

Thurrock Power Limited

The Thurrock Power Development Consent Order (DCO)

**Land to the north of Tilbury substation, Walton Common,
Thurrock, RM18 8UL**

Project Changes Report

Planning Act 2008



Applicant: Thurrock Power Limited
Date: October 2019

INTRODUCTION

- 1.1 Thurrock Power proposes to develop a flexible generation plant on land north of Tilbury Substation in Thurrock. The flexible generation plant will provide up to 600 megawatts (MW) of electrical generation capacity on a fast response basis when called by the National Grid, together with up to 150 MW of battery storage capacity. The proposed development is a Nationally Significant Infrastructure Project (NSIP) for which Thurrock Power will submit an application to the Planning Inspectorate (PINS) for development consent.
- 1.2 Thurrock Power undertook public consultation on the proposals in October and November 2018. Copies of the documents provided for that consultation, including the preliminary environmental information report, are available on Thurrock Power's website: www.thurrockpower.co.uk.
- 1.3 Subsequent to the public consultation on the proposals, project changes have taken place as a result of the responses received to consultation, input from specialist bodies and ongoing iterative design work. This document explains the changes made since the previous consultation, and provides preliminary information on the impact of those changes. This consultation concerns only the changes made to the proposal since the 2018 consultation.
- 1.4 This report is accompanied by 4 plans:
 - (a) A revised red line boundary;
 - (b) an annotated Change Plan showing the areas removed and added;
 - (c) a plan summarising the elements of the project in different zones in the revised red line area (the Zone Plan); and
 - (d) the October 2018 Zone Plan, for information.
- 1.5 Following consideration of the responses to this consultation, Thurrock Power will finalise its proposals and submit an application to PINS. There will then be an opportunity for any person to make representations on the proposals as submitted and engage in the Examination.

Access

- 2.1 The approach to construction access to the site has changed so that access will be taken from the south and west rather than the north. These changes will reduce the impact on local highways and reduce the impact on Parsonage Common. The access changes are:
 - a) A new permanent causeway into the river will be constructed to allow the delivery of very large and abnormal loads by water, and a haul road from the causeway to the main construction site (both Zone G on the enclosed revised Zone Plan) are proposed;
 - b) A new primary construction access from the west running through land to the north of the Tilbury2 site (Zone H) will connect the main construction site to the A1089 public highway as modified by the Tilbury2 development;

- c) The previously proposed abnormal loads route which including using a crane over the rail line and construction of an access through Parsonage Common have been removed (the removed area is shown coloured orange on the enclosed Change Plan);
 - d) The proposed use of and works to the existing public highway to the north of the main site (including to Marshfoot Road, St Chads Road, Gun Hill Road, Cooper Shaw Road, Church Road, Turnpike Lane, High House Lane and Linford Road and Brentwood Road) have been removed from the application, as access will now be taken from the south of the site not the north. The creation of a new haul route running east-west from the A126 Gateway Academy roundabout to Gun Hill is no longer proposed. The areas which have been removed are shown coloured orange on the Change Plan
- 2.2 The area required for connecting into the National Grid Substation has been reduced due to progress on agreeing the point of connection (Zone B).
 - 2.3 The total area for the gas pipeline route in the vicinity of Station Road (labelled as Zone D2 on the enclosed Zone Plan) has been reduced substantially as the gas pipeline route has been refined.
 - 2.4 Additional land (Zone D1) has been included south of Station Road, outside the perimeter of the Low Street Pit Local Wildlife Site. This land is to provide an alternative route for the gas pipeline that reduces the need for construction work along Station Road. This alternate routing reduces the length and duration of closures of sections of the road for required for construction and maintenance. This also allows the removal of the area to the north of Station Road from the application
 - 2.5 Two areas of land (Zones F1 and F2) for wildlife habitat compensation and enhancement between the railway and Cooper Shaw Road have been changed to separate this land from the exchange Common Land area (Zone E). This improves the habitat creation that is possible without conflicting the grazing use of the Common Land. The Common Land approach is further set out in section 4 below.
 - 2.6 Additional land has been included to the west of the main development site (labelled as Zone A on the Zone Plan) for carbon capture readiness. This additional area is shown coloured green on the Change Plan. Although carbon capture technology for power stations is not yet used in the UK, this may be a key technology to mitigate climate change effects in the future. Developers are required to allow sufficient space on-site for such technology if it becomes feasible in future.
 - 2.7 A new area (shown coloured green on the Change Plan) has been added between the new (replacement) common land (Zone E) and Fort Road. This area is to provide a footpath link from Fort Road, opposite existing common land, to the new area of common land.
 - 2.8 A new area (shown coloured green on the Change Plan) has been added to the west of Station Road, south of Buckland, where a public right of way will be temporarily diverted. Although the project always intended to use this route as a diversion, it has been added to the area within the red line to provide certainty that the right of way can be created by the DCO if required.

New marine facility

- 3.1 A new permanent causeway into the River Thames for the delivery of abnormal loads delivery by water together with a haul road from the causeway to the main construction site are proposed to the south of the main construction site in Zone G. Abnormal indivisible loads (AILs) (heavy engines for example) will be delivered by water using a specialist heavy lift barge and offloaded using the causeway. This will remove the need to transport AILs to site by road and reduce the impact on the public highway as well as removing the need to crane AILs over the rail line and the need to take access for these abnormal loads over Parsonage Common.
- 3.2 The causeway proposal would operate as follows:
- (a) A gate installed within the flood defence wall will be opened to permit vehicles to pass through the opening.
 - (b) The barge will arrive at the site during a high tide and will position itself above the required beaching location. As the tidal water level falls, the barge will settle onto the prepared area of river foreshore at the required location.
 - (c) A mobile crane will travel down the causeway to one of the crane pads adjacent to the barge. This crane will assist with deployment of the barge ramp to form a transition between the barge and the causeway.
 - (d) A self-propelled model transporter or trailer will then travel over the barge ramp onto the causeway, along the causeway, through the gate in the flood defence wall, and onward via a temporary haul road to the power station construction site.
 - (e) The crane will dismantle the barge ramp and re-stow on the barge, before returning to shore along the causeway.
 - (f) The barge will then await the rising tide and, when the water level is sufficiently high, re-float and sail away from the site.
 - (g) The gate in the flood defence wall will be closed.
- 3.3 Up to 60 barge deliveries, each for a single AIL, are expected in total. These deliveries are likely to be at intervals of three days or more during the construction programme.
- 3.4 In the area where the causeway will meet land, the land is at approximately +5.0m AOD with a reinforced concrete flood defence wall to a level of +6.48m AOD (based on Environment Agency data). The land immediately behind the flood wall is also at a level of approximately +5.0m AOD but further back from the wall has been raised above this level. The foreshore here is initially at a gradient that is suitable for beaching the vessel. However, after a short distance the bed has been dredged for navigation purposes and therefore becomes significantly steeper and unsuitable for beaching a vessel. The causeway proposed for this location is therefore curved in plan in order to accommodate both causeway and beached vessel within the area of acceptable foreshore gradient. This results in the beached vessel being positioned a safe distance from the navigation channel.
- 3.5 The height of the top of the causeway will be approximately X metres AOD meaning that the intertidal area within and around the footprint of the proposed causeway has been

characterised by a site-specific walkover survey and sediment sampling for particle size and sediment chemistry, presently undergoing analysis.

- 3.6 This area was found to be characterised primarily by an area of saltmarsh at the top of the shore (i.e. immediately below the flood defences) and an area of intertidal mudflat extending from the upper shore (immediately below the saltmarsh) to the low tide mark. These habitats are typical for intertidal areas of the Thames Estuary.
- 3.7 The site-specific survey and desktop data for the project area showed that the saltmarsh was characterised by a range of saltmarsh species, with the habitat classified according to National Vegetation Classification (NVC) scheme as a mosaic of SM13 *Puccinellia maritima* (saltmarsh grass) and SM14 *Halimione portulacoides* (sea purslane) saltmarsh communities. The intertidal mudflat was characterised by muddy sediments with infaunal communities typical of the middle Thames Estuary, including ragworm (*Hediste diversicolor*) and molluscs (e.g. *Scrobicularia plana*). Other intertidal habitats included sparse areas of mixed and shingle sediment and rock substrates (i.e. rock coastal protection) dominated by fucoid seaweeds.
- 3.8 No site specific geotechnical information is available. Bathymetry at the site is taken from Port of London Authority Nautical Chart 337.
- 3.9 In developing the concept design, Thurrock Power has sought to minimise the likelihood of the causeway structure causing significant scouring of the existing foreshore, in order to mitigate the risk of damaging the inter-tidal habitat beyond the footprint of the causeway itself.
- 3.10 Some saltmarsh will be lost through construction of the causeway. However, it is possible that new saltmarsh will be created in lee of causeway offsetting that loss. This will be considered in the full Environmental Statement (ES).
- 3.11 Above mean high water north of the sea wall, the proposed access road runs across an area of semi-improved grassland before dividing into two potential options. The western option follows the path of an existing site access road north to Tilbury Substation. The route then runs past the east side of the substation, where habitats comprise grassland, tall ruderal and some marginal wetter vegetation along the line of a silted-up ditch. From there the route runs across an area of semi-improved grassland with areas of scattered scrub and tall ruderal vegetation, before crossing a ditch into the main development site. Reptiles are likely to occur in areas of semi-improved grassland north of the sea wall and adjacent to the main development site, and water voles occur in the main development site boundary ditches when these ditches are not dry. Cetti's Warbler, amongst other breeding birds has been recorded adjacent to the main development site. This western option will require groundworks, including excavation and potentially the construction of retaining walls in order to create suitable gradients for the haul road.
- 3.12 The eastern haul road option follows the alignment of an existing track west-east from the substation access road before turning north along the eastern side of a watercourse through an agricultural field to connect to the main site. The land between the western and eastern routes is an ecologically sensitive area which would be less suitable to construct a haul route through.
- 3.13 Options are required in this area as adverse ground conditions mean that further ground investigation is required before a preferred option can be selected.

- 3.14 There are ongoing discussions with the Marine Management Organisation, the Port of London Authority, Natural England and others in relation to causeway.

New primary construction access from the west

- 3.15 Works to the existing public highway and creation of a new east-west haul route from the A126 Gateway Academy roundabout to Gun Hill have been removed from the application, as access will now be taken from the south of the site not the north. The areas which have been removed from the proposal are shown coloured orange on the enclosed Change Plan.

- 3.16 The removed elements are:

- (a) sections of public highway and sections of an existing private road with temporary planning permission to the north which would have provided an access route from Orsett Cock junction. The public highway sections of that route would have required widening at certain pinch points and temporary traffic controls.
- (b) The access from the north also required up to 1 acre of land on Parsonage Common adjacent to the railway line to be used for temporary laydown during the construction period and a temporary tower crane for moving items across the railway. A temporary haul road south from Cooper Shaw Road would have been constructed to access the crane site.
- (c) A construction haul road was proposed to be created between A126 Gateway Academy roundabout and Gun Hill. The haul road would have remained in situ following the end of the construction programme in order to provide a continued access option for abnormal loads should a major component (such as transformer) of the proposed development fail in operation and require replacement.

- 3.17 The new access proposals from the A13 trunk road and Tilbury Port are to use the A1089 to access a new road that will have been constructed parallel to Fort Road as part of the Tilbury2 development. From this point, the access route would use private roads within the Tilbury2 development and former Tilbury B power station site, and then a new road to be constructed east of Tilbury Substation, to reach the main development site. Minor works to widen some corners of the section of this route on the Tilbury B power station site may be required.

- 3.18 Should construction traffic access via this route be unavailable for limited periods, the secondary construction traffic access route would be from Fort Road north to Cooper Shaw Road, and then via Church Road and Station Road to the permanent access point in Zone C.

- 3.19 The A1089 is a dual carriageway road between the A1089 and the Asda roundabout and then becomes a single carriageway road to the south of the Asda roundabout. This route involves the crossing of the Asda roundabout on the A1089 which is known to operate at its operational capacity during some periods of the day. This amended proposal has been discussed with Thurrock Council and Highways England as the relevant highway authorities and they are generally satisfied subject to the timings of construction vehicles being managed through a Construction Traffic Management Plan.

- 3.20 From the A1089 the main construction access route would follow private access roads.
- 3.21 Existing access to the main development site (Zone A) is via a farm track through zone C from Station Road immediately to the south of the level crossing over the railway. This would be improved to provide a permanent access route, as described in the previous consultation. This permanent road access has not been amended and access will still be provided through Zone C to the public highway at Station Road. This permanent road access will be used for maintenance staff and for delivery of reagent by road tanker, for which around one vehicle per two to three days is estimated to be required. There will be limited need for access during operation, as the facility will not typically have an on-site workforce.
- 3.22 The changes proposed are to the route of access and do not change the volumes of traffic predicted at each stage, save that ALLs unsuited to the road network will be delivered by barge. The following assumptions also remain unchanged;

Construction:

- (a) Construction workforce averaging 80 FTE and peaking at 120 FTE for up to 18 months with 75% of construction staff will arrive as a single occupant car driver, the remainder will car share and travel by other sustainable modes of transport
- (b) All material removed from the development area is transported by road with an average of 20 HGV movements per day and a peak of up to 40 to 60 HGV movements per day
- (c) Up to 30 car parking spaces would be provided within the main development site.

Operation: Up to one major maintenance period (duration three weeks) and four minor maintenance visits (duration one week) per annum, requiring up to 20 and six staff daily respectively

Decommissioning: Transport requirements no greater than during the construction period.

- 3.23 The new sections of the proposed access route using public highway to access Zone H are set out below along with their existing traffic flows.

Link Number	Link Description	24 Hour Annual Average Daily Traffic Flow (AADT)	
		Total Vehicles	Heavy Vehicles
16	A1089 between Marshfoot Road roundabout and Asda roundabout	29,123	6,948
17	A1089 between Asda Roundabout and Port of Tilbury Gate 1	13,477	6,235
18	A1089 between Port of Tilbury Gate 1 and Port of Tilbury Gate 2	5,263	1,382
19	A1089 / Fort Road between Tilbury Gate 2 and Tilbury exit signage / change of speed limit	2,778	845

20	Fort Road between Tilbury exit signage / change of speed limit and Brennan Road	1,413	220
21	Fort Road between Brennan Road and Coopers Shaw Road	1,906	243

- 3.24 As set out in the PEIR, any link in a sensitive location where changes in total traffic flows or HGV flows resulting from the development are predicted to be less than 10% and 30% respectively is screened out of the assessment. It should be noted that changes in total traffic flows of less than 10% are generally considered to be insignificant given that the daily variations in background traffic flows may fluctuate by this amount. Any link where changes in total traffic flows are predicted to be less than 30% when not in a sensitive location are also screened out of the assessment. It is expected that the construction traffic flows would not exceed these thresholds and it is therefore expected that these links can be screened out of the assessment
- 3.25 Since the PEIR, there have been changes to the other emerging development sites that informed the cumulative impact assessment. These are currently being studied and a revised cumulative impact assessment will be set out within the submitted ES.

Common Land

- 4.1 The main construction site (Zone A) as previously consulted upon is situated on Walton Common which is registered common land. Some of the area which has been added to the main site to provide necessary land for carbon capture readiness (shown green on the enclosed Change Plan) is also Common Land. The spur of Walton Common extending north from the main area of Common Land to the railway has been removed from the development boundary and will not be affected.
- 4.2 The previously affected common land area was 10.03 hectares, to which 0.2ha has been removed and 0.41ha added. Altogether it is proposed that 10.20 hectares of common will required to deregistered and replaced.
- 4.3 A small area of land in Zone D1 is also Common Land which would be interfered with by the development. This common land is along the side of the footpath that will be crossed by the underground gas pipeline and around 0.08 ha would be affected by construction of the pipeline. Following completion of the works, there would be no continuing impact on the commons use in this area. Thurrock Power therefore proposes not to deregister this area but only to seek commons consent to install and maintain the gas pipeline through it.
- 4.4 Replacement Common Land is proposed in Zone E. Thurrock Power has added 0.05 ha to this area to provide a footpath link to Fort Road. The total area of proposed exchanged land has therefore increased slightly to 11.65 ha. Zone E comprises soils of a similar type to those found on Walton Common and is therefore considered to be of equivalent quality. Zone E is currently being cropped and would need to be established with a suitable grassland mix prior to works commencing on Zone A. This grassland would be, as a minimum, suitable for grazing and occasional cropping of standard hay.
- 4.5 The previously proposed abnormal loads routes including a crane over the rail line and construction of an access through Parsonage Common have been removed (shown coloured orange on the Change Plan). The alteration of the access proposals has

removed the need to take abnormal load access over and use part of Parsonage Common a crane site and laydown area. The areas within red line crossing Parsonage Common are access routes required to allow access to the new common land and the habitat enhancement areas. During construction, access is required to the new common land (Zone E) to allow works to create land equivalent in quality and nature to Walton Common. These works are anticipated to include topsoil strip or deep plough, re-planting with grass, and potential further planting.

- 4.6 The works on the habitat enhancement areas are likely to include ditch creation, stripping of some of the topsoil (some of which can be used for construction of bee banks), ploughing to mix remaining topsoil with subsoil to reduce soil nutrient content, pond creation, creation of hummock / hollows, scrub and hedgerow planting and creation of habitat features (hibernacula, log piles, rubble mounds).
- 4.7 The use of these accesses over Parsonage Common would be minimal during operation as they are required for maintenance of the habitat enhancement areas only. No hard surfacing is proposed and access would reflect current agricultural access use of the Common.
- 4.8 A small area of common land would have been affected by the proposed east-west haul route. As that route has been removed from the proposal the impact on common land is removed in that case.
- 4.9 The proposed replacement land is immediately adjacent to and adjoins Parsonage Common. The addition of the footpath link is proposed as it is considered it would increase the connectivity of the replacement land, particularly to the small area of Common Land adjacent to the housing on the west side of Fort Road. The precise legal status of this link and its maintenance has not been decided yet. The replacement common would improve the utility of the common by creating better connectivity which does not require crossing the railway line (and therefore has increased safety over the existing) and creating a circular walking route.

Wildlife habitat compensation and enhancement

- 4.10 Two areas of land (Zones F1 and F2) for wildlife habitat compensation and enhancement between the railway and Cooper Shaw Road have been changed to separate this land from the exchange Common Land area (Zone E). This improves the habitat creation that is possible, without conflicting the grazing use of the Common Land.
- 4.11 The habitat compensation and enhancement land will provide habitat for a range of species known to be present across the main development site, including invertebrates, reptiles, breeding birds including Cetti's Warbler, foraging bats and water voles, and therefore will mitigate losses of habitat for construction of the development.
- 4.12 The Zone E common land restoration, while not primarily intended as ecological mitigation, will also provide additional habitat for species such as reptiles and invertebrates.

HOW TO RESPOND TO THIS CONSULTATION

Responses/feedback to the changes set out in this consultation can be provided in the following ways:

By Email: contact@thurrockpower.co.uk

By Freepost: Freepost THURROCK POWER

By Telephone: 0207 1860580