

From: [Martyn, Joe](#)
To: [Riverside Energy Park](#)
Subject: EA response EN010093-000004 Scoping Opinion - Riverside Energy Park, Belvedere.
Date: 27 December 2017 09:37:57
Attachments: [SL_117720-01 \(JM\) Scoping Opinion Riverside Energy Park, Belvedere, EN010093-000004 .pdf](#)

Dear Sir/madam

Please find attached our response. This was originally sent on the 22 of December. However I have just noticed it was in my draft box and so will not have reached you. I hope you can still considered our comments.

Kind regards

Joe Martyn

[Planning Specialist - South London](#)

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Our ref: SL/2017/117720/01-L01
Your ref: EN010093-000004
Date: 21 December 2017

Dear Sir/Madam

Scoping Opinion - An integrated energy park of up to 96 megawatts generating capacity (comprising waste energy recovery, waste anaerobic digestion, battery storage and solar generation) and associated electrical connection.

Riverside Energy Park, Belvedere.

We have review the Environmental Impact Scoping report by Peter Brett Associates
Project Name: Riverside Energy Park, Belvedere. Project Ref: 42166, Report Title:
EIA Scoping Report, Doc Ref: FINAL, Date: 24th November 2017 and wish to
provide comments on the following:

- Flood Risk
- Thames Tidal Flood Defences
- Groundwater Protection
- Ecology
- Environmental Permits
- Waste Planning
- Water quality and the Water Framework Directive (WFD)

Flood Risk

The proposed development is defined by [Table 2 of the Planning Practice Guidance \(PPG\)](#) as Less Vulnerable/Essential Infrastructure. The site is within Flood Zone 3, defined by [Table 1](#) of the PPG as land having a 1 in 200 or greater annual probability of sea flooding. The site is protected by the Thames Tidal defences, with a standard of protection of a 1 in 1000 annual probability of flooding. However, the site is situated within an area that would be flooded if there were to be a breach in the defences. We would expect any new development at this location to have finished floor levels set no lower than the breach flood event at this site.

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Thames Tidal Flood Defences

The Riverside Energy Park Site and an area of the Potential Temporary Construction Work Areas appear to be adjacent to the flood defences. The condition grade of the flood defence is currently 'fair' with some sections 'poor', as such a flood defence condition survey will be necessary to identify remedial works required to improve the condition of the flood defence.

We would expect that any development at this site to be set back from the defences to allow for any required maintenance, emergency access and to allow for the defences to be raised in the future. A continuous fit for purpose flood defence line must be maintained at the minimum statutory level throughout the construction works and for the lifetime of the development.

It will need to be demonstrated that the flood defence can be raised in line with Thames Estuary 2100 Plan levels in the future without undue cost. Further on the Thames Estuary 2100 Plan can be found at <https://www.gov.uk/government/publications/thames-estuary-2100-te2100>.

Due to the level of flood risk that the site faces and the proximity to the Tidal Flood Defences, we would expect flood risk to be scoped in to the Environmental Impact Assessment to ensure that the risks are assessed adequately.

The applicant should be aware that any works in/over/underneath a main river may require a Flood Risk Activity Permit (FRAP). Additionally, any works within 16m of a Tidal Flood Defence may also require a FRAP. The applicant can find out more information regarding FRAPs, including Exclusions and Exemptions, on our [website](#).

Groundwater Protection

Section 7.11 (Ground Conditions) summarises the site's history and proposes a Phase 1 Ground Condition Assessment (GCA) to inform any possible site investigation / remedial actions that may be required. The GCA will be undertaken in accordance with CLR11. This approach is considered acceptable.

Ecology

Section 8.7 Lighting proposes to scope lighting out of the EIA. For lighting to be scoped out of the EIA the development will have to clearly demonstrate that there is no change from the existing lighting on site, particularly in relation to the adjacent nature reserve and the River Thames, which is subject to considerable amounts of change and possible in-combination affects from other developments.

Therefore lighting will have to be included for marine and terrestrial habitats in order to demonstrate that it is identical in terms of impact to the existing conditions. This approach applies to all development aspects that could impact on the adjacent nature reserve and River Thames.

The development may have to leave sufficient space for future raising of the Thames

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defences, depending on their current condition. If additional wall raising will be required to meet the TE2100 standard the development must be set back to allow embankment raising to take place. This is so that no encroachment takes place and the tidal Thames habitats can be protected and enhanced where feasible to do so.

The development must consider how it can deliver a net gain for ecology both terrestrial, to achieve further mitigation for its proximity to the adjacent nature reserve, but also on the River Thames. The use of Estuary Edges guidance can help with this process.

Environmental Permit

An Environmental Permit will be required for the proposed activities at Riverside Energy Park (REP) under the Environmental Permitting (England and Wales) Regulations 2016. Since this proposal is likely to be of high public interest we strongly recommended that the applicant considers joint discussion and/or parallel tracking of the application alongside the planning permission.

Air Quality

The proposed activities fall within an area designated as an Air Quality Manager Area for NO₂ and PM₁₀. These pollutants, particularly NO₂, are produced by waste incineration processes and therefore this proposal will need to be considered in more detail. The proposed operations will need appropriate risk assessment and mitigation measures in place to control these emissions and reduce the risk of exceeding air quality standards. Dispersion modelling of the emissions and impacts will be needed, and further pollution prevention and control methods and appropriate height and location of major emission points will need to be considered. These may affect the layout and/or location of the development, so are likely to be key considerations for planning permission. Our assessment process and criteria can be found as follows:

<https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit>

Paragraph 7.3.18 states that the proposed stack height will be chosen in accordance with Best Available Techniques. Please note that we have recently produced guidance on options for assessing whether a proposed stack height represents best available techniques (BAT) and can be made available from the Environment Agency on request.

Combined heat and power (CHP)

Paragraph 2.1.14 states that the REP would be CHP enabled with necessary infrastructure within the REP site (heat exchangers, pumps and pressurisation system) included. This is in line with our requirements for new energy from waste plants which we need to be CHP-ready if they do not include CHP from the outset. The applicant will need to comply with the Environment Agency's [CHP-Ready guidance](#).

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However, the applicant should also note that they will need to comply with additional requirements imposed by Article 14 of the Energy Efficiency Directive. This legislation requires all new combustion plant (including power stations and energy from waste plants) which has a total net thermal input of more than 20 megawatts to carry out a cost benefit analysis for operating as a high-efficiency co-generation plant or supplying a district heating or cooling network with waste heat. Guidance on how to comply with these requirements can be made available from the Environment Agency on request.

Proximity to nature conservation sites at risk from emissions to air

The proposed energy from waste plant is within 2km of Sites of Special Scientific Interest (SSSI) the closest one being the Inner Thames Marshes. We will need to give more detailed consideration to the proposal if the critical levels for pollutants such as ammonia, nitrogen oxides or sulphur dioxide, or critical loads for acidification or eutrophication are exceeded or close to the threshold. These operations may require consideration of additional pollution prevention and control methods as well as the height and location of major emission points. These may affect the layout of the development so are likely to be material considerations for planning permission. Our assessment process and criteria can be found as follows:

<https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>

Please note that some larger emitters (greater than 50 megawatt), such as this proposal, may be required to screen to 15km for European sites and to 10km or 15km for SSSIs. Relevant screening distances should be discussed with the Environment Agency at pre-application.

Waste Planning and transport

The EIA should identify the need for the scheme in terms of the nature of the wastes that will be treated and the catchment area that the materials will be drawn from. It will need to consider the waste hierarchy under the waste framework directive. It should be considered if the materials being sourced are actually residual waste.

The EIA should consider if the existing network for waste transfer stations have capacity to take the extra materials that will be generated. If not the works needed to increase capacity should be included in the assessment.

Anaerobic digestion plant - In section 2.1.12 it mentions that the digestate could be incinerated or used in agriculture. The digestate should be used for the latter in order to move this particular waste stream up the waste hierarchy, and to capture this materials full resource potential. The transport assessment could include transport of the AD digestate to agriculture.

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The EIA should consider the impact of the additional transport at the existing transfer station network be factored into the Air Quality assessment.

For the construction phase a comprehensive site waste management plan should be adopted.

Water quality and the Water Framework Directive (WFD)

The EIA has identified that a WFD assessment will be required .

Whilst we appreciate the temporary nature of the construction works, and that following cessation of construction there will be further decommissioning of the temporary structures and reinstatement of the intertidal and subtidal habitats, both the construction and the decommissioning & reinstatement works have potential (albeit temporary) to impact upon water quality, principally by raising sediment into suspension, whereupon it may interact with the water column, and cause chemical and/or physicochemical physical changes to the water column.

The degree, extent and duration of the effects are important in determining WFD compliance. The EIA should consider the Water Framework Directive and its daughter directives, including the Environmental Quality Standards Directive (EQSD) both have Environmental Quality Standards (EQS's) for Annual Average (AA) and Maximum Allowable Concentration (MAC).

Sediments in the vicinity of the proposed works will require chemical sampling, including for polycyclic aromatic hydrocarbons (PAH's) as directed by the MMO, in order to provide a basis for estimation of contaminant loadings for use in the impact assessment stage of the WFD assessment. It is very likely that sediment will be found to contain significant levels of contamination, based on our experience of sediment chemistry results from other dredges in the waterbody, such that water quality will not "scope out" when using the EA's "Clearing the Waters for All" guidance to WFD assessment. Thus a full "impact assessment" will be required, and the applicant will need to discuss with the marine team the level of evidence and arguments and assumptions that may be required by us to consider the applicants impact assessment for water quality to be acceptable.

Reasonable estimation of the volume of (contaminated) sediment likely to be disturbed will be required.

The rate of disturbance is also a relevant consideration—if the activity happens over a protracted period- the "peak loads" of contaminants transferred to the water column may be smaller than if one assumed an "instantaneous" load transfer of the whole dredged volume for example.

Considerations of the type of methodology used to dredge (dispersive vs removal)

and the timing of dredging will be pertinent to assessment of water quality risks. There are timing restrictions to dispersive dredging generally applied; dredging by dispersive methods, whilst often cheaper when viable, has greater potential to result in transfer of contaminants from sediment to water, and is generally resisted by us during the months of June-August inclusive in this reach of the Thames. Removal dredging, by comparison, results in much less sediment “lost” back into the water column, so has lower risks for water quality.

The requirements of the project timetable may influence the choice of an appropriate method to mitigate risks, and the rate of dredging can be varied to reduce risks also, should the initial assessment indicate water quality risks are too high.

The proximity of both Crossness and Beckton sewage treatment works (STW) outfalls would tend to suggest the sediments will have a relatively high organic content and may be anoxic fairly close to the surface. We hold historical benthic invertebrate subtidal grab and intertidal core data for the Crossness area (which was sampled regularly as a routine site of the Thames Estuary Biological Program [TEBP a.k.a. Thames Benthic Program] until spring 2008 when this local initiative was discontinued in favour of a more spatially randomised grab sampling methodology brought in to service the WFD program. These data are available on Open Data at [.gov.uk](https://data.gov.uk) (this can be found using the term BIOSYS, which is our biological database archive.)

With respect to

[7.3.3] A human health risk assessment, to assess the risk to human health from potential emissions of persistent organic pollutants, will also be undertaken.

[7.3.13] Υ Increased deposition of metals to soil; **and**

Υ Increased NO_x concentrations, nitrogen, sulphur, hydrogen fluoride, ammonia and acid deposition on sensitive ecological receptors.

We would wish to see some consideration of the effects of emissions on TRAC waterbodies. The drop out of persistent organic pollutants to the water and sediment environments of the waterbody, deposition of metals, sulphur, hydrogen fluoride, ammonia and acid deposition should all be placed in WFD context, since emissions will be long-term and may result in small far field effects at distances which could extend not only to the adjacent Thames Middle waterbody, but also other adjoining transitional waterbodies Thames Upper and Thames Lower for example. Shellfish fisheries in Thames Lower could conceivably receive additional chemical burdens, though the bacteriological drivers for designated shellfish waters monitoring under WFD are unlikely to be affected. Any EQSD/ WFD chemicals present in the emission that might enter the waterbodies need to be considered up to the point that their contribution can be demonstrated to be too low to affect WFD compliance over the life of the development. Persistent organic pollutants may well accumulate in the river sediments if they deposit in turbid, sediment-laden estuary water (due to their partitioning characteristics) and there are already concerns for high levels of PAH's in Thames sediments (Thames Middle failed for benzo g,h,i-perylene in 2009 RBMP

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classification). As EQS's for PAH's are already hard to meet, activities which significantly elevate their concentrations in water or sediments potentially could be a reason for a waterbody to fail to meet its objectives in the future. The lifetime of the development spans several RBMP cycles, when RBMP objectives might be revised to be more stringent, and this may include adoption of tighter EQS standards for some chemicals, and new standards for chemicals not yet regulated.

[7.6.2] Proposed river works for construction may also include some localised dredging of the river bed.

Dredging and marine construction both require a marine licences. We are a statutory consultee to both the Port of London Authority and the Marine Management Organisation (licenses will be required from both; dual licensing is currently the norm at present) and will consult on both. WFD assessments are required from the applicant for activities requiring a marine licence, and the marine team will determine whether the water quality elements of such assessments are of acceptably low risk to justify any claim to comply with WFD.

[7.9.22] The Environment Agency's "Clearing the Waters for All" process will be used for the WFD Assessment

We agree with this protocol; advice at the "impact assessment" stage should be sought from the marine team at the earliest possible opportunity, since no formal guidance can be written that is both waterbody and activity specific- location context **is** important. We are, however, able to offer insights into how impact assessment could be structured and what constitutes acceptable levels of evidence and argument, and we can agree what assumptions may be reasonably made in making arguments. Water quality predictions are extremely complex and gaps in data can cause problems for applicants.

[7.9.28] Data availability could provide a limitation to the assessment.....

The level of impact assessment should generally reflect the potential risks perceived. Small dredge and construction works in- river will seldom require full-scale modelling of sediment plumes and a fully numerical treatment to estimate final concentrations. Capital dredge works application will be required to provide sediment chemistry data to underpin sediment quality claims, and volume of material disturbed will be a key variable which will require quantification. For a dredge this is a relatively straightforward calculation (as dredge box dimensions and depth are known- volume is a calculated product), for construction impacts we are prepared to enter into a dialogue over quantities of sediment involved to determine what might be a reasonable figure we can agree upon, in order to supply this in any consideration of whether "sufficient dilution" will be achieved to remain WFD compliant. The MMO will require sediment analysis for dredge applications, but the need for sediment analysis for other construction activities in water rather depends on the amount of sediment that might be mobilised; projects which mobilise more than approximately 300 cu m of sediment *might* require sediment chemistry data to be provided to us, within a WFD assessment, to underpin dilution arguments, whereas smaller volumes will not

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require such a high burden of proof to demonstrate likely WFD compliance.

We agree that scoping out of shellfish and bathing waters from water quality assessment is appropriate. Shellfish waters in the Thames estuary are located seaward (east) of Thames Middle waterbody, in the Thames Lower and the Swale waterbodies. The triggers for shellfish water failures are microbiological, and there would be no pathway for transfer of faecal bacteria to water via the airborne emission route.

The sediments locally in the vicinity of the development might have higher levels of faecal bacteria taking into account the proximity to outfalls of sewage treatment works (STW's), though only if the STW was not performing to its usual effluent standards. Whilst the triggers for shellfish water non-compliance, following revision of the Shellfish Waters Regulations, are now purely bacteriological, the chemical element compliance limits which were formerly included within the shellfish regulations were harmonised with and incorporated into the main body of the WFD, and now apply to the water column of waterbodies generally. Any chemical transfers to shellfish waters should be considered under the water quality assessment section of a WFD assessment.

The high organic loadings on sediments in this area may increase the risk of high chemical or biological oxygen demand on the water column when disturbing sediments locally, which has relevance for achieving WFD chemical and physico-chemical standards (dissolved oxygen for example).

I hope our comments are helpful, if you have any questions please contact me.

Yours faithfully

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Planning Specialist

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