response to SWQ 2.2.1 that no potential Special Protection Areas in Wales need to be taken into account for the purpose of HRA.
- 2.59. NRW raises no significant concerns over the effects of the revised Electrical Connection route on air quality (SWQ 2.7.8), landscape (SWQ 2.7.10), ecology (SWQ 2.7.10) or water (SWQ 2.7.15). NRW agree that in relation to ecology (SWQ 2.7.12) that the revised electrical connection route will avoid designated sites and have only limited effects on vegetated areas as a credible conclusion.
- 2.60. In respect of background noise from Wrexham Industrial Estate (SWQ 2.10.1), NRW confirms that it *'is investigating a specific noise issue from Kellogg's Breakfast Cereal site, for which improvements have been requested to address this issue. This should not affect the background assessed within the ES for the NSIP'*. NRW notes also that noise emissions from the proposed Power Station Complex will be controlled by the Environmental Permit in accordance with British Standard 4142 – Methods for rating and assessing industrial and commercial sound.
- 2.61. In respect of Mr Eccleston's suggestion that the gas connection trench might form a new drainage corridor (SWQ 2.17.1), NRW acknowledges the possibility but does not have significant concerns in view of measures that would come forward in the Construction Environmental Management Plan that is required under the Gas Connection planning permission (Condition 7).
- 2.62. Finally, NRW confirms that it is satisfied that no further clarification is required in respect of the effects of the Scheme on ground water and ground conditions (SWQ 2.17.2).

**Applicant's response**

- 2.63. The responses confirms that NRW is satisfied with the technical assessments provided by the Applicant and has confidence in the environmental mitigation and safeguards, either inherent in the Scheme, proposed through DCO Requirements/Gas Connection planning permission or enforceable through the Environmental Permit regime.
- 2.64. In respect of Mr Eccleston's suggestion that the gas connection trench might form a



new drainage corridor (SWQ 2.17.1), NRW advises, as noted, that it does not have significant concerns in view of measures that would come forward in the Construction Environmental Management Plan that is required under the Gas Connection planning permission (Condition 7) The Applicant also responded at paragraph 4.25 of the Written summary of oral submission put at the Compulsory Acquisition Hearing (ELR REP3-017) in which '*Mr Griffiths referred to condition 9 of the planning permission for the Gas Connection which requires the Applicant to submit a surface water management plan to WCBC for approval. This plan will deal with the surface water issues referred to by Mr Eccleston during construction of the Gas Pipeline*'. No significant in-combination effects of this nature are considered likely.

## REP4-005 - DWR CYMRU WELSH WATER (DCWW)

### Summary of submission

2.65. DCWW confirms that:

- it would be preferable for a hydraulic assessment of the Scheme to be undertaken closer to implementation;
- an amended Drainage Strategy would provide an appropriate guarantee that the integrity of sewerage assets will be protected;
- DCO Requirement 12 requires the submission of details of the foul and surface water drainage system prior to the commencement of relevant works and that DCWW should be consulted before such details are approved. DCWW proposes a revised wording of Requirement 12: *Foul and surface water drainage*.

### Applicant's response

2.66. Following dialogue with DCWW, the Applicant submitted a revised *Foul and Surface Water Drainage Strategy* for ExA Deadline 4 on 4 November 2016 (see ELR REP4-016 and comparison version ELR REP4-017). The Applicant also prepared a response to SWQ 2.17.4 in relation to this specific question raised by the ExA.

2.67. As explained in the Applicant's Written Summary of the Oral Case put at the Issue Specific Hearing on Environmental and other Issues on 28th September 2016 (ELR REP3-014), there is a statutory duty on DCWW to connect the development to the sewerage system and that DCWW cannot refuse to connect on the basis of capacity. The cost of any upgrades to the network for the solution identified would be funded by the Applicant. It is no different to any other scheme that needs such a connection.

2.68. The Applicant and DCWW agree in relation to the timescales of undertaking a

hydraulic modelling assessment of the Scheme. It is important to ensure that the hydraulic modelling assessment is up to date and that the capacity in the network reflects the current position regarding development within the vicinity that need to utilise DCWW's network. Undertaking an assessment now is unnecessary, as a further assessment will be required prior to construction and a different solution required if the capacity of the network changes.

- 2.69. In response to DCWW's proposed rewording of Requirement 12: Foul and surface water drainage, the Applicant respectfully considers that the additional text to include a developer's obligation for a hydraulic modelling assessment is not necessary. This is because:
- 2.70. The illustrative foul and service water drainage plan (ELR REP4-016) already identifies that the network would need to be modelled to identify any necessary reinforcement / upgrade works (paragraph 6.3);
- 2.71. The illustrative foul and service water drainage plan also makes it clear that any reinforcement / upgrade works must be completed prior to the operation of the Power Station Complex (paragraph 6.3);
- 2.72. Requirement 12(1) requires the final foul and service water drainage plan to be substantially in accordance with the illustrative foul and service water drainage strategy (therefore it should contain reference to the modelling and timetable) and to be approved by WCBC after consultation with NRW and DCWW; and
- 2.73. Requirement 12(3) states that the foul and service water drainage system must be carried out in accordance with the approved details.
- 2.74. No further wording is required on the face of Requirement 12 on the basis that it would be unnecessary given such words would duplicate the contents of the illustrative strategy that is secured by Requirement 12.

## REP4-006 - WREXHAM COUNTY BOROUGH COUNCIL

### Summary of the submission

- 2.75. WCBC confirms that it:
- agrees with the position articulated by the ExA in their Second Written Questions 2.1.1 (ELR PD-011) with respect to stack design and interaction with the environmental permitting regime;
  - considers that there are no significant social and economic effects arising from the construction of the Electricity Connection for the Scheme that have not been taken into account for cumulative assessment purposes (SWQ 2.7.2);
  - notes in response to SWQ 2.7.4 that the revised route for the Electricity

Connection where possible follows secondary routes or routes with clear alternatives for road users;

- acknowledges in response to SWQ 2.7.8 that the Applicant will submit a revised CEMP in response to the potential for adverse air quality effects on the Kellogg's site arising from the construction of the Electricity Connection;
- considers likewise that there are no significant landscape and visual effects arising from the construction of the Electricity Connection for the Scheme that have not been taken into account for cumulative assessment purposes (SWQ 2.7.10);
- supports the conclusion that the revised route for the Electric Connection would reduce cultural heritage and archaeological impacts, subject to the Clwyd-Powys Archaeological Trust being consulted (SWQ 2.7.11);
- agrees that the revised route for the Electric Connection would avoid designated wildlife habitats and reduce ecological impacts (SWQ 2.7.12)
- confirms that the revised solution for the Electrical Connection would have a neutral effect on waste generation and waste recycling and treatment capacity (SWQ 2.7.14);
- confirms in respect of background noise from Wrexham Industrial Estate (SWQ 2.10.1) that it is unaware of any additional information received by the Council's Public Protection Department that would affect the noise assessment as submitted by the Applicant;
- is satisfied with the scope of the cumulative impact assessment (SWQ 2.12.1).

### **Applicant's response**

- 2.76. WCBC is satisfied with the assessments that the Applicant has provided. As anticipated in the WCBC's response to Second Written Question 2.7.8 (revised electrical connection route: air quality effects) (ELR REP4-006), the Applicant submitted a revised CEMP (paragraph 5.13) for ExA Deadline 4 (Revision 2, ELR REP4-018; comparison version REP4-019) that addresses Kellogg's concerns.

## **AS005 (LATE SUBMISSION) – CLWYD-POWYS ARCHAEOLOGICAL TRUST (CPAT)**

### **Summary of the submission**

- 2.77. CPAT expresses concern at the lack of detailed pre-determination assessment of the Power Station Complex Site and Gas Connection Route, there being no geophysical survey to ascertain the effects on previously unrecorded archaeology.

## Applicant's response

- 2.78. Paragraphs 12.53 to 12.76 in Chapter 12: *Historic Environment* of the ES (ELR APP-060) explain the methodology that the Applicant applied in the assessment of the archaeological potential of the Power Station Complex Site. Paragraph 12.58 of that section lists the organisations and data sources that the Applicant consulted for the purpose of its assessment. The chapter demonstrates that the Applicant was thorough in its approach to identifying baseline archaeological conditions and this work was supported by a 'walkover' field investigation. Nothing in the baseline assessment suggested a need for more detailed field investigation at this stage.
- 2.79. The Applicant has agreed a Statement of Common Ground (SoCG) on historic environment considerations with the Welsh Ministers and Cadw (ELR REP2-016). Paragraph 5.9 of the SoCG confirms that the parties are in agreement that:
- the assessment methodology and significance criteria described in paragraphs 12.53 to– 12.76 of Chapter 12 of the ES provide an appropriate basis for the assessment of the effects of the Scheme on the historic environment;
  - paragraphs 12.77 to 12.91 of Chapter 12 of the ES accurately identify the historic and archaeological interest of the study area. In particular:
  - paragraphs 12.79 to 12.84 and paragraphs 12.88 to 12.90 accurately identify the distance between the Order Limits, designated and undesignated heritage assets within the defined study area, as shown in ES Figures 12.1 and 12.2 ( ELR APP-137 and APP-138);
  - paragraphs 12.85 to 12.87 and 12.91 accurately summarise the archaeological potential of the defined study area;
  - paragraphs 12.92 to 12.149 provide a balanced and reasonable assessment of the individual and cumulative effects of the Scheme on the historic environment during construction and operation, the conclusions of which are agreed.
  - Requirement 8: *Archaeology* in Schedule 2 of the draft DCO (ELR REP4-011) makes appropriate provision for the submission, approval and implementation of an archaeological watching brief during the construction of the Scheme.
  - There are no outstanding issues that need to be addressed at any issue-specific hearing.
- 2.80. On 5 September 2016 WCBC granted planning permission for the Gas Connection. As the ES assessed the archaeological potential of both the Power Station Complex Site and Gas Connection Route, the planning application for the Gas Connection was supported by the same environmental information as the current DCO

Application. The assessment is contained at paragraphs 12.114 to 12.124 of Chapter 12 of the ES. CPAT made the same request for pre-determination surveys for the Gas Connection Route during the planning application as they have now made for the DCO Application. The notice of planning permission is appended to the *Applicant's response to Written Representations* submitted for Examination Deadline 2 (ELR REP2-010). Condition 8 of the planning permission requires the following:

- (1) *No authorised development may commence until a written scheme setting out the methodology for a watching brief over areas of archaeological interest has been submitted to and approved by the relevant planning authority.*
- (2) *The scheme must provide for:*
  - (a) *the carrying out of a geophysical survey of greenfield areas;*
  - (b) *a targeted archaeological investigation of any anomalies that may be identified by the geophysical surveys;*
  - (c) *the identification of areas where a watching brief is required; and*
  - (d) *the measures to be taken to protect, record or preserve any significant archaeological remains that may be found.*
- (3) *Any watching brief carried out under the scheme must be by a suitably qualified person or body.*
- (4) *Any watching brief must be carried out in accordance with the approved scheme.*

2.81. This planning condition already provides the safeguards that CPAT suggests – specifically including a geophysical survey - for the Gas Connection, which largely crosses greenfield land. In contrast the Power Station Complex Site is partly brownfield in character and the location of the Power Station Complex will mainly occupy previously developed land. Nonetheless, Requirement 8 in Schedule 2 of the draft DCO (ELR REP4-011) includes the same safeguarding provisions as WCBC's planning condition 8 for the Gas Connection, with the addition of a phasing provision enabling archaeological schemes to be submitted and implemented for individual numbered works.

2.82. By way of contrast, the extant planning permission for Kingmoor Park South (granted at appeal with reference number APP/H6955/A/09/2113258) proposes a development on a much larger area of the Power Station Complex Site than would be occupied by the Power Station Complex. In that permission there are no obligations in respect of archaeological surveys either before determination of the application or prior to commencement of the development.

2.83. The Applicant considers that comprehensive and proportionate safeguards are in place to protect the archaeological interest of the Power Station Complex Site and that a request to undertake an intrusive investigation prior to determination is unreasonable and unnecessary. This principle has been accepted and agreed with WCBC in relation to the planning permission for the Gas Connection.