The Drax Power (Generating Stations) Order

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

Applicant's Response to ClientEarth's Deadline 6 Submission

(Submitted for Deadline 7)

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

Drax Power Limited

Drax Repower Project

Applicant:	DRAX POWER LIMITED
Date:	February 2019
Document Ref:	8.5.21
PINS Ref:	EN010091

Document History

Document Ref	8.5.21		
Revision	001		
Author	Multiple		
Signed		Date	27/02/2019
Approved By	Oliver Baybut		
Signed		Date	27/02/2019
Document Owner	Drax Power Limited		

1.1 As noted by the Examining Authority ("**ExA**") at the Issue Specific Hearing on environmental matters held on 12 February 2019, there has been extensive discussion of climate change related issues as part of the Examination of the Application. In particular, the ExA referred to detailed submissions from parties, including the Applicant, submitted at D5 and D6.

1.2 This is the Applicant's response to Client Earth's ("**CE**") *Response to Written Question ANC 2.5 and the Applicant's Deadline 5 submission in respect of Drax Re-power* dated 30 January 2019 (REP6-021) (the "**CE D6 Submission**"). As indicated at the Hearing, the Applicant is only responding to points where CE has advanced new arguments or to correct assertions made by CE.

1.3 Where this response does not expressly address points made by CE in the CE D6 Submission, this is because the Applicant considers that both CE and the Applicant have advanced their respective positions in respect of the point and that the ExA, and therefore the Secretary of State ("**SoS**"), has the necessary information in order to make a decision.

1.4 In particular, the Applicant refers the ExA to its position advanced in its *Responses to the Examining Authority's Further Written Questions* (REP6-013), *Note on Substantial Weight to be Given to Need and Application of Tests Under S104* (REP5-021) and *Written Summary of Applicant's Oral Case at Issue Specific Hearing (Environmental Matters)* (REP4-012).

1.5 **Comments on CE's response to further written question ANC 2.5**

1.6 The Applicant does not dispute that the role for gas is likely to be residual or as a back up for renewable energy sources when the UK's electricity supply is almost entirely decarbonised and that as part of the transition to a low carbon economy, fossil fuel generating capacity should become low carbon through the development of CCS (as set out in the paragraphs 3.3.11, 3.6.1 and 3.6.8 of NPS EN-1, as cited by CE in its submission at paragraph 4).

1.7 However, CE's focus is on a scenario which the UK has not yet reached (i.e. a low carbon / decarbonised economy). The UK is in transition. CE's submissions on this topic fail to recognise this. As the UK moves to a decarbonised economy fossil fuel power stations "*will continue to play an important role in our energy mix as the UK makes the transition to a low carbon economy*" (as is made clear in paragraph 3.6.1 of EN-1, cited by CE). CE's selective emphasis of the paragraphs from EN-1 that it has set out in paragraph 4, fails to consider this wider context. Paragraphs 3.3.11 and 3.6.1 cited by CE are reproduced below, with CE's emphasis in italics, however, those extracts need to be read in the context of the underlined sections of those paragraphs:

> 3.3.11: "…If fossil fuel plant remains the most cost-effective means of providing such backup, particularly at short notice, it is possible that even when the UK's electricity supply is almost entirely decarbonised *we may still need fossil fuel power stations for short periods* when renewable output is too low to meet demand, for example when there is little wind."
>
> …
>
> 3.6.1: "Fossil fuel power stations play a vital role in providing reliable electricity supplies: they can be operated flexibly in response to changes in supply and demand, and provide diversity in our energy mix. They will continue to play an important role in our energy mix as the UK makes the transition to a low carbon economy, and *Government policy is that they must be constructed, and operate, in line with increasingly demanding climate change goals*."

1.8 The UK is not in the scenario of an "almost entirely decarbonised" electricity supply and the economy is not yet "low carbon", rather both are in the transition stage. Accordingly, there is "an important role in our energy mix" for fossil fuel power stations. CE also cites paragraph 3.6.8 of NE-1 and places emphasis on the sentence "*It is important that such fossil fuel generating capacity should become low carbon, through development of CCS, in line with carbon reduction targets".* This is in the context of a need for fossil fuel generating capacity providing back up for renewables and helping transition to a low carbon economy. The key words in the sentence emphasised by CE are "should become", and the importance placed on the development of CCS is consistent with the Energy NPS policies, and the requirements of legislation and guidance in terms of ensuring CCR and monitoring the feasibility of CCS, with a view to it being utilised to make fossil fuel plants low carbon in the future.

1.9 The Applicant has set out elsewhere the key role of fossil fuel plant in supporting the increased use of renewables and the decarbonisation of other sectors, whilst maintaining stability and security of supply (see sections starting at paragraphs 3.16, 3.45 and 4.5 of the *Applicant's Note on Substantial Weight to be Given to Need and Application of Tests Under S104*, REP5-021), and does not intend to repeat those arguments here.

1.10 The other point to note about the CE D6 Submission is that CE's analysis is predicated on projections, which are highly uncertain. The Committee on Climate Change 2030 projections, for example, rely considerably on contributions from nuclear (see Figure 2.7 of paragraph 6 of the CE D6 Submission), which now appears a highly unlikely scenario, with proposed nuclear projects at Moorside, Wylfa and Oldbury all on hold and only Hinkley C receiving consent and any prospect of being operational before 2030, leaving a shortfall in reliable, low carbon generation of almost 9 GW. Indeed, the NPSs themselves recognise that no projection can be definitive (paragraph 3.3.21 of EN-1), and as a result the planning system's role is not to deliver specific amounts of generating capacity for each technology type covered by the NPSs (paragraph 3.3.24 of EN-1).

1.11 In short, the UK is currently in a period of transition to a low carbon economy, and it is clear from the NPS EN-1 (the paragraphs cited by CE and more generally) and the Written Ministerial Statements referred to by the Applicant previously and by the ExA in its question, that fossil fuel generation is an important part of that transition. It is further apparent that whilst that transition is to a future relying on lower carbon energy sources, projections of what that energy mix will look like are uncertain, as noted above.

1.12 The role the Proposed Scheme would play in terms of provision of capacity for energy security, supporting renewable energy generation and meeting future increases in demand (particularly from the electrification of sectors such as industry, heating and transport) is entirely consistent with the role for fossil fuel generators in this transition as provided for by the Energy NPSs and Written Ministerial Statements.

1.13 **Response to section 2.1 of the CE D6 Submission: The assessment of need under the NPS framework**

1.14 CE continues to assert (in paragraph 12(a)) that NPS EN-1 requires the need for "types of infrastructure" to be assumed, and that this is distinct from the need for individual projects. The Applicant has addressed this point before, in particular in its *Written Summary of Applicant's Oral Case at Issue Specific Hearing (Environmental Matters)* (REP4-012) at paragraph 3.4, which states:

"Mr Hunter Jones' submission that paragraph 3.1.3 should not be read as referring to schemes or projects when it says "types of infrastructure" is plainly wrong. Paragraph 3.1.3 refers to the assessment of applications for development consent. By their very nature applications are schemes or projects. It follows that the advice is quite clear

that the decision maker must decide the application on the basis that need has been demonstrated."

1.15 That interpretation is consistent with paragraph 4.1.2 of NPS EN-1 which makes clear how the urgent need for types of infrastructure is to be applied in practice with respect to individual applications:

"*Given the level and urgency of need for infrastructure of the types covered by the energy NPSs set out in Part 3 of this NPS, the [Secretary of State] should start with a presumption in favour of granting consent to applications for energy NSIPs.*"

1.16 Policy statements must be read having regard to the language employed and its context. They must also be interpreted in an internally consistent manner where possible. Paragraph 4.1.2 makes it absolutely clear that paragraph 3.1.3 should not be read to mean the demonstrated need is limited to the broad "types of infrastructure" as distinct from the individual applications for development comprising those types of infrastructure as suggested by CE.

1.17 In paragraph 12(c)(ii) CE seeks to assert that consideration of a project's anticipated actual contribution to need must take into account (i) existing and planned capacity; (ii) the most reliable and up-to-date projections; and (iii) the scale and urgency of the need set out in EN-1. CE cites paragraph 3.1.3 of EN-1 in support of this assertion, however, that paragraph refers only to the demonstrated need and the scale and urgency of that need. Existing and planned capacity and projections are not relevant to the amount of need, nor a project's contribution to that need. EN-1 makes it very clear in paragraph 3.3.24 that it is not the planning system's role to deliver specific amounts of generating capacity for each technology type and EN-1 certainly does not limit the need for fossil fuel generation.

1.18 EN-1 also makes it quite clear at paragraph 3.3.18 that "*it is not possible to make an accurate prediction of the size and shape of demand for electricity*" in the future and that "*projections do not reflect a desired or preferred outcome for the Government in relation to the need for additional electricity generating capacity or the types of electricity generating capacity required*." This is further supported by the Government's Clean Growth Strategy, October 2017 (the Executive Summary and the link to the whole document were provided as an appendix to *Written Summary of Applicant's Oral Case at Issue Specific Hearing (Environmental Matters)* (REP4-012)), which states at page 54 that "*we cannot predict the exact technological changes that will help us deliver on the fourth and fifth carbon budgets (and beyond)*" and "*To explore this uncertainty, we test different potential versions of the future based on current knowledge. These are not firm predictions of the future and should not be taken as sectoral targets.*" The earlier comments in this response, with respect to the reliance on nuclear generation in the projections set out at paragraph 6 of the CE D6 Submission, perfectly demonstrate the policy position set out in EN-1 and the Clean Growth Strategy, and why reliance cannot be placed upon such projections as targets.

1.19 The Applicant has addressed these points before, most recently in its *Note on Substantial Weight to be Given to Need and Application of Tests Under S104* (REP5-021) at the section commencing at paragraph 3.50, entitled "Irrelevant considerations", where it is explained that there is no policy basis to equate projected capacity with need, nor to treat consented and planned capacity as the need having been met. These comments also apply to CE's paragraph 15.

1.20 The Applicant has previously responded to CE's assertion in paragraph 12(d) in relation to how paragraphs 3.1.3 and 3.1.4 of EN-1 are to be interpreted in the context of paragraph 3.2.3, most recently in response to the ExA's question ANC 2.1 (*Applicant's Responses to Examining Authority's Further Written Questions*, REP6-013). The Applicant does not repeat those submissions here as the assertions from CE do not raise any new points, other than to state that there is no double counting. Paragraph 3.1.4 tells the decision maker to apply substantial weight to the contribution

which projects would make towards satisfying need, with paragraph 3.2.4 informing the decision maker that that weight must be proportionate.

1.21 The Applicant does not propose to respond to CE's paragraphs 13 and 14, as those paragraphs clearly do not fairly reflect the Applicant's position. The Applicant's position has been consistently clear, that need for the types of infrastructure covered by the Energy NPSs has been established and is not for debate. What is for consideration, however, is the degree or category of substantial weight to give to "*the anticipated extent of a project's actual contribution to satisfying the need for a particular type of infrastructure*". That is what the ExA and the SoS have to grapple with and examine.

1.22 **Response to section 2.2 of the CE D6 Submission: Local grid operability**

Boundary transfer capacity (CE D6 Submission, paragraphs 16-19)

1.23 The short point CE makes in paragraphs 16-19 is that the Applicant has wrongly equated transmission requirements with thermal generation requirements. It has not. The Applicant agrees that Figure B7a.2 in the 2018 National Grid Electricity Ten Year Statement ("the **2018 ETYS**")[1] (pg. 50) shows:

1.23.1 the future power flows expected to be needed to cross the relevant boundary (see paragraph 18(a) of the CE D6 Submission); and

1.23.2 the current capability of the transmissions system to support such power flows (see paragraph 18(b)).

1.24 The Applicant does not suggest otherwise. Rather the Applicant's point is that: (1) the transmission requirements indicate an expected flow of electricity that must be generated; (2) it is expected that the generation will be in the North and renewable and so intermittent; and so (3) there will be a role and requirement for thermal generation; and (4) the thermal generation that will and ought to be used is the most efficient.

1.25 The 2018 ETYS demonstrates a general expectation of an increased need for transmission infrastructure due to an increase of generation in the North. It states:

"*The NETS will face future growing needs in a number of regions due to the following factors: Increasing quantities of wind generation connected across the Scottish networks is likely to double north-to-south transfer requirements within ten years. For example, the flow through the Scotland–England boundary is expected to reach 15.7 GW in FES Two Degrees scenario by 2028, almost three times the current 5.7 GW boundary capability with the Western HVDC reinforcement operational. A potential growth of more than 6 GW in low carbon generation and interconnectors in the north of England, combined with increased Scottish generation, will increase transfer requirements into the English Midlands*" (see pg.4).

1.26 Under the Two Degrees Scenario, Figure B7a.2 (the 2018 ETYS, pg.50) shows a transfer requirement of about 16GW in 2030 at Boundary 7a. This means that the infrastructure in the boundary area would need to be capable of facilitating a flow of that size through the boundary area.

1.27 It also means that that amount of electricity flowing through the boundary area is being generated somewhere on the network. Consistent with the above, the power flows across Boundary 7a are expected to be predominantly from the North (where there is projected to be significant generation) to the South (where the majority of the demand lies). This is confirmed in the 2018 ETYS: *"Based on the FES, high levels of*

[1] https://www.nationalgrideso.com/document/133836/download

intermittent generation will be connecting to the north of the boundary, leading to a broad range of boundary power flows" (pg. 50).

1.28 When intermittent renewables are not generating electricity, other generating capacity, namely thermal plant, must be capable of meeting the remaining demand, either flowing from North to South or South to North.

1.29 This is consistent with National Grid's projections of generation by type which all assume a role for thermal generation. The levels of projected generation type (e.g. gas, renewables, CCS etc.) are identified in National Grid's Future Energy Scenarios[2] ("**FES**"). Figure 5.1 (page 96) displays a chart of total generation capacity across the UK by technology type. Numerical values are available within the associated data workbook Version 2.[3] The data shows that in all scenarios, total generation capacity from unabated gas is between 30GW and 50GW by 2030 and between 10GW (Two Degrees Scenario) and 45GW by 2050. However, in 2050, there is a significant additional generation contribution from CCS plant in the Two Degrees Scenario (of around 10GW), which is highly likely to be biomass or gas generation.

1.30 The generation capacity by technology type is described at a lower resolution in 2018 ETYS for the North of England Region (Figure NE 2, pg. 45). Although this only distinguishes unabated fossil fuel generation up to around 5GW, there is likely to be greater, additional capacity of gas generation which is low carbon (CCS). Again, in all scenarios, an additional significant proportion of low carbon and renewable energy is predicted, which is likely to include reliable thermal plant, with CCS technology.

1.31 The Proposed Scheme would be CCR and could contribute to this low carbon generation. The Applicant is in an ideal position in this respect, leading the way in the UK with respect to CCS; in February 2019, Drax announced that it had captured its first tonne of carbon dioxide from one of its biomass units utilising its Bioenergy Carbon Capture and Storage (BECCS) plant. Drax fully supports the concept of CCS and is progressing with further development of the BECCS plant.

1.32 In addition, it should be noted that, for 2030 and for 2050, the FES scenarios are reliant to a significant degree on nuclear generation, which now appears to be less deliverable due to changes in the market since the publication of the FES.

1.33 Importantly, it is the most efficient of the thermal generation plant that will generate energy in preference to the least efficient (i.e. the merit order, or 'stack' referred to in our previous submissions, and by National Grid in its response to further written questions (REP6-020)).

1.34 The Proposed Scheme will operate at a higher efficiency than existing fossil fuelled plant within the boundary, since the technology to be deployed is the state-of-the-art emerging technology, with high efficiency as a key requirement of the design of the plant. Further, it will be utilising existing infrastructure. Given National Grid's confirmation that it despatches generation, determined generally by lowest cost, (see National Grid's response to further written questions (REP6-020)) the Proposed Scheme will displace less efficient power stations in other parts of the country.

1.35 In addition, there is also a particular security requirement placed on Boundary 7a by National Grid to ensure that power can continue to flow from North to South and South to North when renewable generation is unavailable. Reliable thermal capacity is required to be available to help the grid infrastructure operate safely and efficiently in terms of systems support services (i.e. cover the infrastructure requirements for such things as short circuit levels and inertia as mentioned in the FES and the ETYS).

[2] http://fes.nationalgrid.com/media/1363/fes-interactive-version-final.pdf
[3] http://fes.nationalgrid.com/fes-document/ (click on data workbook version 2 17th July 2018 for spreadsheet)

There will be occasions when renewables are requested not to operate by the system operator, even when the wind is blowing, because system support services are required to maintain grid safety and stability (such as inertia) that cannot be fulfilled by renewables.

1.36 Figure B7a.2 (the 2018 ETYS, pg.50) shows the boundary flows and base capability for Boundary 7a. For each of the four scenarios there is a security requirement identified in each of the graphs showing a transfer from South to North as well as North to South. These security requirements defined as CE (Consumer Evolution), CR (Community Renewables), TD (Two Degrees) and SP (Steady Progression) Security RT (Required Transfer) show security requirements in excess of 5 GW for two of the scenarios, namely the CE and SP scenarios, and approaching 5GW in the CR and TS scenarios. This demonstrates that the system operator has identified that during periods of low intermittent generation, there will be a need for electricity to move from the South to the North from Boundary 7a. The 2018 ETYS confirms this point. During these periods, some of this electricity demand will be met by thermal plant and indeed there may be periods when a significant percentage of this demand is met by thermal plant. In summary, the system operator identifies a requirement for reliable and secure generation capacity capable of meeting demand of around 5GW across the four Future Energy Scenarios.

1.37 Since power is not just expected to flow North to South but will also flow South to North (2018 ETYS, pg. 50) and although generation can be situated in different parts of the country, locating the generating plant at Drax makes best use of available transmission capability (when intermittent generation is unavailable) and is closer to the northern demand thereby reducing the transportation costs and inefficiencies and potential voltage management requirements.

Paragraphs 20 to 22 – interface between National Grid boundaries

1.38 In paragraph 20(a) CE asserts that the "*the Applicant is wrong to describe Boundary B7a as an "area" when it is simply a boundary line*". It is not clear what substantive point CE is attempting to make; however, the terminology used by the Applicant is correct and reflects that used by National Grid in its ETYS.

1.39 The 2018 ETYS makes reference to both boundaries and areas when describing the division of the country ascribed by the system operator and its relationships with transmission infrastructure. It explains on page 20, under point 3.3 NETS boundaries: "*A boundary splits the system into two parts, crossing critical circuit paths that carry power between the areas where power flow limitations may be encountered*." Accordingly, the country is divided by boundaries which in turn generate areas within these boundary lines.

1.40 For the avoidance of doubt, below are the definitions used by National Grid ESO, the author of the 2018 ETYS, when referring to local and wider boundaries, both of which make clear they refer to areas (emphasis added):

1.40.1 *Local boundaries – are those which encompass **small areas** of the NETS [National Electricity Transmission System] with high concentration of generation. These small power export areas can give high probability of stressing the local transmission network due to coincidental generation operation.*

1.40.2 *Wider boundaries – are those that split the NETS into **large areas** containing significant amounts of both generation and demand. The SQSS boundary scaling methodologies are used to assess the network capability of the wider boundaries. These methodologies take into account both the geographical and technological effects of generation. This allows for a fair and consistent capability and requirements assessment of the NETS.*

1.41 With respect to paragraphs 20(b) & (c) of the CE D6 Submission, Drax is repowering to meet the future requirements of the electricity system to provide reliable, flexible power and the use of existing assets or infrastructure is efficient. The Proposed Scheme would not add to the burden of power flows. Generation is driven by demand. Demand and generation must remain in balance. Generation will be dispatched upon merit with the obligation to provide the cheapest forms of energy (this relates to the concept of the "Stack" which the Applicant has explained elsewhere and which is confirmed by National Grid's response to further written questions at Deadline 6 REP6-020). Equally if demand reduces generation will reduce and or generation capacity may reduce.

1.42 The North of England Region includes three Boundary Areas (7, 7a and 8), however, the system operator (National Grid) does not specify technology types for each boundary as this will be market driven at these finer resolutions, due to a range of factors, including the state of the infrastructure (both electrical and fuel supply) as well as geographical factors such as adequacy of cooling water supplies for future thermal plant.

1.43 Boundary 7a has clear requirements (both transmission and thermal generation for grid stability and security) as set out above. There is a clear grid-based case for the location of the Proposed Scheme in Boundary 7a. Moreover, the Proposed Scheme is a 'Repower' project, using much of the existing infrastructure which is in a fixed location. This element of the Proposed Scheme makes the plant more efficient and thereby makes the generation capacity as a whole cleaner and cheaper. Accordingly, there are good reasons to locate the Proposed Scheme at the proposed location.

1.44 Although Boundary 8 does have its own requirements, development of a scheme to address these would be a different project. It is therefore not correct to state (as CE does in its paragraph 20(b)) that the "most relevant boundary" to the Proposed Scheme is Boundary 8.

Paragraphs 23 & 24 – Inertia

1.45 Paragraphs 23 and 24 of the CE D6 Submission raise three points:

1.45.1 That inertia is not location specific;

1.45.2 That the Applicant has not explained why the Proposed Scheme is required given current and future local system services capacity; and

1.45.3 Nor why any such need cannot be met by a variety of other solutions (such as synchronous compensators, static and dynamic reactive power sources or batteries).

1.46 These are addressed below.

Inertia

1.47 Inertia is generated by large, rapidly spinning turbines at a specific speed, i.e. thermal generating plant spinning at the grid frequency of 50 cycles per second (Herz or Hz). Once this turbine is spinning it is hard to get it to stop, therefore it has inertia. This inertia provides stability to the grid and maintains the grid frequency.

1.48 The National Transmission System must maintain a stable system frequency of 50 Hz. Frequency response is an automatic change in generation or demand to counteract changes in system frequency. Sudden changes from this frequency can cause damage to equipment connected to the grid or potential shutdown of large sections of the grid. Wind turbines also use rotation to generate electricity, but spin at variable speeds and slower speeds than thermal generators. Solar panels and batteries have

no moving parts at all and hence provide no inertia. Thermal plant can respond quickly to increases or decreases in demand to maintain frequency.

1.49 Conventionally, inertia has not been location specific. However, with future increases in distributed and renewable energy it is expected to become more geographically dependant. As large power stations close and rotating plant providing inertia are removed, there will be fewer large plant providing inertia to the system, which means any new or remaining large rotating plant may become increasingly significant and strategic in terms of their location within the network. This may also result in a greater need for generating plant to contribute to the inertia of the system, rather than having to invest in significant volumes of frequency response plant (which would not currently be cost effective and could make the grid very susceptible during stress events).

1.50 National Grid's presentation, linked below, provides additional information on system requirements associated with inertia and frequency control: https://www.nationalgrid.com/sites/default/files/documents/16890-Meeting%208%20-%20Inertia%20presentation.pdf

1.51 The Applicant has addressed this point in more detail in its *Note on Substantial Weight to be Given to Need and Application of Tests Under S104* (REP5-021), paragraphs 3.34-3.36, and does not repeat what was said there.

The need for the Proposed Scheme

1.52 The CE D6 Submission appears to have misinterpreted the concepts of inertia and frequency control. Battery storage can provide frequency response, but it is decoupled from the power system and cannot provide inertia, neither can wind or solar. For further clarification, please see paragraph of 1.1.9 of the *Applicant's Response to Deadline 5 Submission by Julian May* (REP6-014). The Proposed Scheme will offer inertia, frequency response, black start capability, short circuit infeed to maintain grid stability as well as delivering the highest efficiency megawatt thermal generation which is an obligation as defined in National Grid's response to further written questions (REP6-020).

Other solutions

1.53 The Applicant has addressed this point in detail; please see the *Applicant's Response to Deadline 5 Submission by Julian May* (REP6-014). This document contains specific information on synchronous compensation and static and dynamic reactive power sources. Please refer to specifically to paragraph 1.1.11 on synchronous compensation and paragraph 1.1.5 with regard to storage capability and requirements. The alternative technology being proposed at the levels required has not been analysed and demonstrated at a system level. It is unproven. To reiterate the Applicant's previous response (referred to above), a synchronous condenser or any static equipment will not provide any energy when generation is intermittent, i.e. during periods of no wind. It is precisely at this moment that the need for thermal generation arises.

1.54 **Response to section 2.3 of the CE D6 Submission: Consistency with the UK's decarbonisation pathway**

1.55 The submission from CE does not respond to the arguments put by the Applicant (see sections starting at paragraphs 3.16, 3.45 and 4.5 of the Applicant's *Note on Substantial Weight to be Given to Need and Application of Tests Under S104*, REP5-021) that dispatchable energy is needed in the mix to help facilitate renewable energy generation (as set out in paragraphs 3.3.10 – 3.3.12 of the NPS EN-1), and to meet the greater energy demands as other sectors decarbonise (NPS EN-1 paragraphs 3.3.13 and 3.3.14). CE simply states that the power sector has to decarbonise, and in that respect policy is clear there is a continued role for fossil fuel generation.

1.56 In response to paragraph 28, the Proposed Scheme will emit up to approximately 12 Mt of carbon per year, as noted in the Environmental Statement, Chapter 15 (APP-083). However, this scenario is based on a worst-case assumption of 100% loading (constant 24-7 operation). The logic for the use of this worst-case assumption is presented in Section 4.29 of the Applicant's *Note on Substantial Weight to be Given to Need and Application of Tests Under S104* (REP5-021).

1.57 If the demand for the Proposed Scheme was for 100% load and it was therefore operated in this way, the emissions would indeed represent a large proportion of the total national emission for gas generation as forecast by National Grid Future Energy Scenarios (FES). However, this scenario is unrealistic and, in reality, the loading and emissions would be significantly less.

1.58 In fact, this is inherent within National Grid's FES. As outlined by CE, National Grid allocates 17.445 $MTCO_2$ to the power sector for 2028. However, National Grid also requires 24 GW of gas capacity in 2030 in the same scenario[4]. If all this gas capacity (including the Proposed Scheme at 3.6GW), was to run at 100% load, then National Grid's carbon allocation for the power sector for 2028 (17.445 $MTCO_2$) would be exceeded. Logically, it can be concluded that National Grid does not expect the capacity and system services required from this type of plant to be required at 100% load. The Proposed Scheme is, therefore, consistent with the National Grid carbon allocation.

1.59 In response to paragraph 30, it is not agreed that Drax's submission suggests that the Proposed Scheme's emissions impact should be discounted. Indeed, the same point is made by Drax and CE; that reducing the emission intensity of electricity generation is essential in order to decarbonise other more-difficult sectors. However, Drax's submissions have demonstrated (see, for example, the Applicant's response to ANC 2.4 (REP6-013)) that the Proposed Scheme will provide for a reduction in average emissions intensity of electricity generation, therefore contributing to this aim, not conflicting with it.

1.60 **Response to section 2.4 of the CE D6 Submission: CCS as a condition to the DCO**

1.61 CE's submission misstates the Applicant's position. In paragraph 32 of the CE D6 Submission, CE asserts that the Applicant "*now accepts that the SoS can place such a condition [i.e. requiring CCS] on the DCO and that such factors do not in principle make such a condition unreasonable in planning terms*". The Applicant's D5 submission in fact confirmed that a requirement should not be imposed as to do so would be unreasonable, and stated:

"*4.39 … a condition should not be allowed which is unreasonable in the Wednesbury sense.*

4.40 Imposing the requirement proposed by ClientEarth would be unreasonable not simply because there is no reasonable prospect of the requirement being met (in the short term), but because to do so would be at odds with planning policy (in particular the urgent need for fossil fuel generation), and the relevant legislation and guidance for CCR, as set out above."

1.62 The Applicant has made clear its position that to impose a requirement requiring CCS (rather than the current requirement in the draft DCO) would be unreasonable, for the reasons set out most recently in response to the ExA's second written question ANC 2.6 (see *Applicant's Responses to Examining Authority's Further Written Questions*, (REP6-013)).

[4] http://fes.nationalgrid.com/media/1363/fes-interactive-version-final.pdf

1.63 CE has failed to provide any substantive response on this point. The Applicant has responded in relation to the suggestion that a CCS requirement be imposed, and made clear that to do so is unnecessary, unreasonable, and would change (recently reviewed and confirmed) legislation and guidance (not just for the Proposed Scheme but subsequent schemes required to be CCR). The Applicant accepts that CE holds a different view, and the Applicant notes that this is now a matter for the consideration of the ExA and SoS, and the final determination by the SoS.

1.64 **Response to section 2.5 of the CE D6 Submission: Decommissioning and public subsidy risk**

1.65 CE claims that the Applicant has misrepresented the contents of its Funding Statement in its *Note on Substantial Weight to be Given to Need and Application of Tests Under S104* (REP5-021), with respect to Drax making provision for reinstatement to cover the costs of decommissioning its generation assets. It is clear from Appendix 1 to the Applicant's *Funding Statement* (REP2-016), Drax Group Plc Audited Accounts, that the Drax Group's accounting policy "*make[s] provision for reinstatement to cover the estimated costs of decommissioning and demolishing our generation assets and remediating the site at the end of the useful economic lives of the assets*" (see section 5.4, Provisions, on page 152 of Drax Group plc Annual report and accounts 2017). Currently "*the decommissioning provision is based on the assumption that the decommissioning and reinstatement will take place at the end of the expected useful life of the power station in 2039, and has been estimated using existing technology at current prices based on independent third-party advice, updated on a triennial basis*". That provision would be updated with respect to the decommissioning of the Proposed Scheme if consented. The Applicant's Funding Statement is entirely consistent with what it has set out at paragraph 4.57 of its note submitted at D5.

1.66 **Response to section 2.6 of the CE D6 Submission: The operation of s104 of the Planning Act 2008**

Section 104(4)

1.67 CE misrepresents the Applicant's submissions in paragraph 40 of the CE D6 Submission. CE refers to paragraph 6.15 of the Applicant's D5 note (REP5-021). In that paragraph the Applicant set out that the NPS EN-1 took effect before the global average temperature goal introduced by the Paris Agreement. However, paragraphs 6.16 and 6.20 of the Applicant's note then go on to confirm that the NPS is consistent with the Paris Agreement, and that if it was considered the energy NPSs needed to be changed in light of that agreement, the SoS would have done so. Those paragraphs provided (emphasis added):

"6.16 In addition, in any determination, whether for an energy project, airport, or road scheme for example, the ExA and the SoS are also required to expressly consider the international obligations which have come into effect (in this case since the NPSs were designated).

…

6.20 Deciding the Application in accordance with the Energy NPSs cannot be said to bring the UK in breach of its international obligations under the Paris Agreement as ClientEarth suggests. To deliver the Paris Agreement, including limiting the global average temperature increase to well below 2°C, the Government has already embarked on various initiatives, including improving national carbon reduction strategies, advancing innovation to drive forward clean energy on a global scale, increasing transparency of actions and scaling up ambitious climate finance from a range of public and private sources to avoid the most devastating effects of global warming. If the SoS thought the Paris Agreement was a significant change that warranted a review of the energy NPSs, then he has the power to review the NPS

under section 6 of the PA 2008. He has not done so. Indeed, since the Paris Agreement, the SoS has issued a Written Ministerial Statement that re-affirms the policy in the energy NPSs, as referred to in paragraph 2.12.2 above."

1.68 Tellingly, CE's submission still fails to demonstrate how a decision to grant consent for the Proposed Scheme (in accordance with the NPS) would lead to the UK being in breach of its international obligations.

Section 104(7)

1.69 CE now accepts that the NPS can be taken into account in the balancing exercise pursuant to section 104(7) of the Planning Act 2008. However, it now seeks to assert that *"[w]hile substantive policy in EN-1 can be taken into account…decision-making rules under NPSs*" cannot be taken into account for the purposes of section 104(7). The distinction between "substantive policy" and "decision-making rules" is an entirely novel concept, which has no basis in legislation, case law, policy or guidance. There is nothing in the NPSs themselves or in other guidance which indicates how the policies of the NPS should be identified either as "substantive policy" or "decision-making rules". CE is seeking to draft its own policy or gloss on the existing policy. Plainly, it is not a sound or lawful approach.

1.70 In terms of CE's reference to Thames Tideway, the Applicant has responded to this previously (see paragraph 2.55 of the *Applicant's Note on Substantial Weight to be Given to Need and Application of Tests Under S104* (REP5-021)). There is no reference in the judgement cited to a separate balancing exercise, and (as set out in our response previously) the correct approach is as set out by Lord Justice Sales at paragraph 16 of *R. (on the application of Thames Blue Green Economy Ltd) v Secretary of State for Communities and Local Government [2015] EWCA Civ 876*:

"Section 104(7) allows the Secretary of State to bring into consideration the statement of national need, which appears from a National Policy Statement, as against particular detriments which may be identified in the process of examining the application for a specific development consent order in specific circumstances and to weigh them against each other: it allows for the possibility that the local and particular detriments may be so great as to outweigh in the particular circumstances of a specific application a national need reflected in the National Policy Statement."