Appendix A.2 ROP EIA Scoping Report

Riverside Optimisation Project

Environmental Impact Assessment

Scoping Report

On behalf of **Cory Environmental Holdings Limited**

Project Ref: 50407 | Rev: 3.0 | Date: December 2020

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1 Introduction

1.1 Project Background

1.1.1 Riverside Resource Recovery Facility ('RRRF') operated by Riverside Resource Recovery Limited (trading as Cory Riverside Energy) ('Cory') is an Energy Recovery Facility ('ERF') situated at Norman Road in Belvedere within the London Borough of Bexley ('LBB').

1.1.2 Operating since 2011, RRRF has recently been fitted internally with an upgraded operational control system that enables a more consistent level of operation. This technology enables RRRF to be operated more efficiently than its original design when first built.

1.1.3 In order to realise this increased efficiency in operations, the terms of the relevant permissions that RRRF currently operates under (as defined in **Chapter 1.2**) need to be amended.

1.1.4 Consequently, Cory is intending to submit to the Secretary of State for the Department of Business, Energy and Industrial Strategy ('BEIS') an application ('the Application') under section 36C of the Electricity Act 1989 to:

- amend the power generation description of RRRF in the 2015 s.36 Variation to change the energy generation limit from 'up to 72MW' to 'up to '80.5MW'; and
- request that the Secretary of State then gives a direction under section 90(2) of the Town and Country Planning Act 1990 ('TCPA 1990') varying the conditions attached to the 2017 Permission, to increase the maximum waste throughput from 785,000 tonnes per annum (tpa) to 850,000 tpa.

1.1.5 This is called the Riverside Optimisation Project, or 'ROP'. More information on RRRF's existing operations and ROP are provided in **Chapter 2 and Chapter 3** of this report.

1.1.6 ROP will not alter the physical built footprint or give rise to additional physical development of RRRF. Although ROP would result in an increase (of 65,000 tonnes) in the volume of waste throughput processed annually at the RRRF, and increase in MW output, operations would follow the same procedures and remain fundamentally unchanged.

1.1.7 Whilst ROP does not involve any physical development, the proposed increase to the generating capacity and the increase in volume of waste throughput provide a change to or extension of a generating station, and as such we consider that ROP falls within Schedule 2, Part 3(a) of the Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2017 (as amended) ('the EIA Regulations').

1.1.8 ROP is consequently considered to be EIA development, and therefore under the EIA Regulations, any formal application must be accompanied by an EIA report ('EIA Report') prepared in accordance with these regulations.

1.1.9 This Environmental Impact Assessment Scoping Report ('EIA Scoping Report') has been prepared by Stantec UK Ltd ('Stantec') a competent practitioner. This EIA Scoping Report has been prepared to provide information on ROP, including the likely significant environmental effects, as well as to request that the Secretary of State and key consultees provide feedback on the scope and level of detail of environmental information to be contained in the EIA Report.

1.2 Planning History

1.2.1 Consent for RRRF was granted by the Secretary of State for the Department of Trade and Industry on 15 June 2006, under section 36 of the Electricity Act 1989 ('the Original s.36

Consent').[1] The Original s.36 Consent granted consent for the construction and operation of an energy facility generating 72MW of electricity from 670,000 tonnes of waste per year.

1.2.2 The Original s.36 Consent was accompanied by a Direction under section 90(2) of the TCPA 1990 ('the Original Deemed Planning Permission' or 'ODPP'). Both the Original s.36 Consent and condition 4 of the ODPP imposed a restriction on waste inputs to the facility of 670,000 tpa reflecting design assumptions adopted at that time relating to the Net Calorific Value of the waste and the number of days per annum over which the facility was expected to operate. A worst-case scenario was, however, tested within the accompanying environmental statement to assess the likely impact of a throughput of 835,000 tpa of waste.

1.2.3 In November 2007 an application (07/11615/FUL) was made to the LBB under Section 73 of the TCPA 1990 to vary condition 40 of the ODPP to allow improvements to Norman Road to run in parallel with the construction of RRRF. This planning permission was granted by the LBB on 11 January 2008 with all other conditions remaining as per the ODPP.

1.2.4 On 13 March 2015, the Secretary of State for the Department of Energy and Climate Change approved the following two variations to the Original s.36 Consent:

- an increase in the annual waste throughput from 670,000 to 785,000 tonnes per annum; and
- the transfer of waste by river from the Port of Tilbury in addition to the riparian waste transfer stations in Greater London.

1.2.5 These changes were consented through:

- a variation under section 36C of the Electricity Act 1989 to the Original s.36 Consent ('the 2015 s.36 Variation'); and
- a direction under section 90(2) of the TCPA 1990 ('the 2015 Deemed Permission').

1.2.6 On 4 October 2017, LBB granted planning permission under section 73 of the TCPA 1990 ('the 2017 Permission')[2], which varied various conditions attached to the 2015 Deemed Permission.

1.2.7 The 2017 Permission added the following conditions to the 2015 Deemed Permission:

- not more than 195,000 tonnes by road, and not more than 85,000 tonnes of waste from outside Greater London by road - except in case of jetty outage (condition 26); and
- maximum of 90 two-way HGV movements to site per day – except in case of jetty outage or with agreement of LB Bexley (condition 28).

1.2.8 Currently, RRRF operates under the 2015 s.36 Variation and the 2017 Permission, by which RRRF can process 785,000 tonnes per annum of waste and can produce a maximum power output of 72MW.

1.3 Purpose of this Report

1.3.1 The process of EIA for variations to s.36 consents under the Electricity Act 1989 is governed by the Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2017 (as amended) ('the EIA Regulations'). The EIA process will consider the potential likely significant environmental effects resulting from ROP, as well as the cumulative

[1] Application reference: GDBC/003/00001C-06

[2] Application reference 16/02167/FUL.

effects from other approved developments in the local area. This approach is intended to provide comprehensive and robust environmental information on the likely significant effects of ROP.

1.3.2 The EIA will be documented in an EIA Report for ROP and developed in accordance with the EIA Regulations. The EIA Report will be submitted as part of the Application.

1.3.3 The purpose of this EIA Scoping Report is to document the scoping exercise that has been undertaken to identify the nature and extent of the likely significant environmental effects of ROP. Accordingly, this report details how the environmental issues are being examined and how it is proposed that they are progressed as part of the EIA for ROP or alternatively, and if applicable, as standalone reports where it can be determined that impacts are not likely to be significant. The aim is to ensure that ROP has due regard for the environment, minimises adverse environmental effects and takes advantage of opportunities for environmental enhancement. It is also to support a proportionate EIA that focuses on key environmental issues for decision makers.

1.3.4 This report provides information to key consultees regarding the ROP pursuant to the EIA Regulations and sets out the intended scope of the EIA and content of the EIA Report. In accordance with the EIA Regulations, this EIA Scoping Report comprises the following:

- A brief description of the nature and purpose of the development, including its specific characteristics, location and technical capacity (**Chapter 2** and **Chapter 3**);
- An explanation of the likely impact on the environment of the development (**Chapter 7**, **Chapter 8, Appendix B**); and
- A plan of the site of the development (**Appendix A**).

1.3.5 On the basis of this report and in accordance with Regulation 18 of the EIA Regulations, the Applicant therefore requests a Scoping Opinion from the Secretary of State for the Department for Business, Energy & Industrial Strategy ('BEIS').

1.4 Report Structure

1.4.1 This report continues with the following:

- Chapter 2: Site Description and Existing Operations;
- Chapter 3: Proposed Changes;
- Chapter 4: Policy Context;
- Chapter 5: EIA Process;
- Chapter 6: Proposed Scope of the EIA;
- Chapter 7: Topics Not Included in the EIA Scope;
- Chapter 8: Topics Included in the EIA Scope;
- Chapter 9: Summary and Next Steps; and
- Appendices.

2 Site Description and Existing Operations

2.1 Site Location

2.1.1 The site location covers approximately 6 hectares (ha) of land located at National Grid Reference (NGR) TQ 49683 80665, accessed off Norman Road, Belvedere, London DA17 6JY in LBB (the 'Application Site'). A site location plan is provided as Figure 1 in **Appendix A**.

2.1.2 The Application Site is slightly different from the site referred to in the Original s.36 Consent and 2015 s.36 Variation in that a square area of land on the western side of Norman Road is now omitted from the redline boundary. This land was proposed, approved, and utilised, as construction compound area for RRRF. RRRF is now constructed and operational and no construction is proposed as part of ROP. Consequently, this land is no longer required for this Application.

2.2 Application Site Description

2.2.1 The Application Site comprises RRRF; the existing ERF building, the stack, air cooled condensers, and other ancillary plant. Land uses immediately adjacent to the site include an existing substation, internal road network, gate house, flood embankment, existing jetty, ecological mitigation area and areas of existing hardstanding (currently used as contractor maintenance and container storage).

2.2.2 RRRF is located adjacent to the site of the consented Riverside Energy Park ('REP'). A Development Consent Order ('DCO') application to construct and operate REP was granted by the Secretary of State for BEIS on 9th April 2020.

2.2.3 The Application Site is bounded to the north by the River Thames and the adjacent Thames Path National Trail.

2.2.4 Further north, on the opposite bank of the River Thames is an area characterised by manufacturing, including the Ford Motor Company works, and associated car and lorry parking.

2.2.5 Immediately east of RRRF and Norman Road is a large strategic industrial area, accessed via a junction at the southern end of Norman Road. This includes two distribution centres and a document storage facility. East of these are further warehouses, distribution centres and similar commercial developments.

2.2.6 West of RRRF is the Crossness Local Nature Reserve ('LNR'), a 25.5 ha LNR, which is part of the Erith Marshes Site of Metropolitan Importance for Nature Conservation ('SMINC'), containing a number of ditches, watercourses and ponds. The site is owned and managed by Thames Water. Beyond this lies the Crossness Sewage Treatment Works ('STW'). This operational STW includes settlement and sludge tanks, as well as a sludge powered generator where sludge is thermally treated and used to generate electricity. The Grade I listed Crossness Pumping Station, built by Sir Joseph Bazalgette, is located at the western end of the STW.

2.2.7 South of RRRF, to the east of the Crossness LNR and to the west of Norman Road, is a site owned by the Applicant with planning permission for a data centre.[3] Power for the data centre is expected to be provided via a private wire connection along Norman Road from RRRF or REP.

[3] Application reference: 15/02926/OUTM

2.2.8 South of Norman Road is the A2016, formed by the dual carriageway Picardy Manor Way at its junction with Norman Road (North), and by the dual carriageway Eastern Way, south of Crossness LNR. South of Picardy Manor Way is a recent development consisting of a pub and a Travelodge hotel building, along with five residential blocks. South of this is a residential area centred on North Road and Norman Road (South). Further south is the main area of Belvedere comprising residential dwellings, Belvedere railway station and retail outlets.

2.2.9 RRRF is accessed by river via the existing jetty, and by pedestrians and vehicles from Norman Road, a single carriageway road linking to the dual carriageway A2016 Picardy Manor Way.

2.3 Existing Operations

2.3.1 RRRF comprises an important, strategic river-served residual waste management facility for London. It helps the capital to manage its own waste, keeping over 100,000 HGVs off congested roads each year and makes a significant contribution to London's ability to meet its landfill diversion targets.

2.3.2 RRRF became fully operational in 2011. It currently operates under the 2017 Permission (see **Chapter 1.2**) to recover energy from both municipal waste and commercial and industrial waste, with a current maximum throughput of 785,000 tpa. RRRF operates 24 hours a day and seven days per week throughout the year.

2.3.3 The processing of 785,000 tpa of waste results in the generation of approximately 480,000 Mega Watt hours (MWh) of electricity annually.

2.3.4 Over 85% of the waste currently being delivered to the plant arrives on barges along the River Thames from four safeguarded riparian waste transfer stations at Smugglers Way, Cringle Dock, Walbrook Wharf and Northumberland Wharf. Incinerator bottom ash ('IBA') produced during the combustion process is removed by barge to a facility in the Port of Tilbury for processing.

2.3.5 RRRF's operations are underpinned by long-term contracts with Western Riverside Waste Authority ('WRWA') and LBB, which account for in excess of 60% of waste inputs. Municipal waste is also received from Westminster City Council and the City of London. In the case of all of these contracts, recyclables are extracted from the waste stream prior to the transfer of the residual waste to RRRF, including (in the case of WRWA) the operation of a major new materials recovery facility at Smugglers Way, Wandsworth. The same process of extraction of recyclables will apply in respect of any future municipal waste contracts entered into.

3 Proposed Changes

3.1 Overview

3.1.1 The Application that Cory intends to submit to the Secretary of State under section 36C of the Electricity Act 1989 will be to:

- amend the power generation description of RRRF in the 2015 s.36 Variation to change the energy generation limit from 'up to 72MW' to 'up to '80.5MW'; and
- request that the Secretary of State then gives a direction under section 90(2) of the TCPA 1990 varying the conditions attached to the 2017 Permission to increase the maximum waste throughput from 785,000 tpa to 850,000 tpa.

3.1.2 Together, the 'Proposed Changes'.

3.1.3 Upgrades to RRRF's operational control system mean that the facility can now process additional waste and recover more energy than was possible when the facility's current tonnage and energy generation limits were previously put in place. This technical advancement makes RRRF more efficient. The Proposed Changes will ensure internal plant optimisation and can be undertaken without requiring any physical re-development on-site or major changes to existing processes. No construction or demolition activities are required.

3.1.4 The four riparian wharves all have the capability to handle larger quantities of waste than currently managed without variation to either the existing planning permissions or Environmental Permits. The river transport connecting the four riparian wharves to RRRF also has capacity to transport additional waste without increasing the number of river-borne movements. ROP proposes that the additional waste throughput will be delivered by one additional barge per week and requires no additional tug movements.

3.1.5 As a result of the increase in waste being treated, there will be a proportionate increase in the consumables/ process outputs that require transport into and out of RRRF:

- Air Pollution Control Residue (APCR) – This would be transported by road for recycling. It is anticipated that this will result in an extra 90 movements per year, approximately 2 movements per week;
- Incinerator Bottom Ash (IBA) – This would be transported by barge utilising existing tug movements to the Port of Tilbury. Therefore, no increase in existing tug movements would result from exporting additional IBA from the RRRF site;
- Powdered Activated Carbon (PAC) – This would be transported by road and equate to 1 additional load per year (20 tonne tanker);
- Lime – This would be transported by road and equate to 25 additional loads per year (20 tonne tanker); and
- Ammonia - This would be transported by road and equate to 3 additional loads per year (20 tonne tanker).

3.1.6 It is not proposed that any of the existing conditions attached to the 2017 Permission and restricting vehicle movements would be amended as part of ROP. This is because the transport of any additional inputs and outputs to and from RRRF can be accommodated within existing limits imposed on road transport movements.

3.1.7 Consequently, ROP requires no change either to how residual waste is brought to RRRF or post-combustion residues are exported from site.

4 Policy Context

4.1 Introduction

4.1.1 ROP will be progressed taking account of planning policies, strategy and guidance at the national, regional and local level, as indicated in this chapter. The relevant planning policies applicable to ROP set out in the documents identified below will be explained in the Application alongside commentary as to how ROP complies with those polices.

4.1.2 Under section 38(6) of the Planning and Compulsory Purchase Act 2004, applications for planning permission must be determined in accordance with the development plan, unless material considerations indicate otherwise. The relevant development plan documents for ROP are:

- Bexley Core Strategy, February 2012 (the 'Core Strategy');
- Saved Policies, as at 2012, of the Bexley Unitary Development Plan, adopted 2004 (the 'Bexley UDP'); and
- The London Plan, adopted March 2016 and as published January 2017 (the 'London Plan').

4.1.3 Each of these development plan documents are introduced in the relevant sections below.

4.2 National Planning Policy, Strategy and Guidance

Overarching National Policy Statement for Energy (EN-1)

4.2.1 The Overarching National Policy Statement for Energy[4] ('NPS EN-1') was published by the Department of Energy and Climate Change in July 2011.

4.2.2 NPS EN-1 sets out national policy for energy infrastructure submitted as a nationally significant infrastructure project ('NSIP') under the Planning Act 2008. It has effect, in combination with the NPS specific to the type of energy infrastructure to which the application relates, on the decisions made by the relevant Secretary of State.

4.2.3 ROP is not a NSIP and therefore a Development Consent Order ('DCO') is not being sought. However, NPS EN-1 is a material consideration relevant to the determination of the proposed development.

National Policy Statement for Renewable Energy Infrastructure (EN-3)

4.2.4 National Policy Statement for Renewable Energy Infrastructure[5] ('NPS EN-3') was published by the Department of Energy and Climate Change in July 2011.

4.2.5 NPS EN-3, together with NPS EN-1, provides the primary basis for decisions by the Secretary of State for BEIS on applications it receives for nationally significant renewable energy infrastructure.

[4] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf

[5] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47856/1940-nps-renewable-energy-en3.pdf

4.2.6 ROP is not a NSIP and is not seeking a DCO; however, NPS EN-3 is a material consideration relevant to its determination.

National Planning Policy for Waste

4.2.7 National Planning Policy for Waste[6] ('NPPW') was published by the Department for Communities and Local Government in October 2014.

4.2.8 The NPPW presents waste planning policies and should be read in conjunction with the National Planning Policy Framework. It seeks to work towards a more sustainable and efficient approach to resource use and management.

National Planning Policy Framework and Planning Policy Guidance

4.2.9 The current National Planning Policy Framework ('NPPF') was published by Ministry of Housing, Communities and Local Government in February 2019[7]. Elements of the NPPF have been amended through Ministerial Written Statement; none are of direct relevance to ROP.

4.2.10 The NPPF sets out the Government's planning policies for England and how these should be applied. At paragraph 2 it makes clear that:

'Planning law requires that applications for planning permission be determined in accordance with the development plan, unless material considerations indicate otherwise. The National Planning Policy Framework must be taken into account in preparing the development plan, and is a material consideration in planning decisions. Planning policies and decisions must also reflect relevant international obligations and statutory requirements.'

4.2.11 Planning Practice Guidance ('PPG') is an on-line resource addressing a wide range of topics that is updated by the Ministry of Housing, Communities and Local Government. It is available at https://www.gov.uk/government/collections/planning-practice-guidance.

Waste Management Plan for England

4.2.12 The Waste Management Plan for England[8] was published by the Department for Environment, Food and Rural Affairs ('Defra') in December 2013 ('WMPE 2013').

4.2.13 Together with local authorities' local waste management plans, the WMPE 2013 was prepared to fulfil the requirement in Article 28 of the revised Waste Framework Directive 2008/98/EC, which requires that Member States ensure that their competent authorities establish one or more waste management plans covering all of their territory.

4.2.14 Over the period August to October 2020, Defra consulted on a new Waste Management Plan for England[9] ('the draft WMPE 2020'). The consultation sought views on whether the draft WMPE 2020, when combined with waste planning policy, will fulfil the obligations of the Waste (England and Wales) Regulations 2011, as far as is applicable within England.

[6] https://www.gov.uk/government/publications/national-planning-policy-for-waste

[7] https://www.gov.uk/government/publications/national-planning-policy-framework--2

[8] https://www.gov.uk/government/publications/waste-management-plan-for-england

[9] https://consult.defra.gov.uk/waste-and-recycling/waste-management-plan-for-england/consult_view/

Our Waste, Our Resources: A Strategy for England

4.2.15 Our Waste, Our Resources, A Strategy for England[10] was published by Defra in December 2018 ('RWS' or 'the Resources and Waste Strategy').

4.2.16 The RWS is the most recent national policy document addressing waste and resource management for England. The two overarching objectives of the RWS (page 17) are:

- to maximise the value of resource use; and
- to minimise waste and its impact on the environment.

Energy from Waste, A Guide to the Debate

4.2.17 The revised edition of 'Energy from waste: a guide to the debate' was published by Defra in February 2014[11] ('EfW: Debate Guide').

4.2.18 EfW: Debate Guide is a material consideration in terms of setting an appropriate context for ROP.

4.3 Regional Planning Policy, Strategy and Guidance

The London Plan

4.3.1 The London Plan, the spatial development strategy for London, consolidated with alterations since 2011, was prepared by the Greater London Authority ('GLA') and originally adopted in March 2016. A revised version was later published in January 2017 and it is this 2017[12] document that will be referred to.

4.3.2 As set out in paragraph 4.1.2 this policy is part of one of the relevant development plan documents applicable to ROP.

4.3.3 Strategic planning in London is the shared responsibility of the GLA, the London boroughs and the Corporation of the City of London. The London Plan presents the spatial development strategy relevant to development proposals located within Greater London.

The London Plan, Intend to Publish

4.3.4 The London Plan, Intend to Publish, Spatial Development Strategy for Greater London was published by the GLA in December 2019[13] ('the Draft London Plan').

4.3.5 The Secretary of State for Housing, Communities and Local Government has responded to the Draft London Plan in his letter 'Response from the Secretary of State to the Intend to Publish London Plan' and associated Directions dated the 13 March 2020 ('the 'SoS Directions'). Some policies that are relevant to ROP will be subject to the SoS Directions. These will be explicitly recognised within any submitted documents.

4.3.6 The Draft London Plan will replace the London Plan as the spatial development strategy for development proposals located in Greater London. It is now a mature document in terms of

[10] https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england

[11] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/284612/pb14130-energy-waste-201402.pdf

[12] https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan

[13] https://www.london.gov.uk/what-we-do/planning/london-plan/new-london-plan

its preparation and may be adopted during consideration of ROP. Upon adoption, it will replace the current London Plan as part of the development plan relevant to this proposal.

London Environment Strategy

4.3.7 The London Environment Strategy[14] was published by the GLA in May 2018 ('LES').

4.3.8 The LES presents a strategy of actions intended to lead to the improvement of London's environment, addressing topics of green infrastructure; climate change mitigation and adaptation; energy; air quality; noise; waste and the transition to a low carbon economy.

4.4 Local Planning Policy, Strategy and Guidance

Bexley Core Strategy

4.4.1 The Bexley Core Strategy was adopted by LBB in February 2012[15]. As set out at paragraph 4.1.2; this policy is part of one of the relevant development plan documents applicable to ROP.

4.4.2 It presents the policy framework for development within the Borough over a 15 year period to 2027.

Saved Policies, as of 2012, of the Bexley Unitary Development Plan

4.4.3 The Bexley Unitary Development Plan ('the Bexley UDP') was adopted in April 2004 under the terms of the TCPA 1990. To manage the transitional phase whilst the borough prepares a full suite of local development plan documents, relevant policies of the Bexley UDP have been saved. As set out at paragraph 4.1.2; this policy is part of one of the relevant development plan documents applicable to ROP. The most recent schedule of saved policies is from 2012 and can be found on-line at http://udp.bexley.gov.uk/bexleyudp.asp?mode=preview.

Preferred approaches to planning policies and land-use designations

4.4.4 LBB is currently reviewing its full suite of policy, releasing the 'Preferred approaches to planning policies and land-use designations - Regulation 18 stage consultation paper' in February 2019[16] ('the Draft Bexley Plan').

4.4.5 The Draft Bexley Plan presents the preferred approach of LBB for new planning policies and land-use designations and is intended as a consultation document under Regulation 18 of the Town and Country Planning (Local Development) (England) (Amendment) Regulations 2012 (as amended). This means the Draft Bexley Plan is at an early stage of preparation.

London Borough of Bexley Energy Masterplan

4.4.6 The LBB Energy Masterplan[17] was published in October 2015 ('the BEMP').

4.4.7 The BEMP sets out a framework for future energy supply options, to work towards achieving the sustainability targets set out in the Bexley Core Strategy.

[14] https://www.london.gov.uk/what-we-do/environment/london-environment-strategy

[15] https://www.bexley.gov.uk/sites/default/files/2020-05/Bexley-Core-Strategy.pdf

[16] https://www.bexley.gov.uk/sites/default/files/2020-07/BLP-Reg-18-Consultation-Paper-for-Publication-February-2019.pdf

[17] https://www.london.gov.uk/sites/default/files/bem-14-002-bexley_energy_masterplan_r4.pdf

5 EIA Process

5.1 Introduction

5.1.1 The purpose of the EIA Regulations is to ensure that the competent authority, in relation to proposals that are likely to have significant effects on the environment, has appropriate information to enable it to come to a decision on whether or not to grant consent. In the case of the EIA Regulations, the competent body for ROP is the Secretary of State for BEIS.

5.1.2 The environmental information gathered to undertake this assessment, and the outcomes of that assessment will be reported in a document referred to as an EIA Report. The EIA Report will then accompany the Application as part of the suite of supporting documents.

5.1.3 Under the Electricity Generating Stations (Variations of Consents) (England and Wales) Regulations 2013 Part 7, the 'proposed development' is identified as the whole development as varied and therefore a full EIA would be undertaken on the whole development as varied.

5.1.4 This would involve an assessment of the effects of the proposed development on the baseline conditions, these being the current operation of RRRF in the absence of the Proposed Changes. The EIA Report would therefore look at the significant environmental effects of the development as varied (the whole development as varied) compared to the site as it is now (the baseline).

5.1.5 There is no standard format for an EIA Report. The EIA Regulations require than an EIA Report contains the information as outlined in Regulation 17 (a-g), and any other information set out in Schedule 4 relevant to the specific to the characteristics of the development and the environmental features to be affected.

5.2 EIA Regulations

5.2.1 The process of EIA is governed by the EIA Regulations. The EIA Regulations implement EC Directive 85/337/EEC, as amended, into domestic legislation. The initial Directive and its amendments have been codified by Directive 2014/52/EU. This Directive was enacted in the UK on 16 May 2017 to form the 2017 EIA Regulations.

5.2.2 The EIA Regulations set out the requirements for undertaking an EIA, and Regulation 17 and Schedule 4 detail the required information for inclusion in an EIA Report.

5.3 Screening

5.3.1 Under the EIA Regulations, 'Screening' is a procedure used to determine whether a proposed project falls within the remit of the EIA Regulations.

5.3.2 No formal screening exercise has been undertaken. Cory intends to voluntarily undertake an EIA for ROP, which would be documented in an EIA Report in compliance with the requirements of the EIA Regulations.

5.4 Scoping

5.4.1 The purpose of Scoping is to document the scoping exercise that has been undertaken to identify the nature and extent of the likely significant environmental effects of a development. It also allows for the issues identified to be subject to the appropriate level of assessment, thereby providing a focus for the EIA (and EIA Report) which would accompany the Application. Scoping also gives key consultees an opportunity to express their views on a development and to comment on the scope of the EIA. It should also be noted that

consultation with relevant stakeholders will be undertaken throughout the EIA process as relevant.

5.4.2 Understanding the likely significant effects that the Proposed Changes may have on the environment is an integral part of the ongoing design process as well as a requirement for the competent determination of a planning application. To ensure an EIA remains proportionate, it must be carefully scoped to only address those environmental topics where effects or impacts are likely to be 'significant'. While other environmental issues may be considered relevant, they are not in themselves likely to be key factors in decision making.

5.4.3 This is the current stage of the EIA for ROP and this EIA Scoping Report has been prepared with the above purpose and details the environmental issues considered likely to occur from the Proposed Changes.

5.5 Assessment

5.5.1 In general terms, the main stages in the EIA are as follows:

- Data Review – draw together and review available data;
- Scoping – identify significant issues, determine scope of EIA;
- Baseline Surveys – undertake any required baseline surveys and monitoring;
- Assessment and iteration – assess likely significant effects of development, evaluate alternatives, provide feedback to design team on adverse effects, incorporate any necessary mitigation, assess effects of mitigated development; and
- Preparation of the EIA Report.

5.5.2 The proposed scope of the EIA and approach to the assessment of likely significant effects is set out in **Chapter 6** and **Chapter 7**.

5.5.3 The EIA will include an assessment of cumulative effects, as outlined in **Chapter 6.4**.

5.6 Mitigation

5.6.1 One of the most important functions of the EIA process is to identify ways to mitigate adverse environmental effects and identify opportunities that ROP may have for environmental improvements. The EIA Regulations (paragraph 7, Schedule 4) require an EIA Report to contain: *"a description of the measures envisaged to avoid, prevent or reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example, the preparation of post-development analysis)"*.

5.6.2 A hierarchy of methods for mitigating significant adverse effects will be followed; these are, in order of preference:

- Avoidance – designing a development in such a way that avoids effects on the environment (e.g. imposing a maximum height restriction on new development);
- Reduction – designing the development or employing construction methodologies such that significant effects identified are reduced (e.g. employment of sustainable drainage to mitigate effects of development in flood prone areas);

- Compensation – providing off-site enhancement in order to compensate for where onsite mitigation has not been possible (e.g. financial contributions towards local infrastructure); and

- Enhancement - opportunities that the development may provide to enhance the local and wider environment (e.g. visual enhancement from a brownfield site).

5.6.3 The EIA Report will identify any required mitigation measures for ROP. Environmental effects remaining after mitigation measures have been incorporated are termed residual effects and these will be described in the EIA Report.

Embedded Mitigation

5.6.4 There is a distinction between mitigation that is incorporated or 'embedded' into the design of the development (embedded mitigation) and mitigation that is subsequently identified in order to avoid, prevent, reduce or offset any remaining significant adverse effects (secondary mitigation). Embedded mitigation may include, for example, reducing the maximum height of buildings to mitigate visual effects.

5.6.5 Embedded mitigation evolves through the iterative design process and early consideration of the likely significant impacts is essential to incorporating suitable embedded mitigation measures. Design principles of the development have been established and the EIA Report will document the embedded mitigation measures that have been employed within the design in response to the identification of potentially significant effects. The EIA Report, within each of the topic chapters as appropriate, will also document the subsequent/secondary mitigation that is required to complement the embedded mitigation.

5.7 Monitoring

5.7.1 The Regulation 33 (2) of the EIA Regulations note that if the decision is to grant the application, the decision notice must include *"a description of any features or measures to be implemented by the developer that it is envisaged will avoid, prevent or reduce and, if possible, offset significant adverse effects on the environment"*.

5.7.2 It is important to note that the EIA Regulations only require the monitoring of significant adverse effects. The EIA Report will therefore ensure that it is clear to the reader which, if any, effects are both adverse and significant and may therefore require monitoring.

5.7.3 It is important to note that Regulation 33(3) of the EIA Regulations states that where the relevant authority thinks it is appropriate to include any monitoring measures:

"(a) the type of parameters to be monitored and the duration of the monitoring must be proportionate to the nature, location and size of the development and the significance of its effects on the environment; and

(b) existing monitoring measures under other legislation may be used, if appropriate, with a view to avoiding duplication of monitoring."

5.7.4 Schedule 4 of the EIA Regulations identifies that an EIA Report should identify *"any proposed monitoring arrangements".* The EIA Report will therefore provide a schedule of proposed monitoring to clearly identify the monitoring that is proposed in relation to any significant adverse effects that have been identified. Any such monitoring will be proportionate, as noted above.

5.8 EIA Report

5.8.1 The EIA process will be documented in an EIA Report that will: set out the policy context; give full detail of the EIA methodology and any technical methodologies and data used in support of the assessment; present the assessment of likely significant environmental effects; detail any mitigation and enhancement measures that have been employed; and provide a schedule of proposed monitoring arrangements. The EIA Report will present the residual effects, and an assessment of the cumulative effects and impact interactions as described in **Chapter 6** below.

5.8.2 Under paragraph 9 of Schedule 4 of the EIA Regulations a non-technical summary of the EIA Report will also be provided.

5.9 Consideration of Alternatives

5.9.1 Paragraph 2 of Schedule 4 of the EIA Regulations require an EIA Report to include *"a description of the reasonable alternatives studied by the developer that are relevant to the development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment."*

5.9.2 This legal requirement is expressed in very general and high-level terms, requiring only the inclusion of a *"description*" of *"reasonable"* alternatives and an *"indication"* of "*main*" reasons.

5.9.3 Although a full description of alternatives and a full assessment of their likely environmental effects are not required, sufficient detail should be provided to allow for a meaningful comparison between the alternatives and ROP.

5.9.4 It is a matter for the developer to decide which alternatives it intends to consider. The EIA Regulations do not expressly require that an applicant considers alternatives, although it is widely encouraged at the policy level, both European and domestic, and is a feature of EIA best practice.

5.9.5 The EIA Report will consider the reasonable alternatives considered by the developer (where relevant) and explain the main reasons for the choices made.

5.10 EIA Team

5.10.1 Regulation 17 of the EIA Regulations requires that, to ensure the completeness and quality of EIA Reports, *"the developer must ensure that the EIA Report is prepared by competent experts"*.

5.10.2 In accordance Regulation 17 of the EIA Regulations the EIA Report will be *"accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts."* At this scoping stage, **Table 5.1** below identifies the organisations that will contribute to the EIA and an outline of their relevant experience. Further details outlining the expertise of topic authors will be provided as part of the EIA Report.

Table 5.1: EIA Team and Relevant Expertise

EIA Topic	Organisation	Relevant Expertise
EIA Co-ordination	Stantec	Stantec is a founder member of the Institute of Environmental Management and Assessment's (IEMA) EIA Quality Mark scheme for quality in EIA. Stantec has a dedicated EIA team that specialises in leading the EIA process for development projects,

		including land development, regeneration, energy and infrastructure projects. Stantec typically leads 10-20 EIA projects each year. Each of Stantec's EIA team have suitable academic and professional qualifications, with professional qualifications including Principal EIA Practitioner, Practitioner and Associate membership of IEMA, member of Royal Town Planning Institute and Chartered Environmentalist
Air Quality	Stantec	Stantec has a dedicated air quality team that specialises in undertaking air quality assessments for development projects, including land development, regeneration, energy and infrastructure projects. Stantec typically undertakes in excess of a hundred air quality assessments each year. All of Stantec's air quality team have suitable academic and professional qualification, including being registered with the Institution of Environmental Sciences (IES) and Institute of Air Quality Management (IAQM).
Biodiversity	Stantec	Stantec's award-winning ecology team includes specialists in Ecological Impact Assessment, including those acknowledged in providing significant contributions to the development of the Guidelines for Ecological Impact Assessment in the UK and Ireland. (CIEEM, 2018). All Stantec's Ecology Team are members or applicants to the Chartered Institute of Ecology and Environmental Management and follow their professional Code of Conduct and good practice guidelines. The Biodiversity Chapter will be prepared by a full member of the Chartered Institute of Ecology and Environmental Management.
Climate Change	Fichtner	Fichtner Engineering Consultancy is a globally recognised technical adviser throughout the energy and waste sectors. Fichtner specialise in the due diligence, development, delivery and operation of conventional, sustainable, renewable and emerging energy infrastructure. Fichtner have a proven capability in identifying and managing the risks associated with all forms of power generation projects. Fichtners team of Professional Engineers and Consultants has a depth of experience; from technical and commercial to environmental and contractual.

6 Proposed Scope of the EIA

6.1 Technical Scope

6.1.1 The technical scope describes the environmental topics that should be addressed by an EIA, in accordance with the requirements of Regulation 7(2) of the EIA Regulations. Schedule 4 sets outs that the EIA Report must include a description of the aspects of the environment which are likely to be significantly affected by the development.

6.1.2 This requirement and the broad categories set out in Regulation 7(2), along with others which are considered to have the potential to lead to significant environmental effects, have been interpreted and applied in the context of ROP. **Table 6.1** sets out those topics that it is proposed will be scoped into, or scoped out, of the EIA.

6.1.3 Chapter references are provided to where these categories have been included within the scope of the EIA. **Chapter 8** of this report provides a detailed analysis of the resultant proposed technical scope of the EIA, while **Chapter 7** identifies those topics which it is proposed are scoped out of the EIA as it has been shown that significant environmental effects are unlikely to occur.

Table 6.1: Technical Scope

EIA Regulations Topic	Scoped in (✓) Scoped out (X)	Explanation within this Scoping Report
Population	X	Chapter 7 & Appendix B: ▪ Socio-economics ▪ Transport and Access
Human Health	✓	Chapter 8.3: Air Quality
	X	Chapter 7 & Appendix B: ▪ Aviation ▪ Ground Conditions ▪ Human Health ▪ Hydrology, flood risk and water resources ▪ Noise & Vibration ▪ Risks of Accidents and Disasters ▪ Socio-economics ▪ Transport & Access
Biodiversity (for example Flora and Fauna)	✓	Chapter 8.3: Biodiversity
	X	Chapter 7 & Appendix B: ▪ Lighting ▪ Marine geomorphology and biodiversity
Land (for example land take)	X	Chapter 7 & Appendix B:

EIA Regulations Topic	Scoped in (✓) Scoped out (X)	Explanation within this Scoping Report
		▪ Ground Conditions
Soil (for example organic matter, erosion, compaction, sealing)	X	Chapter 7 & Appendix B: ▪ Ground Conditions
Water (for example hydro morphological changes, quantity and quality)	X	Chapter 7 & Appendix B: ▪ Hydrology, flood risk and water resources ▪ Marine geomorphology and biodiversity
Air	✓	Chapter 8.2: Air Quality
Climate Change (for example greenhouse gas emissions, impacts relevant to adaptation)	✓	Chapter 8.4: Climate Change
Material assets	X	Chapter 7 & Appendix B: ▪ Ground conditions ▪ Historic environment ▪ Waste
Cultural heritage (including architectural and archaeological aspects)	X	Chapter 7 & Appendix B: ▪ Historic environment
Landscape	X	Chapter 7 & Appendix B: ▪ Townscape and Visual Impact Assessment
The Risk of Major Accidents and/or Disasters	X	Chapter 7 & Appendix B: ▪ Risks of Accidents and Disasters
The inter-relationship between the above factors	✓	Chapter 6.4 Cumulative Effects and Impact Interactions

6.1.4 The following sections sets out the principles for the temporal and spatial scope, and the approach to the assessment of effects, that will be applied to the EIA of the topics identified in **Table 6.1** above and in **Chapter 8**.

6.2 Temporal Scope

Environmental Baseline

6.2.1 As a general principle, environmental effects will be assessed by comparing the predicted state of the environment without ROP, with the state of the environment with ROP for a particular year.

6.2.2 Paragraph 3 of Schedule 4 of the EIA Regulations require *"an outline of the likely evolution of the environment without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge*". This baseline evolution may therefore include future trends such as air quality. A future baseline year of 2022 is anticipated for the purposes of the assessment. The future baseline year used for assessments will be confirmed in the EIA Report.

6.2.3 The EIA will take into account approved developments that are likely to come forward prior to the operation of ROP and, where appropriate, these will be factored into the definition of the baseline or identified as receptors at a relevant point in time. Further details on the approach to approved developments are provided in **Chapter 6.4**.

Phases of the Project

6.2.4 Given the nature of ROP, no construction or demolition activities are required and therefore both of these phases have been scoped out of the EIA. There are no proposed changes to the decommissioning regime for RRRF and therefore the assessment of effects associated with decommissioning have also been scoped out of the EIA.

6.2.5 The EIA will therefore only consider the potential for significant effects during the operation of ROP. Environmental effects that occur during the operation of ROP will typically be permanent or "long-term".

6.3 Spatial Scope

6.3.1 The spatial extent of each of the technical assessments will vary from one to another in accordance with the relevant policy and guidance for the assessment of that topic and the extent over which potential likely significant effects could occur. In some instances, the environmental effects will extend no further than the boundary of the Application Site and in other cases the assessment will extend to a buffer beyond the proposed Application Site boundary. The study area for each technical assessment will be identified and described as appropriate in each of the topic chapters of the EIA Report.

6.4 Assessment of Effects

Type of Effects

6.4.1 In assessing the significance of effects identified during the EIA, account will be taken as appropriate as to whether effects are:

- Direct Effects – effects that are caused by activities that are an integral part of ROP;
- Indirect Effects – effects arising indirectly from the operation of ROP;
- Secondary Effects – are 'knock-on'/one-removed effects arising in consequence of indirect effects;

- Cumulative Effects – many effects that singly are not significant may be significant when assessed together with other effects. There may also be cumulative effects of ROP and other approved local developments;
- Short-Term and Medium-Term – environmental effects that would generally occur for 1-10 years will typically be Short or Medium Term;
- Long-Term – environmental effects that occur during the operation of a project or for a period of more than 10 years will typically be Long Term;
- Temporary Effects – environmental effects that occur for a set period of time that does not cover the entire project lifecycle will typically be temporary;
- Permanent Effects – environmental effects that occur during the operation of a project will typically be permanent;
- Positive Effects – effects that have a positive influence on the environment; and
- Negative Effects – effects that have a negative influence on the environment.

6.4.2 For clarity within the assessment, 'impact' will be used in relation to the outcome of the project (e.g. the removal of habitat or the generation of emissions to air), while the 'effect' will be the consequent implication in environmental terms (continuing the above example, e.g. the loss of a potential bird breeding site or the reduction in local air quality).

Residual Effects

6.4.3 The incorporation of embedded mitigation measures, primarily as part of the project, will be reported where appropriate; and likely significant residual effects that remain will be described and assessed according to the significance criteria set out in **Table 6.2** below.

6.4.4 As noted above, the EIA Regulations require that the EIA describes the likely significant effects of the proposed development. However, there is no applicable definition of significance and interpretations differ. In accordance with the European Commission's Guidance on Scoping (2017), the EIA will study those effects that will influence decision-making or those where there is uncertainty about their magnitude. This approach is consistent with best practice for EIA in the UK.

6.4.5 The significance of an effect is typically the product of two factors: the sensitivity of the environmental resource affected; and the magnitude of the impact. Consideration may also need to be given to the likelihood of an effect occurring.

6.4.6 This approach to assessing and assigning significance to an environmental effect will rely upon such factors as legislative requirements, guidelines, standards and codes of practice, consideration of the EIA Regulations, the advice and views of statutory consultees and other interested parties and expert judgement. The following questions are relevant in evaluating the significance of likely environmental effects:

- Which risk groups are affected and in what way?
- Is the effect reversible or irreversible?
- Does the effect occur over the short, medium or long term?
- Is the effect permanent or temporary?
- Does the effect increase or decrease with time?

- Is the effect of local, regional, national or international importance?
- Is it a positive, neutral or adverse effect?
- Are health standards or environmental objectives threatened?
- Are mitigating measures available and is it reasonable to require these?

6.4.7 Specific significance criteria will be prepared for each specialist topic as appropriate, based on the above and the generic criteria set out in **Table 6.2** below.

Table 6.2 Significance criteria

	Significance Level	Criteria
Significant	Substantial	These effects are assigned this level of significance as they represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites and features of national or regional importance. A change at a district scale site or feature may also enter this category.
	Major	These effects are likely to be important considerations at a local or district scale and may become key factors in the decision-making process.
	Moderate	These effects, while important at a local scale, are not likely to be key decision-making issues. Nevertheless, the cumulative effect of such issues may lead to an increase in the overall effects on a particular area or on a particular resource.
Not Significant	Minor	These effects may be raised as local issues but are unlikely to be of importance in the decision-making process. Nevertheless, they are of relevance in enhancing the subsequent design of the project and consideration of mitigation or compensation measures.
	Negligible	Either no effect or effect which is beneath the level of perception, within normal bounds of variation or within the margin of forecasting error. Such effects should not be considered by the decision-maker.

6.4.8 Effects that are described as ‘substantial’, ‘‘major’ or ‘moderate’ are determined to be *significant*; and effects that are described as ‘minor’ or ‘negligible’ are determined to be *not significant* in the context of the EIA Regulations.

Cumulative Effects and Impact Interactions

6.4.9 The EIA Regulations require the consideration of the potential impact of inter-relationships and cumulative effects of “*existing and approved development*”.

6.4.10 The EIA will consider as appropriate:

- The likely significant cumulative effects of ROP and other major local approved developments which do not form part of the baseline; and
- The potential for impact interactions leading to an aggregated environmental effect on a receptor being greater than each of the individual effects that have been identified.

6.4.11 The assessment of likely significant cumulative effects of ROP and other local committed developments (such as REP) will be included within each of the topic chapters of the EIA Report where it has been identified that there is potential for likely significant effects to occur.

6.5 Limitations, Uncertainty and Difficulties Undertaking the Assessment

6.5.1 The prediction of future effects inevitably involves a degree of uncertainty. Where necessary, the topic chapters describe the principal factors giving rise to uncertainty in the prediction of likely environmental effects and the degree of the uncertainty.

6.5.2 Confidence in the predictions has been achieved by employing accepted assessment methodologies that, where relevant, are explained. Uncertainty inherent within the prediction will be described.

6.5.3 Uncertainty also applies to the success or otherwise of measures to mitigate adverse environmental effects. Where the success of a mitigation measure is uncertain, the extent of the uncertainty will be identified in the EIA Report.

6.5.4 The EIA Report will identify, in accordance with Schedule 4 of the EIA Regulations, any difficulties that have been encountered in undertaking the assessment.

7 Topics Not Included in the EIA Scope

7.1 Introduction

7.1.1 The EIA Report should be focused and proportionate, documenting only the assessment of likely significant environmental effects, both adverse and beneficial. Therefore, those effects which are not likely to be significant should not be included in the EIA Report, i.e. they should be scoped out of the EIA, as clearly set out in the PPG.[18] The following section sets out those topics that have been determined not to have the potential for likely significant effects to arise on the environment and therefore are not proposed to be included in the EIA, with a further description provided in Appendix B. The methodology and rationale for scoping these topics out of the EIA is also provided.

7.2 Methodology

7.2.1 To maintain a consistent approach to the assessment of environmental effects, the review methodology follows that carried out and accepted by the Secretary of State in relation to the 2015 s.36 Variation in 2014, written up in the ER 2014[19] (Auth. Terence O'Rourke), and the section 73 application submitted in 2016 (which gave rise to the 2017 Permission).

7.2.2 When identifying the potential for likely significant effects to occur, the following assumptions have been made:

- throughput of RRRF would increase by approximately 8% from 785,000 tpa to 850,000 tpa;
- the physical massing and footprint of RRRF would remain unchanged;
- there would be no amendments to any emission abatement technology at RRRF;
- existing planning conditions relating to vehicle movements (Condition 27 and Condition 28) would be retained; and,
- no additional tug movements will be required.

Stage 1

7.2.3 The Stage 1 assessment adopts a checklist of environmental features to identify:

- Those environmental features, or components of them, that clearly have the potential to be subjected to effects arising from the Proposed Changes and that these clearly have the potential to be significant or main effects (and therefore should be included in an EIA);
- Those environmental features, or components of them, that may be subjected to effects arising from the Proposed Changes but it is not clear whether these effects have the potential to be significant or main effects (and therefore further consideration is required to determine whether these should be included in an EIA); and
- Those environmental features, or components of them, that are either of no relevance to the Proposed Changes or will clearly not be significant or main effects (and therefore should not be included in an EIA).

[18] Paragraph: 035 Reference ID: 4-035-20140306.

[19] Environmental Statement prepared in 2015 by Terence O'Rourke in relation to the proposed increase in the limit on waste inputs from 670,000 tpa to 785,000 tpa.

7.2.4 When identifying if there is potential for likely significant effects to occur, consideration has been given to the assessment criteria set out in **Chapter 6.4**. The Stage 1 assessment is presented in **Appendix B**.

Stage 2

7.2.5 Stage 2 of the process involves undertaking a more detailed assessment of effects where the Stage 1 assessment has identified the potential for significant effects to occur and therefore confirms which effects should be considered within any EIA.

7.2.6 Topics that have been identified as having the potential for likely significant effects to occur that have been carried through to Stage 2 are outlined in **Chapter 8.**

7.2.7 The two principal criteria for determining significance of an environmental effect are the magnitude of the impact and the sensitivity of the receptor. In addition, the likelihood of the effect occurring is also considered, as appropriate. The approach to assigning significance is set out in paragraph 6.4.6 above.

7.3 Topics to be Scoped out of the EIA

7.3.1 The results of the review are set out in **Appendix B.** They demonstrate that there is no potential for significant effects in respect of the following topics:

- Risk of Major Accidents and Disasters;
- Aviation;
- Daylight and sunlight;
- Ground conditions;
- Historic environment;
- Human Health (This is scoped out as a standalone topic, however, consideration will be given to Human Health as part of the Air Quality Assessment in relation to the effects of air quality on human health receptors (see **Chapter 8.2** for further details));
- Hydrology, flood risk and water resources;
- Lighting;
- Marine geomorphology and biodiversity;
- Noise and Vibration;
- Socio-economics;
- Townscape and Visual Impact Assessment;
- Transport;
- Waste; and
- Environmental wind.

7.3.2 No further assessment is therefore warranted in respect of these features.

7.3.3 In addition to the above, and as outlined in **Chapter 6.2**, given the nature of ROP, no construction, decommissioning or demolition activities are required and therefore effects relating to this phase have been scoped out of the EIA.

7.3.4 For those topics where the Stage 1 review has identified the potential for likely significant effects, or whether further assessment is required to determine this, **Chapter 8** presents the proposed scope of the assessment to be undertaken for each topic.

8 Topics Included in the EIA Scope

8.1 Introduction

8.1.1 The following sections set out the likely significant environmental effects that are anticipated to occur during operation of ROP and the methodologies proposed to undertake the assessments of these topics. These sections identify those topics that should be scoped into the EIA as they have the potential to give rise to likely significant environmental effects, as identified through the Stage 1 assessment described at **Chapter 7.2** above.

8.2 Air Quality

Introduction

8.2.1 The purpose of this section of the Scoping Report is to define the potential for likely significant air quality related effects resulting from ROP. These effects will then be considered in detail within the EIA and reported in the EIA Report.

8.2.2 Equally, to ensure the EIA Report is proportionate and focused, this section of the Scoping Report identifies which air quality related aspects are considered not to represent a potential risk of likely significant effects; and therefore do not require further consideration and can be scoped out.

8.2.3 In order to inform this EIA Scoping Report, consideration of the effect of ROP on emissions to air and their result impacts has been undertaken alongside a high-level review of the baseline (existing and future) air quality environment and the findings of previous detailed air quality assessments for RRRF.

Baseline Conditions

8.2.4 Within the study area (up to 15km from the Application Site boundary), existing baseline concentrations of pollutants will be subject to a high degree of spatial variability, particularly those associated with road traffic emissions or emissions from other local point sources.

8.2.5 For many of these pollutants and sources (such as nitrogen oxides ('NOx') from road transport) there are a wide range of regulatory and policy requirements - international, national and local - to reduce pollutant emissions and impacts which aim to ensure that future baseline concentrations will be generally lower than current levels.

8.2.6 RRRF is located adjacent to REP which received development consent in April 2020 (as described in **Chapter 2** of this Scoping Report). Therefore, the emissions resulting from ROP will need to be considered alongside REP as this will form part of the future baseline.

Current Measured Ambient Air Quality

8.2.7 Each of LBB, the London Borough of Barking and Dagenham ('LBBD') and the Royal Borough of Greenwich ('RBG') were designated as Air Quality Management Areas ('AQMAs') with respect to nitrogen dioxide ('NO_2') and Particulate Matter ('PM_{10}') in 2007, 2008, and 2001 respectively. Where an AQMA is designated, Local Authorities need to prepare Action Plans and work towards meeting the National Air Quality Strategy Objectives.

8.2.8 NO_2 is considered the principal pollutant of concern in relation to combustion related processes due to its emission rate and elevated background concentrations in urban areas. A summary of the annual average measured concentrations of NO_2 measured at the nearby automatic monitoring sites is presented in **Table 8.1** below:

Table 8.1: Local Authority Automatic Monitoring Stations – Annual Average NO2 Concentrations (2015 - 2019)

Monitoring Site	Site Type	Annual Mean µg/m^3				
		2015	2016	2017	2018	2019
Slade Green (BX1)	Suburban background	26	25	25	23	22
Belvedere Primary School (BX2)	Urban background	24	29	28	28	23
Bexley Business (BQ7)	Urban background	22	24	21	21	21
Scrattons Farm (BG2)	Suburban	29	32	29	26	-
Rainham (HV1)	Roadside	32	34	34	30	29
Objective		**40**				

8.2.9 The monitoring data indicates that for these monitoring locations the NO_2 concentrations are compliant with the limit values and meet the national air quality objectives, shown in the final row of **Table 8.1**.

8.2.10 In addition to these locations, the local authorities operate an extensive network of roadside diffusion tubes measuring NO_2 concentrations. This data will be reviewed and used in the assessment where there is the potential for impacts to occur at the monitoring locations.

8.2.11 Particulate Matter (PM_{10} and $PM_{2.5}$) monitoring is also undertaken within the study area. Particulate Matter at elevated concentrations can be harmful to human health. A summary of the annual average measured concentrations of PM_{10} and $PM_{2.5}$ measured at the nearby automatic monitoring sites are presented in **Table 8.2** and **Table 8.3** below:

Table 8.2: Local Authority Automatic Monitoring Stations – Annual Average PM10 Concentrations (2015 - 2019)

Monitoring Site	Site Type	Annual Mean µg/m^3				
		2015	2016	2017	2018	2019
Slade Green (BX1)	Suburban background	14	18	17	18	17
Belvedere Primary School (BX2)	Urban background	14	14	17	19	19
Bexley Business (BQ7)	Urban background	18	15	15	15	14
Scrattons Farm (BG2)	Suburban	21	20	20	18	-

Monitoring Site	Site Type	Annual Mean µg/m^3				
		2015	2016	2017	2018	2019
Rainham (HV1)	Automatic Roadside	18	19	18	17	17
Objective		**40**				

Table 8.3: Local Authority Automatic Monitoring Stations – Annual Average PM2.5 Concentrations (2015 - 2019)

Monitoring Site	Site Type	Annual Mean µg/m^3				
		2015	2016	2017	2018	2019
Slade Green (BX1)	Suburban background	15	11	11	12	12
Rainham (HV1)	Roadside	11	12	12	11	11
Limit Value (EU Stage 2 indicative)		**20**				

Modelled Background Concentrations

8.2.12 Maps of annual mean background concentrations of NO_x, NO_2, PM_{10} and $PM_{2.5}$ are produced and are updated periodically by Defra[20] for the purposes of the Local Air Quality Management ('LAQM'). They provide the estimates for present and future concentrations and are presented as 1 km x 1 km grid square averages. The most recent version of the background maps was released in 2018 (based on 2017 UK wide modelling) and data for the Application Site is presented in **Table 8.4** below.

Table 8.4: DEFRA background map predicted annual average concentrations at the ROP site (Grid Reference 550000, 180000)

Pollutant	Annual Average Concentration (µg/m^3)		
	2018	2020	2022
NO_x	31.4	28.4	26.6
NO_2	21.1	19.5	18.5
PM_{10}	16.1	15.3	15.0
$PM_{2.5}$	11.0	10.5	10.2

[20] Department of the Environment, Food and Rural Affairs (DEFRA) (2020). 2018 Based Background Maps for NOx, NO_2, PM_{10} and $PM_{2.5}$

Potential Likely Significant Effects

Aspects scoped into further assessment

Stack emissions (operation)

8.2.13 ROP (as outlined in **Chapter 3**) is considered to have the potential to cause changes to the emission rates of various pollutants to air resulting from the thermal treatment process, as well as to the physical discharge characteristic of the flue gas emissions from the stack (i.e. volume flow rate, exit velocity and temperature) which will affect dispersion.

8.2.14 The emissions to air from the existing thermal treatment process have been subject to detailed air quality impact assessments (in both the original 2002 Environmental Statement and the ER 2014[19]) which included atmospheric dispersion modelling and concluded that overall air quality effects were classified as 'not significant'.

8.2.15 Notwithstanding that there have been several changes to the baseline conditions, regulations, guidance documents and modelling software since these studies were undertaken, it is considered unlikely that ROP will significantly affect either the pollutant release rate or their predicted impacts given the relatively modest increase in throughput in terms of overall percentage increase and effective dispersion afforded by the existing stack.

8.2.16 However an updated and detailed Air Quality Assessment (utilising atmospheric dispersion modelling techniques) of the emissions from the stack will be undertaken to inform the EIA and to clarify the risk of ROP resulting in a 'likely significant effect' (both in isolation and cumulatively) for both human and terrestrial biodiversity receptors.

Aspects scoped out of further assessment

8.2.17 For the following air quality related aspects, there is not considered to be a risk that ROP could result in a likely significant effect and therefore it is proposed that they are 'scoped out' of the Air Quality Assessment in the EIA Report.

HGV Movements

8.2.18 ROP will result in a very limited change in the number of HGV movements associated with the operation of RRRF as a vast majority of inputs and outputs are transported by barges on the River Thames. There would be no increase in the number of vehicles delivering waste to ROP and only an extra 2 HGVs anticipated per week as a result of transporting APCR.

8.2.19 In relation the potential for traffic emissions to result in significant impacts, IAQM guidance indicates that there is a potential risk where changes in traffic flows are in excess of:

- 500 light-duty vehicles ('LDV') or 100 heavy duty vehicles ('HDV') 24-hour annual average daily traffic ('24-hr AADT') outside an AQMA; or
- 100 LDV or 25 HDV 24-hr AADT within an AQMA.

8.2.20 The anticipated changes in traffic flows as a result of ROP are well below these thresholds and it is therefore considered that the impact of emissions from increased to road traffic associated with ROP does not represent a risk of a likely significant effects.

Odour generation

8.2.21 The delivery and thermal treatment of additional quantities of waste will proportionally increase the odour generation potential of RRRF. However, given the designed-in mitigation within the facility (waste handled within an enclosed building with combustion air supply being extracted from the waste reception hall) there is not considered to be a risk of a significant increase in

overall odour emission from the Application Site and the existing systems in place will be capable of preventing odour from an increased throughput of fuel.

8.2.22 It is therefore considered that the odour emissions associated with ROP do not represent a risk of likely significant effects.

Methodology for Assessment

8.2.23 The Air Quality Assessment will be undertaken in accordance with a methodology that is consistent with the requirements of relevant legislation, guidance and current best practice. The methodology will be informed by consultation with the local Environmental Health Officers ('EHO') and the requirements of the Environment Agency ('EA').

8.2.24 The EA will separately need to approve the increased throughput as a variation to the current Environmental Permit for RRRF, and will consider the potential impact on air quality, terrestrial biodiversity receptors and human health.

Baseline

8.2.25 Current baseline local air quality will be defined within a 10km study area drawing upon latest available appropriate monitoring carried out by LBB, RBG and LBBD in line with the information provided within each Council's Annual Status Reports. It is considered that this will largely be confined to data from 2019 (and previous years) as 2020 data is unlikely to be available and will have been heavily influenced by Covid-19 related travel restrictions.

8.2.26 Predicted current background concentrations of NO_2, NO_x, PM_{10}, and $PM_{2.5}$ will be provided by Defra background maps. Baseline data for other pollutants released will be updated by reference to national inventories and monitoring networks. Baseline nitrogen and acid deposition data for ecological habitats will be updated from the APIS website.

8.2.27 Where predictions are available, likely future background concentrations will be predicted using Defra and Joint Nature Conservation Committee (JNCC) methodologies.

Human Receptors

8.2.28 The closest residential areas to the ROP are: Belvedere Park to the south; Thamesmead to the west; and the proposed Beam Park development to the northeast. Previous assessments (as outlined above at paragraph 8.2.14) have indicated that peak impacts will occur within a 1km radius of the stack, however given spatial variation in background concentrations and receptor sensitivity, the impact will be predicted at a number of representative discrete receptor locations.

8.2.29 The identification of these receptor locations will be informed by the previous modelling (as outlined above at paragraph 8.2.14) assessments and LAQM reports of baseline concentrations and will consider both current and proposed sensitive receptor locations both at ground level and elevated in tall buildings (with an indicative level of c.75 m.) These will also be confirmed with the EHO of LBB.

Terrestrial Biodiversity Receptors

8.2.30 For the assessment of the potential indirect impact of stack emissions on terrestrial biodiversity receptors the screening criteria outlined by the EA guidance has been applied. This guidance requires that terrestrial biodiversity receptors should be assessed if they are located within the following distances from the emission source:

- Special Protected Areas (SPAs), Special Areas of Conservation (SACs), Ramsar sites or Sites of Special Scientific Interest (SSSIs) within 15 km; and

- National Nature Reserves (NNRs) and locally designated sites (ancient woodland, Local Wildlife Sites (LWSs) and Local Nature Reserves (LNRs)) within 2 km.

8.2.31 The following designated sites within 15 km of ROP's stack and the LNRs within 2 km have been identified as set out in **Table 8.5** below:

Table 8.5: Identified Terrestrial Biodiversity Receptors

Site Name and Designation	**Main Habitat Type**
Inner Thames Marshes (SSSI) / Rainham Marshes (SSSI/LNR)	Neutral Grassland
Ingrebourne Marshes (SSSI/LNR)	Fen, marsh and swamp
Oxleas Woodlands (SSSI)	Broadleaved, mixed and yew woodland
Purfleet Chalk Pits (SSSI)	Geological
Wansunt Pit (SSSI)	Geological
Gilbert's Pit (Charlton) (SSSI)	Geological
Hornchurch Cutting (SSSI)	Geological
West Thurrock Lagoon & Marshes (SSSI)	Littoral Sediment
Ruxley Gravel Pits (SSSI)	Standing open water and canals
Lion Pit (SSSI)	Geological
Epping Forest (SSSI)	Acid Grassland
Grays Thurrock Chalk Pit (SSSI)	Broad-leaved, mixed and yew woodland
Darenth Wood (SSSI)	Broad-leaved, mixed and yew woodland
Swanscombe Skull Site (SSSI/NNR)	Geological
Epping Forest (SAC)	Broadleaved, mixed and yew woodland
Hainault Forest (SSSI)	Broad-leaved, mixed and yew woodland
Farningham Wood (SSSI/LNR)	Broad-leaved, mixed and yew woodland

Site Name and Designation	Main Habitat Type
Baker's Hole (SSSI)	Geological
Hangman's Wood & Deneholes (SSSI)	Broad-leaved, mixed and yew woodland
Curtismill Green (unit 4) (SSSI)	Neutral Grassland
Thorndon Park (all units) (SSSI)	Broad-leaved, mixed and yew woodland
Crossness (LNR)	Neutral Grassland Scrub and Rough Grassland
M041	Coastal and Floodplain Grazing Marsh
BxBI02	Standing Open Water and Canals
HvBI18	Rivers and Streams
B&DB103	Standing Open Water and Canals
BxBII25	Standing Open Water and Canals
BxBI14	Acid grassland
BxL07	Wood-Pasture & Parkland
BxBII02	Standing Open Water and Canals
BxL16	Broadleaved, Mixed and Yew Woodland
Thamesmead East (Bexley)	Standing Open Water and Canals
M031	Rivers and Streams
BxBII26	Standing Open Water and Canals
BxB103	Broadleaved, Mixed and Yew Woodland
M039	Coastal and Floodplain Grazing Marsh
B&DBI07	Rivers and Streams

Site Name and Designation	Main Habitat Type
Lesnes Abbey (LNR)	Broadleaved, Mixed and Yew Woodland

Dispersion Modelling

8.2.32 The quantification of the pollutant emission rates associated with ROP (and the existing RRRF and proposed REP) will be based on physical discharge characteristics (volume, temperature, moisture and oxygen content) and the application Emission Limit Values ('ELV') set by the EA within the Environmental Permit for RRRF.

8.2.33 The detailed dispersion modelling assessment will follow the relevant EA guidance and incorporate nearby building structure, topography and meteorological data (this being a 5-year meteorological data set for London City Airport).

Assessment of Significance of Predicted Impacts

8.2.34 The predicted pollutant concentrations will be compared to National Air Quality Strategy objectives and Environmental Assessment Levels recommended by the EA.

8.2.35 In assessing the significance to the predicted impacts, the approach developed by Environmental Protection UK ('EPUK') and the IAQM, which considers the change in air quality as a result of a Proposed Changes on existing receptors in combination with baseline concentrations at the receptors, will be applied.

8.2.36 The guidance sets out three stages: determining the magnitude of change at each receptor, describing the impact, and assessing the overall significance. Impact magnitude relates to the change in pollutant concentration; the impact description relates this change to the air quality objective and is shown in **Table 8.6**:

Table 8.6: IAQM Impact Significance Criteria

Long term average Concentration at receptor in assessment year	% Changes in Concentration with development in relation to NAQO / Limit Value			
	1*	2-5	6-10	>10
> 110 %	Moderate	Substantial	Substantial	Substantial
>102% - ≤110%	Moderate	Moderate	Substantial	Substantial
>95% - ≤102%	Slight	Moderate	Moderate	Substantial
>75% - ≤95%	Negligible	Slight	Moderate	Moderate
≤75%	Negligible	Negligible	Slight	Moderate

Where concentrations increase the impact is described as adverse, and where it decreases as beneficial.
% change rounded to nearest whole number. Where the % change is 0 (i.e. Less than 0.5%) the impact will be Negligible.

8.2.37 The guidance states that the overall assessment of significance should be based on professional judgement, taking into account factors including:

- the number of properties affected by 'Slight', 'Moderate' or 'Substantial' adverse air quality impacts and a judgement on the overall balance;
- the magnitude of the changes and the descriptions of the impacts at the receptors;

- whether or not an exceedance of an National air quality objective ('NAQO') or limit value is predicted to arise in the operational study area (where there are significant changes in traffic) where none existed before or an exceedance area is substantially increased;
- the uncertainty, comprising the extent to which worst-case assumptions have been made; and
- the extent to which an NAQO or limit value is exceeded.

8.2.38 Where impacts can be considered in isolation at an individual receptor, 'Moderate' or 'Substantial' adverse impacts may be considered to be a 'significant' environmental effect, whereas 'Negligible' or 'Slight' impacts would not be considered 'significant'. The overall effect however, needs to be considered in the round taking into account the changes at all of the modelled receptor locations, with a judgement made as to whether the overall air quality effect of the development is 'significant' or not.

8.2.39 In terms of the impact of emissions on terrestrial ecological site, deposition rates will be calculated in accordance with EA guidance and compared against site relevant critical loads for the habitats in question.

8.2.40 An impact of less than 1% of the applicable critical level or load is accepted to be a pragmatic threshold for determining no likely significant effects from a stack source (either alone or in-combination for Habitat Directive Sites[21]). It should be noted that an impact of more than 1% is not, per se, an indication that a significant effect exists, only the possibility of one. which would trigger the need for further, more detailed assessment of the ecological sensitivity and value of the habitat.

8.2.41 Where the predicted impact exceeds 1% (either alone or in-combination for Habitat Directive Sites), consideration needs to be given to the overall critical level or load. Where the critical level or load is exceeded, input will be required from Cory's biodiversity consultants to ascertain the potential significance of the impact and resultant effects.

Limitations and Assumptions

8.2.42 The models used in the assessment are dependent upon the emission data inputs which will have inherent uncertainties associated with them. There is then additional uncertainty as the model is required to simplify real-world conditions into a series of algorithms.

8.2.43 In order to account for these uncertainties, appropriate conservative assumptions will be made regarding the pollutant emission rates and therefore potential resultant exposure.

8.2.44 The information presented in this Scoping Report chapter is based on the information available at the time of writing. The findings may be subject to change as the assessment process progresses and following consultation with stakeholders.

8.3 Biodiversity

Introduction

8.3.1 ROP has the potential to result in indirect effects to biodiversity through a change in emission levels from RRRF and resultant deposition of airborne pollutants to nearby designated areas. Consequently, these potential effects will be considered within the scope of the EIA.

[21] Habitat Directive Sites these for the purposes of Habitats Regulations Assessment are usually defined as SPAs, SACs and Ramsar sites.

8.3.2 As there is no physical development associated to ROP, no mechanism exists for direct physical impacts to biodiversity receptors, and therefore direct effects will be scoped out of the EIA. The purpose of the Biodiversity chapter of the EIA Report will be to identify whether ROP (as outlined in **Chapter 3**) is likely to result in likely significant effects to biodiversity.

8.3.3 In line with standard guidance for assessing effects from emissions[22] the biodiversity receptors to be assessed within the Biodiversity chapter of the EIA Report will include:

- internationally and nationally designated areas such as SACs and SSSIs within 15km;
- locally designed statutory areas such as LNRs and locally designated non-statutory designated areas such as Sites of Importance for Nature Conservation ('SINCs') within 2km; and,
- Ancient woodland within 2km.

Collectively these sites are referred to as the 'zone of influence'.

Baseline Conditions

8.3.4 A site check completed using data on the government MAGIC database identified one international statutory designated nature conservation area and fourteen nationally designated nature conservation areas within 15 km of RRRF. These are set out in **Table 8.7** below:

Table 8.7. Internationally and nationally designated areas within 15 km of RRRF.

Designated Area	Approximate distance from RRRF (km)	Description
Epping Forest Special Area of Conservation (SAC)	12	Beech forests, wet and dry heathlands, the presence of stag beetle.
Inner Thames Marshes Site of Special Scientific Interest (SSSI)	2	An area of wetland and grazing marsh supporting a range of birds, plants and insects.
Ingrebourne Marshes SSSI	3	An area of wetland and grazing marsh supporting a range of birds, plants and insects.
Oxleas Woodlands SSSI	7	One of the most extensive areas of long-established woodland on the London Clay in Greater London.
West Thurrock Lagoon and Marshes SSSI	9	An area of lagoon, marshes and intertidal mudflats known to be of importance to wintering waders and wildfowl.
Ruxley Gravel Pits SSSI	11	Relatively undisturbed open water contains a high diversity of habitats and species.
Darenth Wood SSSI	11	Ancient semi-natural woodland.
Grays Thurrock Chalk Pit SSSI	11	Range of woodland, scrub and calcareous grassland habitats that are important for the assemblage of invertebrate fauna they

[22] Holman et al (2019). A guide to the assessment of air quality impacts on designated nature conservation sites – version 1.0, Institute of Air Quality Management, London. www.iaqm.co.uk/text/guidance/airquality-impacts-on-nature-sites-2019.pdf

Designated Area	Approximate distance from RRRF (km)	Description
		support.
Epping Forest SSSI	12	Ancient wood-pasture, with outstanding assemblage of invertebrates.
Hainault Forest SSSI	12	Ancient wood-pasture supporting a diverse flora and fauna, including a diverse breeding bird community.
Farningham Wood SSSI	13	Woodland supporting a particularly rich invertebrate fauna.
Hangman's Wood & Deneholes SSSI	14	Underground hibernation site for bats.
Curtismill Green SSSI	15	Unimproved grassland and scrub.
Crofton Woods SSSI	15	Ancient woodland.
Thorndon Park SSSI	15	Semi-natural broad-leaved woodland and ancient parkland.

8.3.5 A number of locally designated nature conservations areas have been identified within 2km, such as Crossness LNR, Erith Marshes SINC, and the River Thames SINC which are known to be adjacent to RRRF.

8.3.6 One area of ancient woodland, Lesnes Abbey Woods, is present approximately 1.9km south of RRRF.

Potential Likely Significant Effects

8.3.7 As a result of ROP, potential likely significant effects could arise through increased emissions of airborne pollutants and subsequent deposition on nearby designated areas, with resultant effects to habitats.

8.3.8 Airborne pollutants, such as NO_x, when deposited on habitats can result in increases in nitrogen. Excessive nitrogen can have negative effects to plants and habitats by altering the biochemistry of the plants, or through stimulating the growth of competitive plant species which can reduce species diversity within a habitat[23].

Methodology for Assessment

8.3.9 The assessment of effects to biodiversity receptors will follow an industry standard approach as set out in Guidelines for Ecological Impact Assessment in the UK and Ireland ('CIEEM, 2018').

8.3.10 The baseline conditions within the zone of influence (as outlined in paragraph 8.3.3 above) are set out above, and will be updated to allow an importance be attributed to each ecological receptor in accordance with CIEEM 2018's geographic framework.

8.3.11 This assessment will follow best practice guidance in CIEEM 2018 and will value the importance of ecological features with reference to a geographical framework. The geographical framework will assign a level of importance to ecological features, as below:

- International (e.g. SAC);

[23] http://www.apis.ac.uk/

- National (e.g. SSSI);
- Metropolitan (e.g. Sites of Metropolitan Importance for Nature Conservation, LNR);
- Local (e.g. SINC, and Sites of Local Importance for Nature Conservation); or
- Less than local.

8.3.12 In order to determine the likelihood of a significant ecological effect (which will be undertaken and reported in the EIA Report), it will be necessary to identify whether an ecological receptor is sufficiently important for a significant effect upon it to be material in decision-making. Ecological receptors of 'Local' level importance or above will be classified as being 'Important' ecological features. Identified 'Important' ecological features will be considered in full within the ES, ensuring the assessment focuses only on those impacts which are potentially environmentally significant.

8.3.13 The assessment of impacts on designated sites from increased emissions will be undertaken in line with Holman et al (2019)[24]. Further details of the air quality modelling that will be used to inform the assessment can be found in **Chapter 8.2**.

8.3.14 Critical loads (to be used as standards for the assessment of significance) will be obtained from the Air Pollution Information System ('APIS') website. The results of the air quality modelling work will be used to inform an assessment of potential effects to biodiversity receptors from any increases in deposition of pollutants.

8.3.15 CIEEM 2018 states that an effect should be determined as being significant when it "*either supports or undermines biodiversity conservation objectives for important ecological features*". It relates to the weight that should be afforded to effects when decisions are made, and to the consequences, in terms of legislation, policy and/or development control. Therefore, a significant negative effect on a feature of importance at one level would be likely to trigger related planning policies and, if permissible at all, generate the need for development control mechanisms, such as planning conditions or legal obligations, as described in those policies. In determining significance, consideration will be given to aspects of the structure and function of the biodiversity receptor, and the likely resilience to change.

8.3.16 Potential significant effects on 'Important' ecological features will be identified along with any mitigation and/ or management measures required to prevent, reduce or off-set any significant adverse effects. Significant beneficial environmental effects will also be highlighted. The EIA Report will set out the significance of any residual ecological effects on the conservation status of the biodiversity feature and clarify whether these are adverse or beneficial.

Limitations and Assumptions

8.3.17 The information presented in this Scoping Report chapter is based on the information available at the time of writing. The findings may be subject to change as the assessment process progresses, and following consultation with stakeholders.

8.3.18 It is understood ROP will not result in physical development, and therefore there is no mechanism for direct physical impacts to biodiversity receptors.

8.3.19 The prediction of impacts and effects inevitably involves a degree of uncertainty. Where necessary, the ecological assessment will describe the principal factors giving rise to uncertainty in the prediction of effects and the degree of uncertainty. Confidence in predictions will be engendered by employing accepted assessment methodologies.

[24] A guide to the assessment of air quality impacts on designated nature conservation sites – version 1.0, Institute of Air Quality Management, London. www.iaqm.co.uk/text/guidance/airquality-impacts-on-nature-sites-2019.pdf

8.4 Climate Change

Introduction

8.4.1 ROP has the potential to result in likely significant effects to climate change resulting from a change in levels of greenhouse gas ('GHG') emissions from RRRF.

8.4.2 As there is no physical development associated with ROP, the climate resilience of the RRRF would not change. As such, when considering the impact of climate change, only the effect of potential changes in greenhouse gas emissions will be assessed in the EIA.

Baseline Conditions

8.4.3 The baseline carbon emissions from the UK and London are published by the UK Government on an annual basis[25]. This data is provided for individual sectors and local authorities. The latest data available is from 2018. Waste is not contained in the database as an individual sector. However, emissions from energy from waste facilities are contained within the "Industrial and Commercial Other Fuels" sector. The following table sets out the baseline emissions of CO_2 which include the operation of the existing RRRF.

Table 8.7. Baseline Carbon Dioxide Emissions Summary.

Item	Units	Value
London - Total 2018	$ktCO_2e$	28,852
UK - Industrial and Commercial Other Fuels 2018	$ktCO_2e$	16,900
London - Industrial and Commercial Other Fuels 2018	$ktCO_2e$	494.2

Potential Likely Significant Effects

8.4.4 As a result of ROP, potential likely significant effects could arise through increased GHG emissions from both the stack and increased vehicle movement, resulting from the increased waste throughput.

Methodology for Assessment

8.4.5 The additional carbon dioxide emissions from the ROP will be calculated in line with the methodology presented in both the IEMA guidance 'Assessing Greenhouse Gas Emissions and Evaluating their Significance'[26], and the UK Government guidance document 'Energy recovery for residual waste – a carbon based modelling approach'[27]. The calculation will consider:

- the emissions from the additional waste to be combusted;
- the emissions associated with the transport of the additional waste to the ROP;

[25] Accessed at: https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2018 [accessed 27/11/2020]

[26] Accessed at: https://www.iema.net/preview-document/assessing-greenhouse-gas-emissions-and-evaluating-their-significance [Accessed 15/12/2020]

[27] Accessed at: http://sciencesearch.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=19019 [Accessed 15/12/2020]

- offset of emissions generated from the grid electricity for the additional power generated by the RRRP;
- carbon savings from the additional metals recovery at the ROP; and
- offset of the emissions which would be generated by sending the additional waste to landfill, allowing for the reduction in offset of emissions generated from the grid electricity for the power which would have been generated by additional waste in landfill.

8.4.6 When considering the impact of the proposals it is important to consider the alternative, which would be sending the waste to landfill and generating electricity via gas-fired power stations. This approach is supported by the Defra EfW Debate Guide[11] which states that *"a gas fired power station is a reasonable comparator as this is the most likely technology if you wanted to build a new power station today"*. This approach was also accepted by the Examining Authority in considering the REP DCO. As part of a sensitivity analysis, the assessment will also consider a change in both the UK grid mix over time and how this affects the net impact of the Proposed Changes, and future expected decreases in plastic and food waste.

8.4.7 The net CO_2e emissions will be assessed for their significance in the context of the UK carbon budgets[28] and baseline emissions. In addition, the emissions will be compared to the UK and London carbon budgets[29].

8.4.8 In accordance with the London Plan and the LES, the GLA Ready Reckoner spreadsheet[30] would be used to compare the carbon performance of RRRF before and after ROP with the Carbon Intensity Floor.

Limitations and Assumptions

8.4.9 The information presented in this Scoping Report chapter is based on the information available at the time of writing. The findings may be subject to change as the assessment process progresses, and following consultation with stakeholders.

8.4.10 It is understood ROP will not result in physical development, and therefore the resilience of the RRRF will not change as a result of the ROP and this has been scoped out of the assessment.

8.4.11 The prediction of impacts and effects inevitably involves a degree of uncertainty. Where necessary, the assessment will describe the principal factors giving rise to uncertainty in the prediction of GHG emissions and the degree of uncertainty. Confidence in predictions will be engendered by employing accepted assessment methodologies.

[28] Accessed at: https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf [Accessed on 15/12/2020]

[29] Accessed at: https://www.london.gov.uk/sites/default/files/london_environment_strategy_0.pdf [Accessed on 15/12/2020]

[30] Accessed at: https://www.london.gov.uk/sites/default/files/london-ghg-eps-ready-reckoner-v2.xlsm [Accessed on 15/12/2020]

9 Summary and Next Steps

9.1 Summary

9.1.1 This document has been prepared to provide an overview of the likely significant environmental effects that have been considered in scoping the EIA for the Proposed Changes to be undertaken in relation to RRRF for a project known as ROP.

9.1.2 This Scoping Report has provided information regarding ROP; setting out the intended EIA scope and methodologies for the assessment of likely significant environmental effects and outlining the proposed content of the EIA Report. The aim is to ensure that ROP has due regard for the environment, to mitigate adverse environmental effects where possible, and to take advantage of opportunities for environmental enhancement.

9.1.3 Potential for likely significant effects to occur has been identified for air quality and biodiversity. All other topics have been considered and scoped out of the assessment presented in this report on the basis that likely significant effects are not anticipated. Further detail is set out in Appendix B.

9.2 The EIA Report

9.2.1 The outcome of the EIA process is the production of an EIA Report to accompany the Application. An EIA Report will be prepared in compliance with the EIA Regulations that will achieve the following:

- Describe the development;
- Outline the main alternatives considered;
- Describe the baseline environment;
- Describe the likely significant effects;
- Describe the measures to mitigate adverse effects;
- Describe any residual significant adverse effects;
- Describe any monitoring arrangements; and
- Include a non-technical summary.

9.3 Next Steps

9.3.1 The Scoping Report has proposed that the following topics are scoped into the EIA:

- Air Quality;
- Biodiversity; and
- Climate Change.

9.3.2 The next steps in the EIA process are as follows:

- Receipt of EIA Scoping Opinion from BEIS; and,

- Submission of the EIA Report with the Application.

Glossary

Abbreviation/Acronym	Definition
APCR	Air Pollution Control Residue
APIS	Air Pollution Information System
BEIS	Business, Energy and Industrial Strategy
DCO	Development Consent Order
DEFRA	Department for Environment, Food and Rural Affairs
EA	Environment Agency
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
ELV	Emission Limit Values
EPUK	Environmental Protection UK
ERF	Energy Recovery Facility
GHG	Greenhouse Gas
GLA	Greater London Authority
Ha	Hectares
HDV	Heavy duty vehicles
IAQM	Institute of Air Quality Management
IBA	Incinerator bottom ash
IEMA	Institute of Environmental Management and Assessment
IES	Institution of Environmental Sciences
JNCC	Joint Nature Conservation Committee
LAQM	Local Air Quality Management
LBB	London Borough of Bexley
LBBD	London Borough of Barking and Dagenham
LDV	Light duty vehicles
LNR	Local Nature Reserve
LNR	Local Nature Reserve
LWS	Local Wildlife Site
MW	megawatt
NAQO	National air quality objective
NGR	National Grid Reference
NNR	National Nature Reserves
NO2	Nitrogen dioxide
NOx	Nitrogen oxides

NPPW	National Planning Policy for Waste
NSIP	Nationally Significant Infrastructure Project
PAC	Powdered Activated Carbon
PM	Particulate Matter
RBG	Royal Borough of Greenwich
REP	Riverside Energy Park
ROP	Riverside Optimisation Project
RRRF	Riverside Resource Recovery Facility
SAC	Special Areas of Conservation
SINC	Sites of Importance for Nature Conservation
SMINC	Site of Metropolitan Importance for Nature Conservation
SPA	Special Protected Area
SSSI	Sites of Special Scientific Interest
STW	Sewage Treatment Works
Tpa	tonnes per annum
WRWA	Western Riverside Waste Authority

Appendix A Figures

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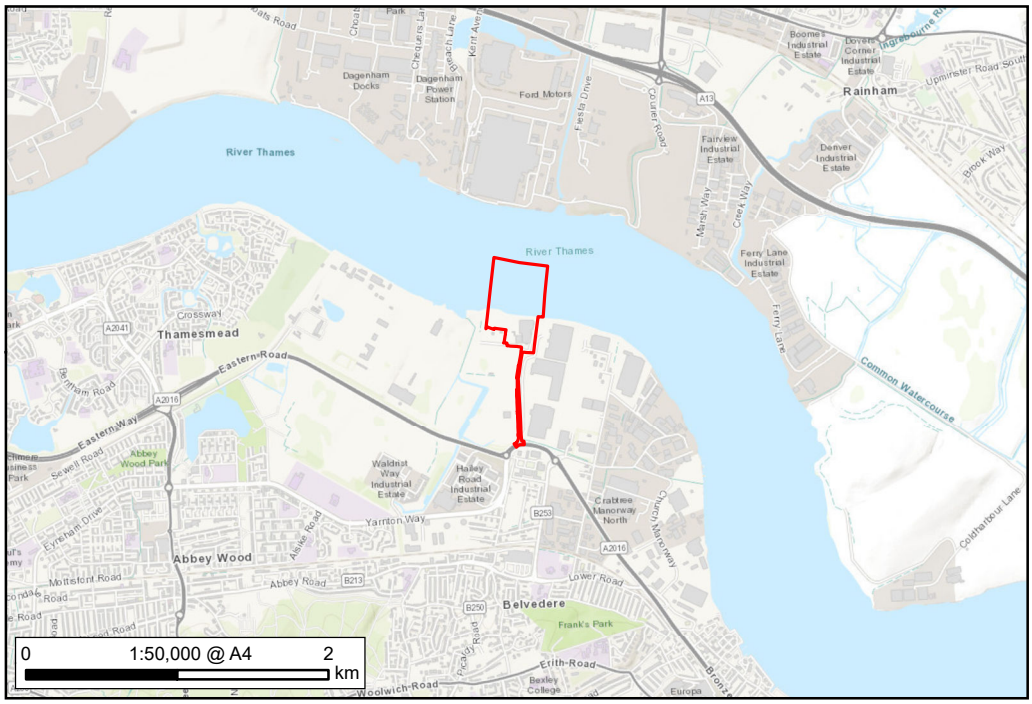

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Drawn: IB

Checked: SS

Riverside Optimisation Project

Site Location Plan

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Figure 1

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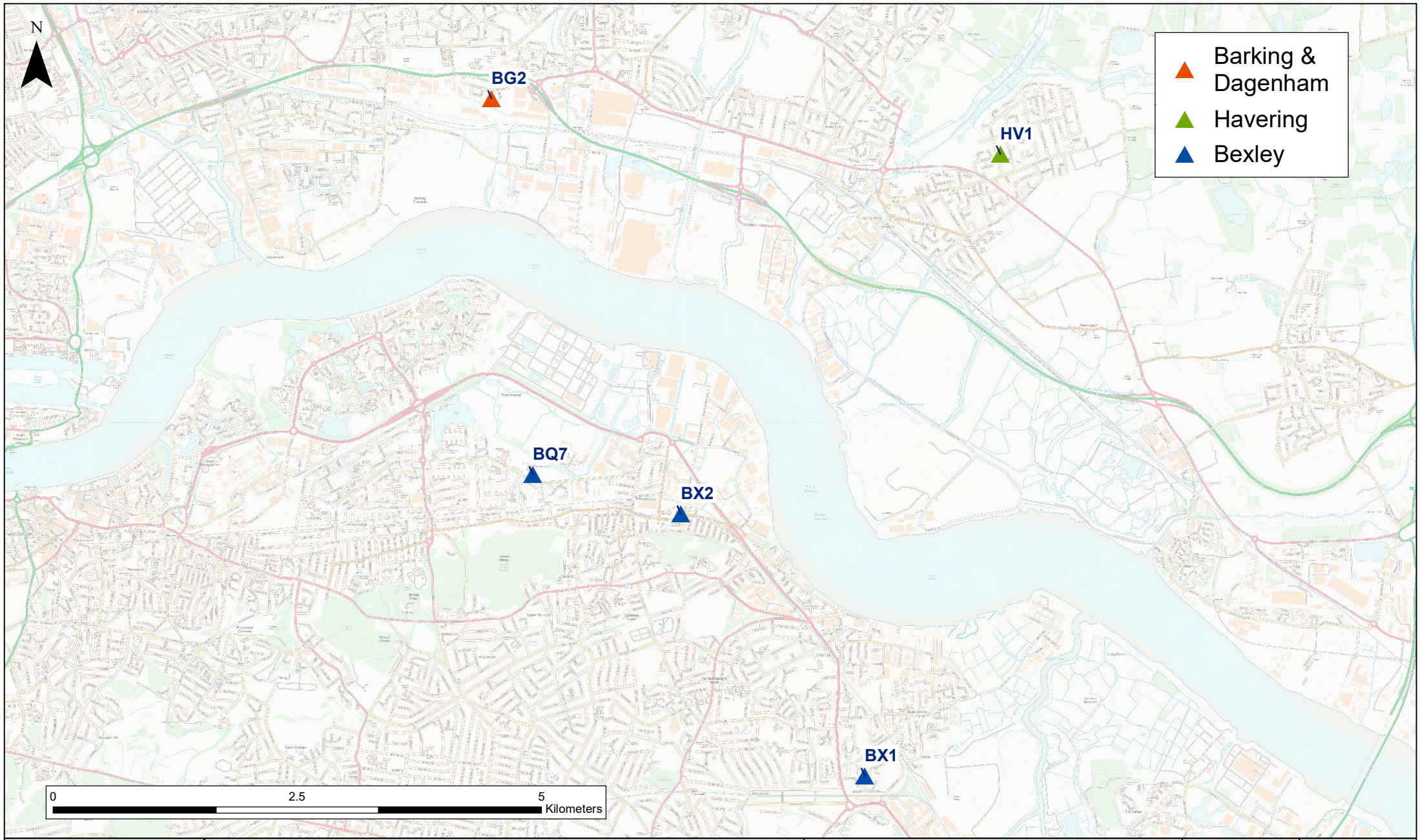

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Riverside Optimisation Project

Automatic Monitoring Stations

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Appendix B Stage 1 Assessment – Identification of Potentially Significant Effects

Appendix B Stage 1 Assessment – Identification of Potentially Significant Effects

Component	Potential for likely significant effects?	Likely main effect for detailed assessment at Stage 2	Comments
Accidents and disasters			
Accidents	No	N/A	ROP would not require a change to the existing operating processes or practices at RRRF, which are already covered by an existing robust operational accident management plan and reporting procedure which would be sufficient to cater for an increase in waste throughput. It is therefore considered that there would be no new or different likely significant effects. There would be no additional tug movements on the River Thames required to bring the waste required for ROP. One additional barge would be used which is anticipated to result in an additional five barge movements per week. Given there are no anticipated additional tug movements, it is considered that existing provisions in the form of standard industry controls (e.g. navigation on the Thames, tightly managed by the Port of London Authority) and the existing Environmental Permit for delivery of waste and export of by-products would result in the likelihood for effects on vessel movement and navigational safety to be no greater than as for the existing operational RRRF.
Disasters	No	No	ROP would not result in a physical change to the operational facility, it is therefore considered that the likelihood for effects from disasters would be no greater than as for the existing operational RRRF.
Air Quality			
Local Air quality from stack emissions	Yes	Yes	The increased throughput of waste due to ROP could result in an increase in concentration of certain emission from the stack, with a potential effect on sensitive receptors. A further assessment is therefore proposed, the methodology of which is outlined in **8.2** of the Scoping Report.

Component	Potential for likely significant effects?	Likely main effect for detailed assessment at Stage 2	Comments
Local air quality from increased waste deliveries & output removals	No	No	In relation the potential for traffic emissions to result in significant impacts, Institute of Air Quality Management (IAQM) guidance indicates that there is a potential risk where change in traffic flows are in excess of: ▪ 500 light-duty vehicles ('LDV') or 100 heavy duty vehicles ('HDV') 24-hour annual average daily traffic ('24-hr AADT') outside an AQMA; or ▪ 100 LDV or 25 HDV 24-hr AADT within an AQMA. The number of vehicles bringing waste to RRRF would not increase above the current permitted level. The increased vehicle movements associated with the removal of increases in Air Pollution Control Residue ('APCR') has the potential to result in increased movements on the local road network. It is anticipated that movements required to remove the additional APCR will would equate to approximately 90 vehicle movements a year (1.73 movements a week). The anticipated changes in traffic flows as a result of ROP are well below these thresholds and it is therefore considered that the impact of emissions from increased to road traffic associated with ROP do not represent a risk of a likely significant effects.
Dust	No	No	ROP would not result in physical changes or any construction work to the existing RRRF. There would therefore be no new or different likely significant effects from construction dust as a result of ROP than as for the existing operational RRRF.
Odour	No	No	Although there would be an increase in waste throughput as a result of ROP, it would not require a change to the operating processes or practices already in existence at RRRF. RRRF already has a highly effective odour control system in place and odour is tightly controlled by the Environmental Permit. These existing systems would be sufficient to account for the increased throughput in waste. Therefore, no new or different likely significant effects are anticipated from odour emissions from ROP than as for the existing operational RRRF.
Transboundary air quality	No	No	Given the relatively modest increase in the throughput of waste (c. 8% compared with current operations) and that there are no transboundary effects associated with

Component	Potential for likely significant effects?	Likely main effect for detailed assessment at Stage 2	Comments
			the existing RRRF, there are not anticipated to be significant changes to the atmospheric dispersion characteristics of RRRF. Therefore, no transboundary effects are anticipated that are different from the existing operational RRRF.
Aviation			
Aviation	No	No	ROP would not result in physical changes to the existing RRRF; notably the tallest structure on site (the stack) would not be increased in height. Therefore, there would be no new or different likely significant effects from ROP than as for the existing operational RRRF.
Climate			
Local GHG contribution	Yes	Yes	There would be a minor contribution to GHG emissions associated with the small increase in vehicle movements. However the diversion of waste away from landfill is likely to have a positive overall carbon balance. As per Section 8.4 of the main Scoping Report, a carbon assessment will be undertaken and appended to the EIA Report.
Regional GHG contribution	Yes	Yes	There would be a minor contribution to GHG emissions associated with the small increase in vehicle movements. However the diversion of waste away from landfill is likely to have a positive overall carbon balance. As per Section 8.4 of the main Scoping Report, a carbon assessment will be undertaken and appended to the EIA Report.
National GHG contribution	No	No	Given the nature and scale of changes anticipated by ROP is relatively small, the likelihood for effects are considered to be no greater than as for the existing operational RRRF. As per Section 8.4 of the main Scoping Report, a carbon assessment will be undertaken and appended to the EIA Report.
Vulnerability to climate change	No	No	ROP would not result in physical changes to the existing RRRF, nor would the life of the existing planning permission be extended. Therefore, potential effects from

Component	Potential for likely significant effects?	Likely main effect for detailed assessment at Stage 2	Comments
			vulnerability to climate change are considered to be no greater than as for the existing operational RRRF.
Daylight & Sunlight			
Daylight	No	No	ROP would not result in physical changes to the existing RRRF. Notably, the tallest structure on site (the stack) would not be increased in height. Therefore, there would be no new or different likely significant effects from ROP.
Sunlight	No	No	ROP would not result in physical changes to the existing RRRF. Notably, the tallest structure on site (the stack) would not be increased in height. Therefore, there would be no new or different likely significant effects from ROP.
Ground Conditions			
Geology and geomorphology	No	No	ROP would not result in physical changes to the existing RRRF or involve any intrusive groundworks. Therefore, there would be no new or different likely significant effects from ROP on ground conditions than as for the existing operational RRRF.
Ground Contamination	No	No	
Soils and agricultural land	No	No	
Land stability	No	No	
Human Health			
Impacts to human health from increased emissions	Yes	Yes	The increased throughput due to ROP could result in increased concentration of emissions from the stack, with a potential effect on sensitive receptors. The assessment of effects to human health from increased emissions is dependent on the Air Quality Assessment and will therefore form part of that chapter of the EIA Report, as described in section 8.2 of the Scoping Report. A standalone chapter on human health in the EIA Report is not required as likely significant health effects associated with ROP primarily relate to air quality and will be addressed in the Air Quality ES Chapter.
Historic Environment			

Component	Potential for likely significant effects?	Likely main effect for detailed assessment at Stage 2	Comments
Archaeology	No	No	ROP would not result in physical changes to the existing RRRF footprint or involve any intrusive groundworks, it is therefore considered that there would be no new or different likely significant effects than as for the existing operational RRRF.
Setting of heritage assets	No	No	ROP would not result in physical changes to the existing RRRF or involve any groundworks. There would be a small increase in vehicle movements associated with consumables produced by the increased throughput, however these are not considered sufficient to result in significant effects to the setting of heritage assets above existing vehicle movements for RRRF.
Hydrology, Flood Risk and Water Resources			
Surface Water	No	No	ROP would not result in physical changes to the existing RRRF footprint or impermeable area. No effects are therefore anticipated to occur to surface water run off or flows into existing outfalls as compared to the existing operational RRRF.
Flood Risk	No	No	ROP would not result in physical changes to the existing RRRF footprint or impermeable area. Risk of flooding is therefore not increased as a result of ROP as compared to the existing operational RRRF.
Water Use	No	No	The increased throughput as a result of ROP could result in an increase in water usage during operational processes of the RRRF. However, this amount is considered to be minimal and water would be taken from the mains water supply which currently supplies the RRRF and has capacity to cope with the limited increase in demand. No additional water would be abstracted from groundwater or surface water. Therefore, there would be no new or different likely significant effects as compared to the existing operational RRRF.
Lighting			
Operational lighting	No	No	ROP would not result in the need for any additional lighting over and above what is required at the existing RRRF which already operates on a 24/7 basis. It is therefore considered that the likelihood for effects would be no greater than as for the existing operational RRRF.

Component	Potential for likely significant effects?	Likely main effect for detailed assessment at Stage 2	Comments
Marine Biodiversity & Geomorphology			
Marine biodiversity	No	No	ROP would not require any new marine infrastructure or any changes to existing marine infrastructure. There would be no additional tug movements on the River Thames required to transport the additional waste and IBA. One additional barge would be used which is anticipated to result in an additional five barge movements per week. It is not considered that such an increase would result in significant effects to marine biodiversity as compared to the existing operational RRRF.
Marine geomorphology	No	No	ROP would not result in physical changes to existing marine infrastructure, and therefore there would be no effects from ROP as compared to the existing operational RRRF.
Noise and Vibration			
Noise	Yes	No	The increased work required by the Air Cooled Condenser ('ACC') units as a result of increased throughput could result in additional noise emissions. There may also be additional noise generated due to the increase in activity associated with the unloading and loading of additional barges and the transport of additional waste from the jetty to the facility. However, given the limited increase in the proposed throughput and location of noise sensitive receptors (the nearest receptor is located ~700m away at Hackney House) it is not anticipated that this would result in any new or different likely significant effects as compared to the existing operational RRRF. The additional small increase in noise from the ACCs is likely to be imperceptible at nearest sensitive receptors when considered in the overall context of the RRRF site. Given the limited increase in vehicle movements associated with consumables and the removal of additional APCR generated by ROP (~90 vehicle movements a year) it is not anticipated that this would result in any new or different likely significant effects to noise sensitive receptors as a result of increase in traffic movements as compared to the existing operational RRRF.
Vibration	No	No	Given the nature and scale of the change anticipated by ROP is relatively small, the likelihood for effects are considered to be no greater than as for the existing operational RRRF.

Component	Potential for likely significant effects?	Likely main effect for detailed assessment at Stage 2	Comments
Socio-economics			
Population profile and density	No	No	No population changes are anticipated as a result of ROP as no additional operational staff would be required. Although there may be additional jobs created by the additional vehicle/vessel movements to service the additional capacity at RRRF, these would be very limited (of the order of 1 or 2 full time equivalent (FTE) roles), resulting in no likely significant effects. Therefore, the likelihood for effects is considered to be no greater than as for the existing operational RRRF, resulting in no new or different likely significant effects on socio-economics including local services, demography, standard of living and employment.
Demography	No	No	
Employment	Yes	No	
Standard of living	No	No	
Education and local services	No	No	
Social inclusion/exclusion	No	No	
Tourism	No	No	Given the nature of ROP and the location of the RRRF, it is not anticipated there would be an effect on tourism. Although there would be a limited number of additional vehicle movements associated with transporting products to and from the site, the increase would not be significant or large enough to have any discernible impacts on tourism. In addition, the location of RRRF is not within an area recognised for high levels of tourism.
Terrestrial Biodiversity			
Habitats	Yes	Yes	ROP would not result in physical changes to the operational facility, therefore there would be no direct loss of habitat. However, as ROP would result in increased throughput, there could be an increase in emission concentrations from the RRRF stack with the potential to result in increased pollutant deposition on nearby habitat. Should habitat be affected by increased dispersion levels, there is also the potential for species using those habitats to be adversely affected. As such, an assessment of these potential effects will be undertaken as part of the EIA Report, as set out in section 8.3 of this Scoping Report.
Species	Yes	Yes	

Component	Potential for likely significant effects?	Likely main effect for detailed assessment at Stage 2	Comments
Townscape and Visual Impact			
Townscape receptors	No	No	ROP would not result in physical changes to the existing RRRF. It is therefore considered that the likelihood for effects would be no greater than as for the existing operational RRRF.
Visual receptors	No	No	ROP would not result in physical changes to the existing RRRF. It is therefore considered that the likelihood for effects would be no greater than as for the existing operational RRRF.
Traffic and Transport			
Effects to local road network	Yes	No	The increased vehicle movements associated with the removal of increases in APCR has the potential to result in increased movements on the local road network. It is anticipated that movements required to remove the additional APCR would equate to approximately 90 vehicle movements a year (1.73 movements a week). Given the limited number of additional movements required, it is not considered that this increase would result in significant effects to the local road network.
Navigational safety of River Thames	No	No	There would be no additional tug movements on the River Thames required to transport the additional waste and incinerator bottom ash ('IBA'). One additional barge would be used, which is anticipated to result in an additional five barge movements per week. It is not considered that such an increase would result in significant effects to the navigational safety of the River Thames.
Waste			
Waste management	No	No	ROP would not result in a physical change to the operational facility therefore no construction or demolition waste is anticipated. ROP would result in additional throughput at the existing RRRF, which would result in additional by-products from the combustion process (e.g. additional IBA and APCR). However, there are established and robust existing operational waste management practices in place at RRRF which would be sufficient to cope with the relatively modest additional waste throughput. Therefore, there would be no new or different likely significant effects from operational waste generation as a result of ROP as compared to the existing operational RRRF.

Component	Potential for likely significant effects?	Likely main effect for detailed assessment at Stage 2	Comments
Environmental Wind			
Wind	No	No	ROP would not result in physical changes to the existing RRRF, including in relation to massing of buildings. It is therefore anticipated that there would be no new or different likely significant effects from ROP in relation to environmental wind as compared to the existing operational RRRF.