

The Drax Power (Generating Stations) Order

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

Assessment of Non-Material Amendments to Proposed Scheme
(Submitted for Deadline 3)



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: November 2018
Document Ref: 8.4.8
PINS Ref: EN010091

Document History

Document Ref	8.4.8
Revision	001
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Signed	Date 14.11.2018
Approved By	Chris Taylor
Signed	Date 14.11.2018
Document Owner	WSP UK Limited

Glossary and Abbreviations

The updated Glossary and Abbreviations for the Proposed Scheme are contained in Document Reference 1.6 submitted in November 2018 at Deadline 3 of the Examination.

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1 INTRODUCTION

1.1 Overview

1.1.1 An application (“the Application”) for a Development Consent Order (“DCO”) for the Drax Repower Project (“the Proposed Scheme”) was made by Drax (“the Applicant”) to the Secretary of State (“SoS”) for Business, Energy and Industrial Strategy (“BEIS”) on 29 May 2018. The Application was accepted for Examination on 26 June 2018, with the Examination having commenced on 04 October 2018.

1.2 Purpose of the Document

- 1.2.1 The Proposed Scheme as submitted with the Application is described in detail in Chapter 3 (Site and Project Description) of the Environmental Statement (ES) (Examination Library Reference APP-071). At Deadline 2, the Applicant made a non-material amendment to the Proposed Scheme to remove Stage 0, the Site Reconfiguration Works, from the Application (see Cover Letter at Examination Library Reference REP2-003). In addition, the revised DCO submitted at Deadline 2 made a change to the battery storage facility; it is likely that rather than a "building" being constructed, the battery cells would be surrounded by a structure erected as screening. It was for this reason that reference to “building” was changed to “structure” in Work Number 3 which is more likely to be the case rather than a “building” (although “building” is defined in the draft DCO to include “structure”). The amendments to Work Number 3 also enabled the "structure" to be constructed in Stage 1 and Stage 2, whereas previously it was thought that a single "building" would be constructed in Stage 1.
- 1.2.2 At Deadline 3, the Applicant has made some non-material amendments to the dimensions of some of the structures on the Power Station Site. The non-material amendments at Deadline 2 and Deadline 3 result from the iterative detailed design process.
- 1.2.3 For a detailed description of the Proposed Scheme, Chapter 3 (Site and Project Description) of the ES (Examination Library Reference APP-071) should be read in conjunction with this document (Applicant’s document reference 8.4.8) and taking into account the Removal of Stage 0 (as set out in the Cover Letter submitted at Deadline 2 (Examination Library Reference REP2-003)). A glossary of terms which are used in this document can be found in Applicant’s document reference 1.6.
- 1.2.4 This document has been produced to supplement the Environmental Impact Assessment (EIA) within the ES for the Proposed Scheme. It considers environmental implications of the non-material design amendments to confirm that the environmental assessment and proposed mitigation measures submitted with the Application in May 2018 are still robust.
- 1.2.5 This document does not consider the environmental implications of the removal of Stage 0, as these were set out at Deadline 2 in the Removal of Stage 0 Mitigation Review (Examination Library Reference REP2-037); the removal of Stage 0 from the Application has no implications for the rest of the Proposed Scheme as those works will still be completed prior to the commencement of Stage 1 (but it will have been completed pursuant to planning permission 2018/0154/FULM under the Town and Country Planning Act 1990, rather than as part of the Proposed Scheme authorised by the DCO). This scenario has

already been assessed in the Environmental Statement for the Proposed Scheme and no further assessment is required.

- 1.2.6 This document, therefore, covers the refinement in the design for the battery storage facility (i.e. a structure screening the cells rather than a "building") and the ability for that structure to be erected in both Stages 1 and 2. It also covers the non-material amendments to various parameters.
- 1.2.7 This document demonstrates that the non-material design amendments will not result in a change to the likely significant effects of the Proposed Scheme, as described in the ES.
- 1.2.8 References to the draft DCO in this document are references to the draft DCO as submitted at Deadline 3.

2 PROPOSED NON-MATERIAL DESIGN AMENDMENTS

Table 1 – Description of the Non-Material Amendments and the Potential Impacts on the Environmental Impact Assessment

Change	Design assessed in the original Application Documents	Non-Material Amendment	Impact on Assessment
Battery Storage Design	<p>The Environmental Statement - Volume 1 - Chapter 3 Site and Project Description (Examination Library Reference APP-071) states that each of Unit X and Unit Y would have (subject to technology and commercial considerations) a battery energy storage facility which would be stored in a single building.</p>	<p>It is proposed to use battery storage shipping containers positioned within the area shown on the Works Plans (Examination Library Reference REP2-007) for numbered works 3A and 3B. These shipping containers would be positioned adjacent to one another, minimising any gaps in between, and surrounded by a structure erected as screening. This would create the appearance of single structure.</p>	<p>A change in the battery storage design has the potential to impact upon landscape and visual setting and cultural heritage setting. However, as the battery facility will still have the appearance of a single structure, there will be no change in the significance of environmental effects as reported in the ES given a single “building” was assumed in the original ES.</p> <p>To maintain the uniformity of the structure and avoid visual clutter, the shipping containers would be established adjacent to one another minimising gaps and would be surrounded by a structure erected as screening. In line with Table 10.6 of the Landscape and Visual chapter of the ES (Examination Library Reference APP-078), the</p>

Change	Design assessed in the original Application Documents	Non-Material Amendment	Impact on Assessment
			<p>indicative finish of the battery storage facility would remain unchanged, grey (BS4800 02-A-03). The finish will be approved by the Local Planning Authority in accordance with Requirement 6 of the draft DCO. This is secured in the Outline Landscape and Biodiversity Strategy (Examination Library Reference REP2-026) submitted at Deadline 2, which is secured via Requirement 7 in the draft DCO.</p>
Battery Storage Construction	<p>The Environmental Statement stated that Unit X and Unit Y will be constructed in stages which are referred to as Stage 1 and Stage 2. During Stage 1, Unit X will be constructed, and during Stage 2 Unit Y will be constructed. The building to house the battery storage facilities (in connection with Units X and Y) will be constructed within the first half of this programme i.e. Stage 1. The battery energy storage facility for Unit Y, which would be housed within the battery</p>	<p>The proposed amendments to the description of the Proposed Scheme would allow the construction of the battery storage facility and the structure built to enclose or protect it, in two stages.</p> <p>Stage 1 may therefore include the construction of the first portion of the battery storage facility for Unit X, with a structure erected as screening, as described above.</p>	<p>The amendments in the construction timetable if the battery storage facility and screening structure was constructed in two parts has the potential to impact:</p> <ul style="list-style-type: none"> ○ Traffic and transport. ○ Noise and vibration. ○ Cultural heritage setting. ○ Landscape and visual impact. ○ Biodiversity

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	<p>storage building constructed at Stage 1, would be constructed at Stage 2.</p>	<p>Stage 2 would then involve the construction of the second portion of the battery storage facility for Unit Y, and surrounded by a structure erected as screening.</p> <p>This is because it is expected that the Proposed Scheme will involve battery storage shipping containers positioned within the area shown on the Works Plans (Examination Library Reference REP2-007) for numbered works 3A and 3B. These shipping containers would be positioned adjacent to one another, minimising any gaps in between, and surrounded by a structure erected as screening. This would create the appearance of one solid structure. As a result, the entire structure or building enclosing the battery storage facility may not be constructed during Stage 1, but in both stages, as the battery energy storage cells themselves are installed.</p>	<p>However, for reasons outlined below, there would be no change in the significance of environmental effects, as reported in the ES.</p> <p>For traffic and transport, construction traffic during Stage 1 would decrease slightly from expected levels and construction traffic during Stage 2 would increase slightly from expected levels. The only real difference is the erection of the screening, as the original ES had already assessed the installation of battery cells in Stage 2 and their traffic and transport impacts. The erection of the screening would not give rise to any significant traffic and transport numbers.</p> <p>The overall number of construction movements during Stages 1 and 2 combined would not change. As the peak construction traffic is predicted to</p>

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		<p>This option will allow the Proposed Scheme to respond to technological improvements and the method in which battery cells are housed/protected.</p>	<p>occur during Stage 1, with lower traffic generation in Stage 2, the change would not lead to greater impacts on the local road network than those set out in the ES. Further, these works are temporary and as such, not likely to present any further likely significant effects in the long-term.</p> <p>Mitigation measures outlined within the Construction Traffic Management Plan and the Construction Worker Travel Plan will remain relevant to the proposed changes. These are secured by requirements 17 and 18 of the draft DCO.</p> <p>For noise and vibration, disturbance from construction activities associated with Stage 1 would reduce slightly whereas disturbance during Stage 2 would increase slightly. The change would only affect areas where</p>

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			<p>construction activities are already expected in Stage 1 and Stage 2, so the change is not significant. Furthermore, the only real difference is the erection of the screening, as the original ES already assessed the installation of battery cells in Stage 2, within the building constructed in Stage 1.</p> <p>The noise and vibration disturbance will be temporary and will result in no change to likely significant impacts on surrounding receptors (residential and ecological).</p> <p>Standard mitigation measures will be implemented through a Construction Environmental Management Plan, secured by requirement 16 of the draft DCO</p> <p>For cultural heritage setting, high level construction activities at the Existing Power Station Complex</p>

Change	Design assessed in the original Application Documents	Non-Material Amendment	Impact on Assessment
			<p>associated with Stage 1 and Stage 2 of the Proposed Scheme have been considered to potentially result in negative setting impacts on the Drax Augustinian Priory scheduled monument. However, the change will only affect areas where construction activities are already expected in Stage 1 and Stage 2, so the change is unlikely to be significant in terms of effects on the historic environment. Furthermore, the only real difference is the erection of the screening, as the original ES assessed the installation of battery cells in Stage 2, within the building constructed in Stage 1.</p>

The likely significant effects on biodiversity highlighted within the EIA relevant to the battery storage facility refer to the permanent loss of habitat within Development Parcel E (within the area shown for numbered works 3A and 3B on the Works Plans). This is expected to occur in Stage 1 regardless of the timing of the battery storage construction and is therefore unchanged from the original assessment. If the development of Unit Y is not pursued, and land is available that would otherwise have been used for the battery storage facility, then further planting would be introduced, as described in the outline Landscape and Biodiversity Strategy (Examination Library Reference REP2-026). This is secured through requirement 7 of the draft DCO. There will be no change to the significance of effects reported in the ES due to this design change.

As outlined in the EIA, significant effects to landscape and visual

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			<p>amenity are predicted to occur as a result of the Proposed Scheme. This includes all construction activities from site clearance and construction works, including that of the current battery storage facility design.</p> <p>The introduction of one uniform area of planting in the form of semi-improved grassland will reduce visual clutter and be of a scale and size that replicates the mass of the proposed structures. There will be no change to the significance of effects reported in the ES due to this design change.</p>
Layout of the AGI	<p>The Environmental Statement stated that the above ground installation (AGI) will be located at the connection to the National Transmission System (NTS) situated in the south-western corner of an open arable field with no natural landscape features (Development Parcel K within agricultural land south of Rusholme Lane, shown on Figure 1.3 in</p>	<p>The following amendments have been made to the indicative layout of the AGI since the Application was submitted in May 2018:</p> <ul style="list-style-type: none"> ○ The AGI layout configuration has been updated to align with progression of the design for the Gas Pipeline connection and discussion with National Grid. 	<p>There will be no change in the significance of environment effects associated with the layout amendments to the AGI.</p> <p>Changes to the buffer around the Dickon Field Drain and the new culvert have been discussed and agreed with the IDB. This</p>

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	<p>the ES). The AGI would be up to 5 m in height and include a Pipeline Inspection Gauge (PIG) Trap Facility (PTF-L) and Minimum Offtake Connection (MOC). A permanent access to the AGI will be constructed off Rusholme Lane, along eastern and southern field boundaries and an open ditch with no surrounding vegetation. The AGI will be grey and narrow in structure.</p> <p>The indicative layout of the AGI was provided in the Indicative Plant Layouts (Examination Library Reference APP-013 and APP-014).</p>	<ul style="list-style-type: none"> ○ A 7 m buffer has been included edging the Dickon Field Drain, Internal Drainage Board (IDB) drain to allow maintenance access for the IDB. ○ The landscape planting to be provided at Stage 1 has been relocated to accommodate the IDB buffer. Additional planting has been provided in the form of scrub, hedgerows and species rich grassland. Further details on this planting can be found in the revised Landscape and Biodiversity Strategy (Examination Library Reference REP2-026) ○ A culvert on the Dickon Field Drain has been included to accommodate the access track described below. ○ A proposed extension to the access track to allow the landowner to access land adjoining to the south (following landowner discussions). This access road also accommodates 	<p>agreement is recorded in the Statement of Common Ground with Selby IBD submitted at this Deadline 3 (Applicant's document reference 8.1.9). There will be no change in the significance of environment effects associated with this change.</p> <p>The changes to mitigation planting had the potential to impact upon the significance of landscape and visual effects around the AGI. However, the relocated landscape mitigation planting still has the same mitigating effect and so this change is a neutral change.</p>

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		<p>apparatus needed for the sewer at this location, including oil separator, attenuation tank, air vents, manhole covers and outfall to the drain.</p> <p>The changes listed above all occur within the existing Limits of Deviation for the relevant numbered work on the Works Plans (Work Number 6A and 6B) (Examination Library Reference REP2-007). No change, therefore, has been made to the Work Plans that would be certified by the Secretary of State. The only change is to the Indicative Plant Layouts submitted at Deadline 2 (Examination Library Reference REP2-011 and REP2-012).</p>	
Power Station Site Parameter Changes	The Environmental Statement Chapter 3 (Examination Library Reference APP-071) stated stack heights associated with Units X and Y would have a maximum height of 120 m (126 m AOD) in response to air quality impacts and associated stack height sensitivity	The amendments to the maximum parameters are summarised in Table 2 below. These changes are the result of the ongoing iterative detailed design process and a correction to the stated height of the existing cooling towers.	There will be no change in the significance of environment effects associated with the Power Station Site parameter changes.

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	<p>modelling. Each Unit would have up to four stacks (two for bypass operation and two for combined cycle operation) resulting in a total of eight stacks for both Unit X and Unit Y.</p> <p>Cooling for Unit X and Unit Y will be provided by the existing northern group of cooling towers. These are 114 m in height.</p> <p>Predicted flood levels were used to establish appropriate finished floor levels for all new infrastructure. Floor levels will be set at 600 mm above predicted flood levels to ensure all new infrastructure will remain operational during a potential flood event.</p> <p>The maximum parameters of key infrastructure/structures were included in Schedule 13 of the draft DCO submitted with the Application (Examination Library Reference AS-012).</p>	<p>New information on the existing site topography was provided from the engineering team to allow a more refined cooling tower height above ordnance datum (AOD) and above ground level (AGL) to be determined.</p> <p>Additional work was carried out by the engineering team to determine the finished floor level of the site AOD. This involved looking at the flood levels previously calculated, the required work for levelling out the site and required build-up of site grade to obtain a finished floor level.</p> <p>As the cooling tower height AGL was now more accurately known and the 6 m difference between the cooling towers and the stack was to be maintained, the Unit X and Unit Y Main and Bypass Stack height was calculated to be 122.5 m AGL. To allow some flexibility in</p>	<p>The changes to the Power Station Site parameters have the potential to impact upon:</p> <ul style="list-style-type: none"> ○ Air quality; ○ Cultural heritage setting and ○ Landscape and visual. <p>Air Quality Air quality modelling has been rerun, applying the latest information on structure dimensions and proposed stack heights as follows:</p> <ul style="list-style-type: none"> ○ Unit X and Unit Y Main and Bypass Stack height – 122.5 m AGL. ○ Cooling Tower Height – 116.5 m AGL. <p>The difference between the existing cooling towers and the main and bypass stacks remains at the 6 m assumed in the ES.</p> <p>The results of the air quality modelling, taken across all meteorological years, shows that</p>

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		<p>construction, a maximum height of 123.0 m AGL has been considered.</p> <p>All changes described in Table 2 have been considered, however the key changes include:</p> <ul style="list-style-type: none"> ○ Minor changes to the main stack heights. ○ Minor changes to the bypass stack heights. ○ An update to the finished floor level in m AOD in some locations. This resulted from more refined information from Siemens. ○ An increase in height of the Heat Recovery Steam Generators. <p>The assessment has considered all the amendments to the parameters listed in Table 2 below. Changes not expressly mentioned in the list above do not result in any change to the environmental effects because, from an air quality perspective they have no emissions, and from a landscape,</p>	<p>the amendments result in a marginal reduction in the impacts of the repowered units with no change in the significance of the predicted effects. Therefore, the minimum stack height will be set at 122.5 m with a maximum of 123.0 m for flexibility in construction</p> <p>Landscape and Visual and Cultural Heritage</p> <p>In terms of landscape and visual impacts and cultural heritage setting, the relevant changes to the assessment are the height of the Heat Recover Steam Generators (HRSG), Exhaust Stacks / Bypass Stacks and HRSGs. Landscape and visual effects relate to the aesthetic and perceptual qualities of the Proposed Scheme against the Existing Drax Power Station Complex.</p>

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		<p>visual and cultural heritage perspective the structures or plant are either low level or hidden by the larger elements of the Proposed Scheme so that the changes would make no difference.</p>	<p>The stacks, which would increase in height by 2.5 m to 3m, would continue to protrude above the existing cooling towers by the same height as in the original parameters. The HRSG (which wraps around the main stacks for both Unit X and Unit Y) would increase in height by 11 m and result in an increase in the overall mass of structures at a higher elevation. The increase in massing of structures at a greater height would increase visual coalescence and clutter at a higher elevation. However, the change is not sufficient to alter the significance of effect in terms of landscape and visual impact or the cultural heritage setting of the Drax Augustinian Priory Scheduled Monument. The LVIA considers that whilst the footprint relating to the revised Proposed Scheme would alter compared to</p>

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			<p>the submitted scheme (albeit the revised buildings and structures remain within the limits of deviation shown on the Works Plans as submitted with the Application), there would be no changes to or further loss of local landscape features. Similarly, there would be no change in the effect on the setting of Drax Augustinian Priory Scheduled Monument.</p> <p>It is therefore concluded that the non-material amendments are not sufficient to alter the significance of effect in terms of cultural heritage setting and landscape and visual impact.</p> <p>For further information regarding the landscape and visual impacts of the dimension changes, refer to the addendum to viewpoints and visualisations report (Applicant's document reference 8.4.1).</p>

Table 2 – Record of the Non-Material Amendments to the Proposed Scheme Parameters

Item		Original Design*	Deadline 3 Non-Material Amendments
Turbine Hall	Maximum length	92 m	87 m (-5 m)
	Maximum width	22 m	23 m (+1 m)
	Maximum height	28 m (34 m AOD)	28 m (34 m AOD – unchanged)
Heat Recovery Steam Generator (HRSG)	Maximum length	48 m	55 m (+7 m)
	Maximum width	23 m	29 m (+6 m)
	Maximum height	38 m (44 m AOD)	49 m (55 m AOD) (+11 m)
HRSG Exhaust Stack / Bypass Stack	Maximum height	120 m (126 m AOD)	122.5 m to 123 m (128.5 to 129 m AOD)
Gas Turbine Transformers	Maximum length	36 m	36 m (unchanged)
	Maximum width	17 m	20 m (+3 m)
	Maximum height	11 m (17 m AOD)	11 m (17 m AOD - unchanged)
Gas Turbine Air Inlet	Maximum length	16 m	26 m (+10 m)
	Maximum width	19 m	27 m (+8 m)
	Maximum height	36 m (42 m AOD)	35 m (41 m AOD) (-1 m)
Fuel Gas Station	Maximum length	36 m	26m (-10 m)
	Maximum width	25 m	19m (-6 m)
	Maximum height	3 m (9 m AOD)	7m (13 m AOD) (+4 m) (Dimensions stated are max dimensions assuming one Fuel Gas Station for each unit)
Main Pipe Rack	Maximum length	11 m	600 m for Unit X and 1,100m for Unit Y
	Maximum width	11 m	12 m
	Maximum height	19 m (25 m AOD)	25 m (31 m AOD)

Battery Storage Facility	Maximum length	Single phase: 180 m	To be built in one or two phases: 180 m (unchanged)
	Maximum width	60 m	60 m (unchanged)
	Maximum height	10 m (16 m AOD)	10 m (16 m AOD) (unchanged)
Gas Insulated Switchgear banking building	Maximum length	36 m	18 m (-18 m)
	Maximum width	16 m	12 m (-4 m)
	Maximum height	10 m (16 m AOD)	11m (17 m AOD) (+1 m)
Power control centre	Maximum length	30 m	17 m (-13 m)
	Maximum width	17 m	17 m (unchanged)
	Maximum height	6 m (12 m AOD)	6m (12 m AOD) (unchanged)
Control room building for gas insulated switchgear	Maximum length	26 m	26 m (unchanged)
	Maximum width	12 m	12 m (unchanged)
	Maximum height	11 m (16 m AOD)	11 m (17 m AOD) (unchanged)

*Dimensions taken from Schedule 13 of the Drax Power draft DCO (Examination Library Reference: REP2-014).

3 SUMMARY

- 3.1.1 In summary, this document concludes that the non-material amendments outlined in Tables 1 and 2 are so minor that they will not result in a change to the significance of environmental effects. This means that the assessment and mitigation set out in the ES submitted with the Application remains valid.

