**REPORT TITLE:** NORTH LONDON HEAT AND POWER PROJECT ENERGY RECOVERY PROCUREMENT

**REPORT OF:** PROGRAMME DIRECTOR

**FOR SUBMISSION TO:** AUTHORITY MEETING

**DATE:** 16 DECEMBER 2021

**SUMMARY OF REPORT:**

This report provides the report on the outcome of the procurement for the Energy Recovery Facility Works contract, with a supporting value for money statement, and a recommendation to proceed to award the contract.

**RECOMMENDATIONS:**

The Authority is recommended to:

A. note the report on outcome of the procurement of the ERF construction works in Appendix A with confidential information in Appendix C
B. note the value for money statement in Appendix B with confidential information in Appendix C
C. note the terms of the contract proposed to be let set out in Appendix C
D. agree to delegate authority to the Managing Director (a) to finalise the terms of the contract; and (b) to award and enter into all necessary documentation to give effect to this decision including the Engineering, Procurement and Construction contract for the ERF to Acciona Industrial SA together with the associated documents (section 6)
E. agree to delegate authority to the Programme Director to manage the design, build and commissioning of the ERF within a financial limit set out in Appendix C
F. note the next steps to be taken set out in this report.

**SIGNED:** ..…….. Programme Director

**DATE:** 7 December 2021

## 1. PURPOSE OF REPORT

1.1. The North London Heat and Power Project (NLHPP) is the project to implement the provision of new and replacement waste management and disposal facilities, authorised through a Development Consent Order (DCO) for a new Energy Recovery Facility (ERF) and associated works, which was obtained in February 2017. Construction works have been underway since 2019, to implement the required preparatory works and the construction of the Resource Recovery Facility (RRF) and Reuse and Recycling Centre (RRC), to add to the recycling facilities for the north London area, and EcoPark House, a visitor centre, providing community and education facilities for local benefit, and a new home for the Edmonton Sea Cadets.

1.2. Following a decision of the Authority in July 2020, the procurement for the ERF works programme was started with an OJEU (Official Journal of the European Union) notice. The outcome of the selection stage was reported to Members in the Programme Committee on 2 November 2020, and three bidders were invited to submit detailed tenders, which would form the basis for dialogue, leading to final tenders. Two of the bidders then agreed to work together on a single bid, and the third bidder withdrew from the procurement immediately before he deadline for submission of detailed tenders, with the result that a single response was received to the invitation. That bidder has now put in a final tender, following a period of detailed dialogue on the proposed solution.

1.3. This report provides the outcome of the procurement for the contract to design and build the replacement Energy Recovery Facility at the Edmonton EcoPark, and recommends authorising entering into the contract for works as a result of that procurement.

### Background

1.4. Appendix D to this report contains a review of the business case for future waste disposal and confirms that the replacement ERF at the Edmonton EcoPark remains the most environmentally, socially, and financially responsible waste management solution for north London residents.

### Background to the 2021 business case review

1.5. The original business case for the North London Heat and Power Project (NLHPP) was formally established in 2017 with the successful application for a Development Consent Order (DCO).

1.6. In line with best practice a phased project development process was then implemented with reviews at key investment decision points. These reviews include a revalidation of the business case to make sure the assumptions which

informed previous decisions remain valid considering any changes or developments.

**Scope of the 2021 business case review**

1.7. The review and reconfirmation of the business case is based on an assessment to confirm:

1.7.1. that the ERF remains the most beneficial technical and environmental solution.

1.7.2. that the overall NLHPP cost forecast remains within the agreed budget in light of current and forecast expenditure.

1.7.3. that the NLHPP provides the most economical waste disposal solution for the boroughs.

1.7.4. the Authority's capability and resources to deliver the next phase of work, i.e., the design, construction, commissioning, and handover of the ERF.

1.8. The review methodology and its conclusions are summarised in Appendix D to this report.

**Conclusions of the review**

1.9. The public-sector developed and owned ERF remains the most suitable environmental solution for north London's waste management in terms of air quality and carbon emissions, future-proofed against foreseeable changes to emissions regulations and supports the goal of bringing all UK greenhouse gas emissions to net zero;

1.10. Levy projections show that while an increase in the levy is necessary, associated with the financing of new assets, this is a lower levy increase than would be required if the Authority did not develop a new facility and relied instead on bids from private companies outside the area to accept north London's waste. Even with the anticipated increase to develop the new facilities, the Authority's levy would remain favourable in comparison with the costs of other statutory joint waste disposal authorities;

1.11. Alternative options for waste disposal are either unproven at the required scale or significantly less cost-effective;

1.12. The Authority procuring its own facility is more cost-effective than a reliance on export to third party facilities outside the north London boroughs;

1.13. The NLHPP out-turn cost forecast remains within the £1.22bn budget previously presented to Members in 2019;

1.14. The intended peak capacity of the ERF at 700,000 tonnes per annum provides the most reliable solution for north London's self-sufficiency in waste disposal. The ERF can operate at lower tonnages than the peak capacity whilst still meeting electricity and heat supply commitments.

## 2. STRUCTURE OF REPORT

2.1. Procurement outcome –section 3, Appendix A and Appendix C, incorporating specific comments on elements of the tender.

2.2. Value for money statement in section 4 and Appendix B.

2.3. Contract documents and reference to contract terms in section 5, with description of contract terms in Appendix C.

2.4. Conclusion on the outcome of the procurement, supporting the recommendations made in this report.

2.5. Next steps leading to contract award.

2.6. Next steps following a decision to award the contract (Section 6), liaison with boroughs and implications for them (Section 7).

2.7. Appendices:

A: Procurement Outturn Report

B: Value for Money Statement

C: Confidential appendix, exempt from publication, with information supporting the recommendation in this report.

D: Summary of The North London Heat And Power Project Business Case Review And Reconfirmation

## 3. PROCUREMENT OUTCOME

3.1. The report on the procurement outcome is at Appendix A, with confidential information in Appendix C on part II of this agenda. The report sets out the process since receipt of the submission from Acciona at the Invitation to Submit Detailed Solutions Stage and the outcome of the dialogue held over the summer, and evaluation of the final tender submitted in response to the Invitation to Submit Final Tenders.

3.2. The Authority's strategy for the procurement is contained in Appendix A, and includes a) the decision to let the contract as a single lot, and b) the Authority's Requirements including the description of the facility as authorised by the DCO.

3.3. As reported previously to Members, a single tender was received at the detailed solutions stage, in April 2021, and therefore dialogue took place with Acciona alone. Acciona have worked with HZI as their sub-contractor for the process elements of the contract, and HZI have attended dialogue meetings for those discussions. The dialogue afforded an opportunity to scrutinise the tenderer's proposal in more detail than would have been the case had there been several tenderers.

3.4. The evaluation criteria for the procurement were set at the start of the process, and details are contained in the report in Appendix A. This split the criteria into three workstreams: Quality and Management, Technical, and Commercial. The evaluation criteria were maintained throughout the process, in accordance with the Public Contracts Regulations, and the outcome score reflects these criteria.

3.5. Dialogue concluded on 5 October 2021, and the Invitation to Submit a Final Tender (ISFT) was issued to Acciona for tender return on 25 October. The tender was received on that date, and the evaluation took place. The Procurement report contains the outcome of the evaluation of the final tender which shows that Acciona met and in some cases exceeded the quality requirements that the Authority had set. The price was evaluated against the Authority's benchmark, and the outcome is set out in Appendix C.

3.6. The Authority's Requirements relating to the quality of the solution and how these are met are described in the following paragraphs.

**Section A Quality and Management**

**Programme and Contract Management**

3.7. The NHLPP's Programme Manual and associated Management Plans sets outs the management principles that are to be implemented in the delivery of its projects. This is a key document within the NHLPP and has been used to develop the core principles of delivery management set out in the ERF's specifications and schedules.

3.8. The Tenderer's solution aligns well with these core principles which have been upheld and maintained throughout the development of their submission, and evidenced in their outline project execution plan.

3.9. The ERF procurement process has rigorously tested these principles against the Tenderer's submission.

3.10. The Tenderer's submission was of high quality in regards Health Safety and Wellbeing, environmental management, quality management, risk management, Building Information Management and asset management, social value, stakeholder engagement and collaborative working. It would have benefitted from additional detail but lacked detail in their outline project execution plan and

programme. The detail will be developed further following contract award ahead of approval by the project manager.

3.11. The Tenderer's programme submitted at ISFT has been reviewed by Authority's delivery and technical advisors . The programme leading up to the critical milestone of first fire on waste aligns well with the Authority's baseline programme. Post first fire, the Tenderer has adapted a longer duration leading up to the start of the trial operation than that assumed by the Authority resulting in a forecast take over date of September 2026 from March 2026.

3.12. The Tenderer's programme will be developed further in collaboration with officers in the early stages of the contract ahead of its submission for approval by the Authority as the contract programme.

3.13. At ISFT the Tenderer provided evidence as to how the delivery functions across their organisation will interface with each other and how these will be managed across the various teams that will make up its delivery organisation. The Tenderer has assembled a team of international experts in their field, which includes the key partners for the supply of the ERF's process technology, and design.

3.14. The Tenderer has already identified and selected a number of its critical suppliers, such as HZI as the main technology provider. After contract award the Tenderer will also supply chain partners including some embedded in the local community. This approach to supply chain engagement will be underpinned by sustainable procurement policies and a Social Value Strategy.

3.15. Officers have therefore confirmed that the Tenderer has the required capability, experience and team to deliver the Authority's quality and performance requirements for the ERF project.

3.16. The approach to social value delivery was very good and included a well-structured team, including the ongoing involvement of Confab Lab as the Social Value Delivery Partner and an appointment of a locally-based based permanent Social Value Coordinator to be recruited at contract award. The delivery approach included establishment of a Social Value Governance Board with representation from three boroughs from Priority Local Area being prioritised for delivery of social value (i.e. LB Enfield, LB Haringey, and LB Waltham Forest) and local training providers to allow for planning for future skill needs and promotion of opportunities on the project.

3.17. Acciona's response includes the creation of 90 new apprenticeships in line with the Authority's requirements. The submission gives due consideration to recruitment, retention/ mentoring, with appropriate focus on Priority Local Area and Equality, Diversity and Inclusion (EDI).

3.18. The delivery of on-site skills training placements meets the Authority's requirements to provide 180 placements for trainees from the Priority Local Area. Acciona's approach includes consideration of disadvantaged and underrepresented groups who may benefit from pre-employability training which the Tenderer has incorporated into its recruitment process. At the end of the training placement, support is provided to the trainees' further applications for work or education.

3.19. With regard to local employment opportunities, Acciona will provide 418 full time equivalent local jobs during the contract period. A Workforce Development Plan will be established and shared with local delivery partners to manage skills requirements and employment opportunities. The approach also includes programmes for groups underrepresented in the construction workforce such as women re-entering the workforce and Black, Asian and Minority Ethnic (BAME) candidates. Acciona will implement a programme working with local businesses towards meeting the Authority's targets. To support achievability of this target, the approach includes capacity building activity with the local supply chain and regular Meet the Buyer events.

3.20. EDI comes across strongly across all social value themes in the submission. Acciona will develop an EDI training plan, delivery EDI toolbox talks and establish a Diversity Champions Network across the workforce.

3.21. Acciona's approach to schools programme delivery provides a good range of educational activities, including site-based visits, careers and STEM workshops, and the implementation of a Carbon and Waste Management Literacy project. The delivery of community projects includes volunteer time, financial support and in-kind donations.

3.22. The monetised value for each Social Value Theme has been informed by the National Themes, Outcomes and Measures (TOMs) Social Value Measurement framework; National TOMs 2020: Social Value Calculator for Procurement. The total value of the Social Value Themes proposed to be delivered is £29,613,424.

**Stakeholder Engagement**

3.23. The Tenderer's solution will deliver stakeholder management working with the Authority, recognising the range of stakeholders, including local residents, elected Members and technical stakeholders including Thames Water, Cadent Gas and the Canal and River Trust. The Stakeholder Engagement Plan to be developed in the first four weeks of the contract will set out the processes and requirements for stakeholder communications. Key messaging will be jointly agreed.

**Section B Technical**

**DCO requirements**

3.24. The DCO sets outs the key design principles including that the ERF will utilise the highest performing proven technology; will meet the strict requirements of the applicable emission directives and environmental permit; and result in no significant environmental effect on the surrounding area. The Tenderer's solution aligns with these core principles which have been upheld and maintained throughout the development of their proposed design.

3.25. The Tenderer, supported by the long-established expertise from their technology supplier brings, together two of the most prominent companies in the sector and has proposed a high performing design solution which delivers on the requirements of the Authority and fully complies with the DCO. The technology supplier is a global leader in the energy-from-waste industry and has the experience, track record and knowledge to deliver on a world-class facility for the Authority.

3.26. In line with the DCO, the Tenderer will deliver a plant utilising Advanced Moving Grate technology with 2 independent process lines with a maximum throughput capacity of 43.75 tonnes per hour, equivalent to 700,000 tonnes per annum for the ERF as a whole. As per the DCO requirements, the Tenderer's proposal will deliver a condensing steam turbine system generating up to 78MW gross of electrical power. The turbine will allow for both heat and power providing heat at 35MW thermal with the potential to expand to 60MW thermal in the future. Early in the design stage the chosen boiler steam parameters at the unit of pressure of 50 bar and temperature of 425°C for the superheated steam were specified by the Authority to ensure high energy efficiency and the Tenderer will comply with this requirement.

**Compliance with Environmental Permit**

3.27. The Tenderer's proposal will comply with the requirements of the Environmental Permit enabling the ERF to meet the very stringent emission limits agreed with the Environment Agency. To treat nitrogen oxide (NOx) the ERF will incorporate the most effective technology available, namely Selective Catalytic Reduction (SCR). Specifically, they have confirmed they will comply with the requirement to achieve an emission performance within the permitted level of 80mg/$m^3$ for NOx. The SCR is 'future proofed' to enable greater emissions reductions in the future, through provision of space for an additional catalyst layer.

3.28. The facility will also combine a semi-dry stage and a wet process stage – referred to as a 'dry-wet' process. The concept of the combined system is that the major proportion of the pollutants are removed from the flue gases in a semi-dry system and the flue gas then polished downstream in a two-stage polishing scrubber (the

wet part of the process) to further remove pollutants from the flue gas. The ERF will be the first in the UK to benefit from this proven technology, which is deployed in some of Europe's best performing plants.

3.29. The Tenderer has confirmed that the size of the building envelope will align with the planning drawings both in height and area complying with the Limits of Deviation established by the DCO.

3.30. At the time of the final tender submission the Tenderer had not yet appointed their preferred architect therefore their approach to architectural treatment was less well defined than other parts of the submission. However, they have confirmed their architectural team will include of Royal Institute of British Architects (RIBA) qualified and registered Architects. During dialogue and the subsequent final tender, the Tenderer confirmed they will comply with the reference design for architecture and apply the principles set out in the DCO. They also confirmed that any variations from the reference design would be of 'equal or better quality' tothat included within the documentation submitted by the Authority to the London Borough of Enfield for the purpose of discharging DCO planning conditions. The Authority's architectural advisers are "concept guardians" of the architectural principles agreed in the DCO, and will monitor and supervise this throughout the life of the contract.

**Building Research Establishment's Environmental Assessment Method (BREEAM)**

3.31. A BREEAM target of Very Good is required under the DCO and Acciona have confirmed they will comply with this requirement. A compliance coordinator will be appointed to oversee BREEAM activities, as well as a licensed BREEAM Assessor engaged to review the information produced and award credits towards the overall BREEAM score.

**Section C Commercial**

3.32. The contract included in the procurement is a modified version of IChemE Red Book Lump Sum Contract. This contract form is appropriate because much of the work under the ERF project relates to the provision of waste processing equipment and is therefore aligned to the methodology of IChemE, which details the Performance Tests, Acceptance Certification and Final Certification along with the appropriate liquidated damages and dispute resolution procedure.

3.33. Contract terms are included in Appendix C to this report as they are commercially confidential.

3.34. The key contract terms require the Contractor to perform the works specified at the agreed price, and in accordance with the detailed specification which sets out the Authority's requirements. This is contained in the Schedules to the contract,

which cover technical specification, management, social value and communications.

**Risks Retained by the Authority**

3.35. Throughout the dialogue period, the Authority has assessed the risk allocation between the parties to determine whether additional value can be achieved through reallocating risk ownership and mitigation. Consistent with all procurements on the NLHPP, the Authority has maintained its best practice risk management approach and assigned risks to the party who is best able to control the risk probability and its impact. Where neither party was able to control the risk, then that risk or risk element is retained by the Authority.

3.36. For dialogue, a Commercial Working Group was put in place, which was responsible for assessing the proposed risk transfers discussed in the dialogue period. Risk transfer opportunities were identified in Acciona's proposed Deviations and Clarifications on the Contract in both their initial ISDS and final ISFT responses, and value optimisation workshops undertaken in the dialogue period.

3.37. Where the risk position has changed resulting from the dialogue period, the Authority's risk register has been updated to include the risks and their associated mitigations. More detail is contained in Appendix C to this report.

## 4. VALUE FOR MONEY

4.1. As part of preparation for receiving the Tenderer's final submission for the construction and commissioning of the ERF, officers implemented a process of value optimisation with Acciona to identify opportunities to add value without reducing safety, performance or quality. Opportunities were identified by officers and/or the Tenderer with each item being initially assessed for the likely associated value, impact on quality and deliverability, and subjected to dialogue.

4.2. Of the opportunities identified, a number were rejected to preserve key project requirements (DCO, environmental permit, output performance), or were insufficiently defined to provide material benefit, or were considered to provide insufficient value to take forward, leaving the key opportunities to be taken forward as part of the Tenderer's final solution.

4.3. In accordance with good practice, a value for money statement has been prepared to allow consideration of the value for money of the single tender, in the absence of competitive bids. This statement is at Appendix B with confidential information in Appendix C. The report demonstrates that it is value for money for the Authority to enter into this contract.

4.4. The value for money assessment includes reference to an assessment of market factors affecting the cost. The final tender price aligns with officers' detailed review

to within 2.5%. Whilst direct comparison with other recently completed projects is difficult because the information from comparators will reflect the terms of specific contracts, and available outturn information, nonetheless, on a basis of comparison supported by the Authority's technical advisers, it was possible to benchmark the tendered contract price to between 4% and 7%.

4.5. The conclusion of this work is that the contract would, if entered into as bid, offer value for money. The submitted price would be materially higher if the procurement were to be rerun. The contract provides a fair market rate for the work.

## 5. CONCLUSION WITH REGARD TO THE AWARD OF THE CONTRACT

5.1. The evaluation carried out confirms how the solution provided by Acciona's tender, meets the Authority's requirements. Details of the outcome are in Appendix C.

5.2. In the absence of competition, the award is based on the evaluation of the solution against the criteria, and the supporting information relating to value for money.

5.3. As set out in this report and supporting appendices, including Appendix C on Part II of this agenda, the tender received meets the Authority's requirements; the price is demonstrably value for money; the procurement will deliver the Authority's requirements for a facility.

5.4. As would be the case with the outcome of any procurement and the subsequent contract agreement, there are residual contract risks which the Authority will retain. These are detailed in Appendix C. The assessment of the residual risks provides the method by which the project team will manage those risks. The detail will continue to be provided to Members in the regular project reports presented to the Authority and Programme Committee meetings.

5.5. Members are therefore recommended to delegate authority to the Managing Director to award and execute the contract and associated documents, and to the Programme Director to manage the contract, having taken account of the information provided in this report and the supporting appendices, both on the public and on the private agenda. Any delay to the decision would lead to a delay in the programme with significant cost implications.

## 6. NEXT STEPS

6.1. Following a decision to award the contract, a standstill letter will be issued to Acciona. It is intended to complete the contract on 18 January 2022. Prior to that contract completion it will be necessary to finalise the insurance cover for the project, being arranged through the Authority's Owner Controlled Insurance Programme, an update on which is provided in the Programme update on Part II of

this agenda, and for the necessary funds to be in place for the start of the contract, through the methods set out in the report of the Financial Adviser on this agenda.

6.2. The documents to be entered into include the Agreement, a Parent Company Guarantee, and the Performance Bond, both from the Tenderer.

6.3. Acciona will start work immediately on the contract including on site works establishing a site presence including extensive survey work; detailed design work; sub contractor procurement; and the possibility of some early enabling work.

6.4. Early in the contract, the contractor will prepare a stakeholder engagement and a social value plan, working with the project team so that it meets the Authority's expectations.

6.5. Ongoing reports to Members will provide information on the contractor activity as it develops. These updates will form part of the regular NLHPP update reports presented to Authority and Programme Committee meetings.

## 7. BOROUGH IMPLICATIONS

7.1. The forecast levy described in the Business Case Review and Reconfirmation report in Appendix D shows the costs of the Authority allocated between the Constituent Boroughs on the basis of the forecast waste arisings and the current menu pricing requirements. The actual levy will be calculated annually as part of the budget setting process, and the amount due from each borough calculated in accordance with the Inter Authority Agreement which provides the agreed basis for the menu pricing arrangements. The inter Authority Agreement should be reviewed following agreement on the next Waste Management Contract, prior to the start of operations of the ERF.

**7.2.** Borough Directors of Finance and Environment are engaged regularly in liaison with Authority officers, and this will continue as the next contract is finalised to bring to Members for authorisation. Financial implications for boroughs could include income to the Authority (and potentially to boroughs themselves as collection authorities) if waste not currently treated at Edmonton - such as from businesses within the constituent boroughs which is currently processed outside of north London – is disposed of in the new ERF.

## 8. STAKEHOLDER COMMUNICATIONS

8.1. The programme of engagement with residents and other stakeholders will continue after the award and start of the contract. This will build on the communications already in place, and take account of the outcome of focus groups recently held in all seven boroughs. The focus groups show that residents welcome the opportunity to engage and to learn more about the Authority's plans for the replacement ERF

and for more recycling and waste prevention initiatives. NLWA will work with borough communications teams to reach more residents.

8.2. NLWA and partners will use social media, newsletters, press notices, posters and other channels to provide information and direct stakeholders to further information on both nlwa.gov.uk and northlondonheatandpower.london. The Community Liaison Group for local residents, businesses and elected members will continue to be a forum for information and questions, and will be attended by the contractor for liaison on the construction activity. Road shows will continue, to provide information about the Authority's activities relating to recycling and waste prevention, and the NLHPP.

## 9. EQUALITIES IMPLICATIONS

9.1. In scoping the procurement, consideration was given to access for the site, and the design of the works will allow for accessible needs. The contract will incorporate requirements for recruitment in accordance with suitable equalities and inclusion policies, and there are requirements for local employment which will ensure that the local demographic make up is reflected in the local elements of the workforce.

9.2. As set out below, there is a legal requirement relating to the Equality Duty, and this is met specifically in the social value workstream, and in the design requirements. The contract will ensure compliance with these legal obligations.

## 10. COMMENTS OF THE LEGAL ADVISER

10.1. The Legal Adviser has been consulted in the preparation of this report, and comments have been incorporated. Legal comments are also included in the Appendix to this report on Part II of this agenda.

10.2. The Legal Adviser confirms that the Authority has the power to let a contract for the ERF construction works, in order to arrange delivery of its main function, waste disposal in north London.

10.3. The procurement was carried out under the Public Contracts Regulations 2015, and processes and protocols were put in place to ensure that the processes were followed. The Value for Money Statement provides the necessary assessment to allow the Authority to determine whether the procurement outcome represents value for money, in the absence of competitive bids.

10.4. In coming to a decision Members must take into account the Authority's Equalities Duty under the Equality Act 2010. In summary, these legal obligations require the Authority, when taking decisions about its function, to have due regard to the need to (1) eliminate discrimination, harassment and victimisation and other conduct prohibited under the Act; (2) advance equality of opportunity between people who share a relevant protected characteristic and those who do not; (3) foster good

relations between people who share a relevant protected characteristic and those who do not (which involves tackling prejudice and promoting understanding). Under the Duty, the relevant protected characteristics are: Age, Disability, Gender reassignment, Pregnancy and maternity, Race, Religion, Sex, Sexual orientation.

## 11. COMMENTS OF THE FINANCIAL ADVISER

11.1. The business case review demonstrates that the NLHPP provides the most economical waste disposal solution for constituent boroughs. The Authority is financing the project via borrowing and officers are working towards ensuring that three key challenges are met:

11.1.1. To ensure that NLWA has sufficient cash and liquidity facilities available to enable it to discharge its financial obligations arising from the NLHPP when they become due;

11.1.2. To minimise the impact of the financing costs of the NLHPP on the levy arising to the seven constituent boroughs; and

11.1.3. To arrange financing in such a way as to give a high level of certainty about the cost of finance throughout the useful economic life of the assets created by the NLHPP.

11.2. In determining its Capital programme, the Authority is required to have regard to The Prudential Code for Capital Finance in Local Authorities. The Code is designed to ensure that local authorities have capital investment plans that are affordable, prudential and sustainable. The code sets out indicators that must be used. These prudential indicators would usually be reviewed annually, when the budget and levy are set in February.

11.3. The procurement of the Energy Recovery Facility is the largest procurement in the Authority's capital programme and therefore an update on the financing plan and a revised set of prudential indicators have been included as part of the Finance Update paper elsewhere on this agenda.

**List of documents used:**

Documents used in the preparation of this report are the project reports: ERF Construction Works Procurement Report; Business Case Review and Reconfirmation Report; and Market Alignment Report. These reports contain information which makes them exempt from publication under Category 3 of Schedule 12A Local Government Act 1972 (as amended). Summaries of relevant information have been supplied.

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**APPENDIX A PROCUREMENT REPORT**

# Contents

# 1 Executive Summary

## 1.1 Procurement Strategy

The ERF procurement strategy is to tender the project under the Public Contracts Regulations (2015) Competitive Dialogue procedure. The Authority's intent is to award a lump sum design and build contract under an amended form of IChemE Red Book, commonly used for projects requiring high technical input and where proof of service or performance is required.

At the Authority meeting on 25 June 2020, Members delegated authority to the Programme Director to start the procurement for the ERF Construction Contract, on the basis that the decision on award of the contract would be brought back to Members in due course.

## 1.2 Procurement Timeline

Four responses to the Selection Questionnaire (SQ) were received in September 2020:

Acciona, CNIM and HZI all passed the SQ stage however HZI later withdrew after they had been issued with the ISDS to subcontract to Acciona. The fourth company failed to meet the SQ requirements and the Authority rejected their SQ response. The outcome of the SQ was presented to the Programme Director on 6 October 2020, the Programme Director gave approval to issue the Invitation to Submit Detailed Solutions (ISDS). The ISDS was issued to Acciona and CNIM on 9 October 2020.

CNIM chose not to submit an ISDS submission on the 9 April 2021. The Authority decided to continue with the procurement with Acciona as a single tenderer. This decision was the subject of a Members Paper and risk analysis which were presented at the informal Programme Committee on 11 May 2021.

Following evaluation of the ISDS submission, the Authority entered an 18-week dialogue period on 1 June 2021 and issued an Invitation to Submit Final Tender (ISFT) on 5 October 2021.

Acciona responded with its ISFT submission on the 25 October 2021. This tender was subject to full evaluation, moderation and legal review. The results of the tender and the Authority's recommendation are summarised below.

## 1.3 Procurement Context

The procurement of the ERF is taking place at a time of high volatility, both in the UK economy and the Energy from Waste (EfW) supply market.

Economic challenges include:

- The emerging impacts of Brexit in terms of the labour market and availability of construction materials and products.
- High demand in the construction industry from both a spike in demand following the restrictions of 2020 and economic stimulus from Government spending; and
- A volatile background of rising inflation and energy prices.

The EfW supply market also poses several unique challenges in terms of the availability of capable contractors and the perception of the sector as presenting a high level of risk. High profile failures of both civil engineering contractors and technology suppliers have taken place

in recent years meaning procuring a high value project with stringent performance requirements is challenging. Additionally, there are very few suppliers with the proprietary technology and capacity to deliver a project on the scale of the NLHPP ERF.

### 1.3.1 Single Bidder

The following report and subsequent recommendation are based on a single tender response at both ISDS and ISFT. Legal opinion was sought on proceeding with a single tenderer through dialogue and was summarised in confidential advice to Members by the Managing Director in April 2021. The relevant regulation permits proceeding with a single Tenderer into the dialogue phase but additional steps need to be taken to demonstrate value for money in these circumstances.

### 1.3.2 Value for Money

To demonstrate the procurement recommendation represents value for money, a full benchmarking analysis and evaluation of the tenderer's price has been undertaken. This is the subject of a separate report.

## 1.4 Summary of Tender Outcome

The following table provides a summary of the Quality and Management, Technical, and Commercial tender submission scores at ISFT (Invitation to Submit Final Tender).

The ISFT submission reflects the outcome of 18 weeks of dialogue whereby both parties have discussed both on the Authority's requirements and how they are to be provided.

*Table 1: Tender Submission Scores*

| ***Tenderer*** | ***Quality & Management Score*** | ***Technical Score*** | ***Commercial Score*** | ***Total Combined Score*** |
|---|---|---|---|---|
| ***Maximum Possible Score*** | *24* | *46* | *30* | *100* |
| ***Acciona ISFT Score*** | *17.72* | *14.21* | *4.13* | *36.06* |

Based on the Award Criteria set out in the ISDS and ISFT, it is proposed that the contract is awarded to Acciona based on the following reasons:

- Acciona's ISDS submission was prepared during a competitive procurement process as the second Tenderer (CNIM) decided not to submit a tender just before the ISDS submission deadline.
- Acciona improved their tender during the dialogue phase and received an increased score at ISFT.
- Acciona's final tender price represents value for money as detailed in the Market Alignment Report.
- Acciona's tender meets the Authority's requirements as set out in the ISFT documents.

## 1.5 Recommendation

The report recommends that Acciona is awarded the ERF contract for the tendered total of the Prices as set out in Appendix C to the Authority report to which this is Appendix A.

## 1.6 Management of residual risks

This report details the final evaluation scores for the Tenderer's ISFT submission. ISFT Annex 1: Award Criteria and Evaluation Model gives the Authority the discretion to reject any Final tender scoring zero, one, two in one or more evaluations areas. As detailed, there are 21 areas across the Quality & Management, Technical and Commercial workstreams where the ISFT submission has achieved a score of 2 or below. This is due to several factors including the Tenderer providing insufficient detail, the provision of a partial response or a risk to the achievement of the Authority's requirements if not mitigated.

For each section of the evaluation, where a score of 2 or below has been awarded, a risk mitigation action has been identified. Appendix F contains these collated actions and provides further details of the scoring system for each section of the evaluation for reference. Post contract execution, these risks will be managed through the programme wide Risk Management process.

In Annex 1, the Authority reserved the right to reject any Final Tender that scored zero, one or two in one or more criterion. Given the mitigation comments set out in Appendix F, it is proposed that there is no valid ground for the Authority to reject the Final Tender on this basis.

Fundamentally, the Tenderer's proposed solution meets the requirements of the DCO, will comply with Environmental Permit and meet the core functional requirement to treat up to 700kt of waste per annum.

## 1.7 Next steps

Subject to Members accepting the recommendation the Authority will notify the Tenderer of the outcome of the procurement exercise via the Procurement Portal. Written feedback will also be issued to the Tenderer and a 10-day standstill period will then begin. Upon successful completion of the standstill period the Authority will issue confirmation of Contract Award to the Tenderer via the Procurement Portal.

The Contract documents will be assembled for execution in a secure and restricted access folder within Asite to which limited individuals within NLWA, and the Tenderer's organisation will be given access.

The ISFT required the Tender to be made on the basis of the Contract but allowed any Tenderer proposed amendments to be set out in Annex 8 of the Tender. The Tenderer's completed Annex 8 was evaluated as part of the final tender submission and clarifications subsequently sought. The Contract issued for signature will incorporate the amendments from Annex 8 that are acceptable to the Authority.

# 2 Introduction

## 2.1 Overview of Project

The ERF is the critical and most complex asset in the North London Heat and Power programme consisting of civil engineering and building works, incineration technology, flue gas treatment processes and supporting electrical, mechanical, control and management systems. The project must be delivered in accordance with the The North London Heat and Power Generating Station Order 2017 (the DCO).

The ERF was tendered as a single lot with the intention of attracting Tenderers that could provide all the requirements (both civil engineering and technical) under a single EPC contract. The Authority selected the IChemE Form of Contract for Lump Sum Contracts, fifth edition 2013 ("Red Book") as the form of contract. The IChemE contract was amended by a bespoke Schedule of Special Conditions to be entered into between the Authority and the successful Tenderer following the conclusion of the Competative Dialogue (CD) Procedure. The CD Procedure was selected due to the complex nature of the ERF project and the need for contractor input into the final design and construction of the ERF.

## 2.2 Purpose of Report

The purpose of this report is to present a recommendation to the Programme Director for consideration and approval to present to Members for agreement at a meeting of the Authority. The recommendation is based on the results of the Tender evaluation process carried out by the Tender Evaluation Panel. Confidential information contained in this report is presented to Members at the Authority meeting in Appendix C on Part II of the agenda.

This report documents the procurement exercise for the ERF, including:

- The procurement process undertaken;
- The analysis and evaluation methodology for tender submissions;
- The dialogue process;
- Key changes post dialogue;
- Residual risks; and
- A recommendation and next steps.

# 3 Project Details

## 3.1 Scope

The ERF utilises conventional moving grate technology and has a capacity of 700,000t per annum. The scope encompasses the civil engineering works, building works and process technology for a fully functional facility that has significant operational interfaces across the site. The key plant elements comprise:

- Two 350 ktpa process lines with moving grate and horizontal boiler plants;
- Two “combined” flue gas treatment lines;
- Selective back end catalytic reduction (SCR) NOx removal systems;
- A single extraction condensing steam turbine generator;
- An air-cooled condenser system serving the steam turbine exhaust;
- Water treatment plant processing mains water to boiler quality;
- The heat supply equipment necessary to create a District Energy Network connection point;
- A minimum of two waste feed cranes;
- Intake, storage and loading facilities for consumables and by products (incinerator bottom ash and air pollution control residues); and
- An onsite transformer compound (substation) for power export and internal plant supply.

The ERF building incorporates the tipping hall, waste bunker, houses the plant and provides office space and operational facilities for maintenance staff, workshop and storage areas.

The works to be carried out by the Contractor include;

(i) Two identical process lines each comprising combustion unit, boiler and flue gas treatment system with a common turbine / generator / condensing system and all auxiliary systems
(ii) All civil engineering, buildings, architectural treatment, utilities connection, landscaping and other site works
(iii) ERF weighbridges and ancillary offices
(iv) Transport offices, workshops and parking for on-site operational vehicles
(v) Fuelling Area and Equipment
(vi) Oil and fuel storage
(vii) Administration / operations offices and staff facilities
(viii) Windshield and flues
(ix) Cooling condensers
(x) Raw water pre-treatment plant
(xi) ERF fire water tank and associated fire protection systems
(xii) Electrical Substation, Works and Connections
(xiii) Gas apparatus, works and connections
(xiv) Other utility connections including communications and water
(xv) Workshops, stores and maintenance contractor’s area
(xvi) Wastewater treatment plant and associated works

The Contractor is required to deliver all design, engineering, procurement, construction, commissioning, testing, operator training and handover requirements for the new ERF including all buildings, infrastructure and works.

## 3.2 Project Specifics

### 3.2.1 Estimated Contract Value

The estimated Contract Value for procurement communicated in the Contract Notice was £683m at March 2019 prices.

### 3.2.2 Key Programme Dates

The timeline for the procurement of the ERF is detailed in Table 2 including both the baseline and actual durations. Changes were made during dialogue to allow the Tenderer more time to amend the contract schedules and reflect value optimisation opportunities.

*Table 2: Procurement programme*

| Stage | Baseline | Actual |
|---|---|---|
| Invitation to Submit Detailed Solutions (ISDS) | 9 October 2020 | 9 October 2020 |
| ISDS submission | 9 April 2021 | 9 April 2021 |
| ISDS evaluation | 12 April - 21 May 2021 | 12 April - 21 May 2021 |
| Dialogue Preparation | 17 May – 28 May 2021 | 17 May – 28 May 2021 |
| Competitive Dialogue | 1 June – 27 August 2021 | 1 June – 1 October 2021 |
| Invitation to Submit Final Tender (ISFT) | 17 September 2021 | 5 October 2021 |
| ISFT submission | 15 October 2021 | 25 October 2021 |
| ISFT evaluation | 18 October – 19 November 2021 | 26 October – 26 November 2021 |
| Standstill Period | 20 -30 December 2021 | 20 – 30 December 2021 |

As shown above, the project has granted additional time to the Tenderer during Competitive Dialogue to allow them to refine their offer. This has been achieved without compromising the overall procurement programme.

# 4 Procurement Strategy

## 4.1 General

The following sections summarise key information from the ERF Procurement Strategy. The full procurement strategy contains a detailed analysis of the procurement options available to the Authority and an overview of market conditions and the supply market.

## 4.2 Procurement Strategy

A review of procurement options identified that a single-stage EPC contract utilising the Competitive Dialogue (CD) procedure, was the best suited strategy based on a weighted analysis of the Authority's objectives. Specific benefits of the strategy include:

- **Cost of construction:** By adopting a single stage contract award with CD, NLWA can maintain commercial leverage ahead of contract award. The strategy maintains competition through to contract award, which will lead to a lump sum offer;

- **Achievement of technical performance**: The project benefits from engaging with tenderers early through the CD process, supports interaction with NLWA, allows time for tenderers to develop a solution and provides greater assurance of the outcome. There is a far greater chance of achieving the required performance levels through CD;

- **Early contractor input on technology & buildability:** The approach benefits from the input of contractors on issues including site logistics, work package integration and sequencing. The ERF must successfully manage the interface issues that adversely affect many ERF projects and this knowledge is key to successful delivery; and

- **Market appetite**: Market conditions are very constrained both in terms of the risks contractors are willing to take and the background insurance market for contractors' PI. Overall, the strategy maximises the input of the supply chain through a CD procedure to better understand the requirement and aligns with what the market would expect to see.

Following approval of the ERF procurement strategy, an implementation plan was developed including plans for early market engagement culminating in the Contract Notice of 10 July 2020.

## 4.3 Form of Contract

The IChemE suite of contracts has been developed for use on complex process plants and is not simply "work based" and instead focuses on the performance of the completed works using the following "Testing Regime":

- Construction completion;
- Taking over;
- Performance tests;
- Acceptance certification; and
- Final certification.

At each of these points the IChemE contract sets out the testing regime required and who is responsible, the approach to the tests and how non-performance is addressed. The IChemE

form also sets out the liquidated and ascertained damages (LADs) and the damages payable to the Purchaser for non-performance. These are key items to discuss and negotiate with the supply chain as they have a major impact on market interest as the damages for non-performance of the facility are very significant. The IChemE "Red Book" (5th Edition 2013) is appropriate for a lump sum contract..

## 4.4 Procurement Procedure

The procurement of the ERF is subject to the Public Contracts Regulations 2015 (PCR 2015). which provide rules governing the purchasing activities of contracting authorities. The PCR 2015 permits pre-procurement market engagement provided this does not distort competition and is transparent and non-discriminatory.

The PCR 2015 stipulates one of five possible routes to access the market, regardless of the route selected Contracts must be advertised in the Official Journal of the European Union (OJEU) (now the Find a Tender e-notification service post Brexit).

The CD procedure was considered most appropriate as this provided the opportunity to refine the technical solution and mitigate potential performance risks with experts in the supply chain. Candidates were pre-qualified during the SQ phase to ensure that those taken forward possessed the capability to deliver ERF plants at scale.

## 4.5 Design Strategy

The ERF consists of civil engineering and building works and highly specialised process plant and equipment. The two have a high degree of interdependency yet are seldom undertaken by a single contracting entity. Whilst the former could be subject to full design development, the market for the latter is driven by specialist process contractors and suppliers who have invested in the development of energy from waste technology to meet a specified performance requirement.

In this scenario the Authority does not benefit from fully designing the facility as the expertise and understanding of the products used rests with the supply chain. Given the high degree of interdependency between the works and process scope the Authority is best served by developing a performance and architectural specification for the facility. The architectural requirements submitted to the London Borough of Enfield to discharge the DCO requirements must be complied with by the selected Contractor.

# 5 Procurement Process

## 5.1 General

The procurement process is intended to identify the Most Economically Advantageous Tender (MEAT), with the successful Tenderer to be appointed to undertake the ERF Contract. In accordance with the ISFT, the Authority is under no obligation to award a Contract following conclusion of the tender process.

## 5.2 Prior Information Notice

A Prior Information Notice (PIN) was issued by the Authority on 19 December 2019 (Reference: 2019/S 247 – 607948). The PIN detailed a high-level scope of works and invited prospective Contractors to a market information event on 22 January 2020.

## 5.3 Contract Notice

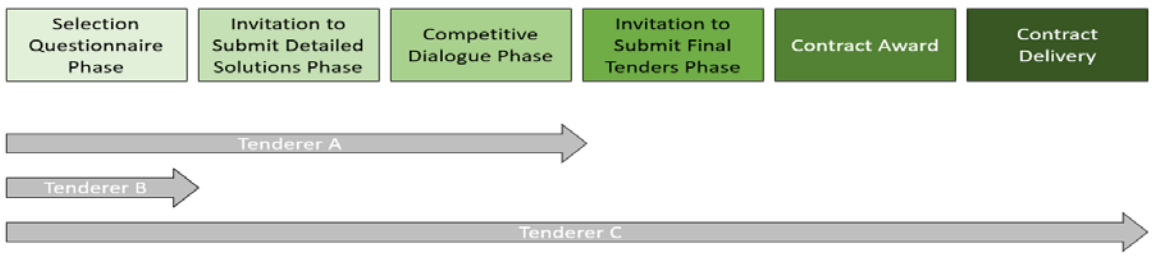
The Contract Notice was issued on 10 July 2020 (Reference 2020/S 135 - 333685). The deadline for submitting a Selection Questionnaire (SQ) response via the Authority's procurement Portal was 11 September 2020.

## 5.4 Summary of Process

When following the Competitive Dialogue (CD) Procedure, interested Contractors are invited to submit a response to the SQ. The purpose of the SQ pre-qualification process is to evaluate the suitability of potential candidates and to select a shortlist of suitably qualified candidates to invite to submit Detailed Solutions.

Once the evaluation of the Detailed Solutions is complete, the Dialogue Period begins. This involves structured dialogue sessions between the Tenderers and the Authority to allow issues relating to the Detailed Solution to be scoped, agreed and documented.

*Diagram 1: Procurement Process*




Once the Dialogue Period is concluded and the Authority anticipates that it will receive a Tender which will meet its requirements, the Authority issues the ISFT to the Tenderers. No further negotiations are permitted at this stage.

# 6 Selection Questionnaire (SQ)

## 6.1 Selection Questionnaire Evaluation Process

The SQ evaluation process was carried out in accordance with the ERF Selection Questionnaire Evaluation Protocol.

Following completion of the SQ evaluation process, Acciona, CNIM and HZI passed all Pass/Fail sections of the SQ and achieved scores above the minimum thresholds set out in Table 1 of the SQ. Acciona, CNIM and HZI were therefore considered to be suitably qualified to deliver the ERF.The Programme Director agreed that the three candidates be issued with invitations to submit detailed solutions.

# 7 Invitation to Submit Detailed Solutions (ISDS)

## 7.1 ISDS Process

The Invitation to Submit Detailed Solutions (ISDS) was issued to Acciona, CNIM and HZI on 9 October 2020. Tenderers were asked to submit responses to a series of Requirements. A summary of the Requirements and their weightings is set out in Appendix A.

Tenderers were also asked to complete the Whole Life Cost Model Template which was then used to evaluate the prices of the Detailed Solutions.

At this stage the Authority was notified by HZI that they were withdrawing from the procurement process as a stand-alone bidding entity. HZI then became the technology provider to Acciona. CNIM notified the Authority on the ISDS submission date (9 April 2021) that they had chosen not to submit a response to the ISDS. One Detailed Solution (from Acciona) was received in response to the ISDS.

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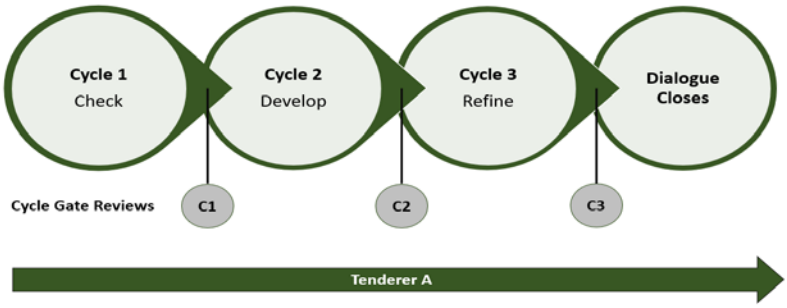
# 8 Competitive Dialogue

## 8.1 Dialogue Process

The CD procurement process was undertaken in 3 stages as illustrated below.

*Diagram 2: Competitive Dialogue Process*




The Tenderer moved through each of the dialogue cycles sequentially. Within each cycle, there were 3 workstreams that provided structure to the dialogue:

- Workstream A – Quality and Delivery Management
- Workstream B – Technical
- Workstream C – Commercial and Contract

A full dialogue protocol was developed to plan the approach in detail.

## 8.2 Topics Discussed in Dialogue

Dialogue commenced on the 1 June 2021 and was undertaken in 3 stages with a scheduled completion date of 1 October 2021. The original planned duration of 16 weeks was extended during the dialogue phase to 17.5 weeks to allow the Tenderer to review and take account of changes arising from dialogue and value optimisation.

Dialogue topics and actions have been tracked in detail throughout this period. In total, 1,446 topics have been raised across the 3 dialogue workstreams. The outcome of these topics is summarised in Table 6 below and in more details in the ERF Dialogue Tracker.

All 1,446 topics have been closed prior to the decision to close the dialogue period. Topics have been tracked through the 3 stages of dialogue with actions and meeting minutes agreed before being issued to the Tenderer.

## 8.3 Value Optimisation

At ISDS submission in May 2021, the Tenderer provided an ISDS price of £819.50m compared to the Contract Notice estimated contract value of £683m. In response, the Authority initiated a value optimisation exercise with the aim of reducing the contract price without compromising the Authority's requirements. Value optimisation identified some 125 opportunities of which 32

were implemented with an estimated cost benefit of £55m. A commercial summary of the value optimisation is detailed below.

*Table 6: Value Optimisation Opportunities Summary*

| | Number | Value (£m) |
|---|---|---|
| Total opportunities identified | 125 | 111.50 |
| Rejected opportunities | 88 | 34.50 |
| Opportunities agreed and implemented | 32 | 55.00 |
| Opportunities that may be implemented by the Tenderer at ISFT | 5 | 22.00 |

The table below summarises the key opportunities. None of the value optimisation items have resulted in any material adverse reduction of the technical solution or the Authority's requirements. Any changes required to the Authority requirements have been documented both in the ISDS topic tracker and in the amended Schedules produced and agreed through the dialogue process.

*Table 7: Key Value Optimisation Opportunities*

| Value Opportunity | Optimised Position |
|---|---|
| Simplification of boiler hall and support structures | Revised process layout implemented to reduce overall internal structure and loads with the main equipment being ground supported enabling a simpler civil design |
| Change from horizontal economisers to vertical economisers | Change implemented, resulting in a shortening of the overall process lines, enabling repositioning of turbine to bring about savings in civils costs |
| Approach to area below tipping hall | This area has been rearranged to provide storage space and fire water tanks, freeing up additional space in the process hall |
| Reduction in building size | Slight reduction in overall building volume based on space savings created through refining of process layout |
| Waste reception hall push walls | Replaced with 400 mm high heavy duty high kerbs to protect structure |
| Removal of the Transport Office including emergency control room and training simulator room | The transport office and workshop were descoped as a requirement and will now coincide with future repatriation of LEL transport fleet to EcoPark<br>Bespoke training simulator now treated as an option which may be exercised by Authority<br>This change will assist the Authority in achieving its ambition to install carbon capture processes in the future by removing a physical obstruction |
| Emergency control room | Emergency control room and training simulator room (in Transport Office) descoped as a requirement as these are not usually seen in other facilities |

| Value Opportunity | Optimised Position |
|---|---|
| Ground conditions | To date NLWA has carried out extensive geo-environmental surveys of the EcoPark and the Contractor will be able to rely on known ground conditions and NLWA will retain the risk of unknown ground conditions materialising to prevent excess risk premiums by the contractor |
| Domestic hot water | Cost effective electrical heating implemented |
| Process hall heating and cooling systems | Unnecessary electrical heating and cooling systems removed from process halls |
| Boiler hall vacuum system | Scope rationalised from all areas to areas where vacuum cleaning offers real benefit and is used frequently and is confined to areas prone to dusty conditions |
| Ash bunker | 7-days storage reduced to 5-days storage in line with current LEL practice |
| Handrailing | Conventional galvanised steel adopted |
| Control training room | A separate replica control room for training purposes has been simplified. |
| ERF corrosivity protection | Corrosion protection levels amended through dialogue with Tenderer with protection class C5 only being applied to areas with aggressive conditions. Other areas will still have suitable corrosion protection levels appropriate to their expected working environment. |
| Wet polishing scrubbers | Scrubbers simplified to co-current scrubbers similar to those implemented by HZI on other projects. There has been no relaxation of the required performance level for the overall flue gas treatment system.<br><br>This change will not impact the Authority's ambition to install carbon capture processes in the future. |
| Air pollution control residue (APCr) storage silos | APCr storage silos reduced from 8 days storage capacity to 5 days capacity in line with current LEL practice |
| Boiler ventilation | A stand-alone boiler ventilation system (to be used during maintenance) has been removed |
| Feedwater pumps | Additional turbo feedwater pumps have been removed with reliance on duty / standby electric motor driven pumps |
| Bypass valves | The bypass valves have been reduced from 120% to 110% capacity to be equivalent to the maximum steam flow possible under any condition |
| Pipe velocities | Pipe velocities have been optimised, allowing a reduction in pipe sizes |
| Boiler drain tanks | A combined boiler drain tank and refill system has been implemented rather than individual systems |
| Air Cooled Condensers | It has been accepted that under the most extreme conditions, the facility may not be able to operate in island mode |
| Steam turbine degradation | Steam turbine degradation has been included within the contract to reasonably avoid risk premiums |

| Value Opportunity | Optimised Position |
|---|---|
| Boiler refractory & cladding concept | HZI's standard refractory design has been implemented, with additional Inconel requirements removed |
| Secondary air preheater | The bypass around the secondary air preheater has been removed with all secondary air being taken from the boiler hall |
| Boiler access doors | A reduced size of door (660 mm diameter) has been implemented in line with HZI standard design |
| Very large crane service deck in order to service three cranes | Option now included for Tender to put forward either a 2 or 3 crane solution subject to clash resolution and servicing requirements |
| Process building: overhead maintenance cranes | Removal of requirement for a very large overhead maintenance crane in process hall. Tenderer now able to put forward bespoke solution for maintenance cranes throughout the ERF subject to ensuring no detrimental impact on regular and safe maintenance requirements. |
| Redundant Continuous Monitoring System | Option for CEMs system to be simplified subject to demonstration of required performance and acceptance by the Environment Agency |

## 8.4 Key changes following Dialogue

Prior to closing the Dialogue stage of the procurement, the Programme Director was provided with the following summaries of key changes in the requirements and client risk position since ISDS.

### 8.4.1 Quality & Management

*Table 8: Quality & Management Changes*

| Schedule | Key changes since ISDS |
|---|---|
| 2 (Contractor's Programme) | At ISDS the Contractor's Programme, first fire was + 3 months from the tender prog and + 7 months for takeover. At ISFT first fire is aligned and takeover is +5 months. The construction sequence was optimised following the revised layout and a reduction in In Scope NAECI Activities risk allowances. We have a sequential approach to takeover rather than reliance on an absolute construction completion milestone.<br><br>The 90-day Trial Operating Period is maintained. Dialogue has aligned resources with the agreed programme prior to ISFT. We have also agreed an approach to delivery of reviewable design data in line with the contract programme.<br><br>Transparency of time risk allowance – we know that this is included but it is not visible to the Authority. The Tenderer is not willing to share this information.<br><br>Some finessing of the programme will be needed to inform reporting requirements (post contract). There are no outstanding items that will benefit |

| Schedule | Key changes since ISDS |
|---|---|
| | from additional dialogue particularly given the co-dependency of programme on the design solution and commercial factors. |
| 4 (Health & Safety) | Minor changes were made during dialogue. Schedule 4 was high scoring at ISDS evaluation with relatively few material changes since the original submission. |
| 5 (Environmental Protection & Waste Disposal) | Dialogue concluded with the agreement to use the submission at ISDS as a baseline evidenced by drawings and appended to Schedule 5. This agreement ensured the Tenderer was not provided with a "soft target" for carbon reduction. |
| 7 (Subcontracting) | A complete list was not provided by the Tenderer for key equipment at ISDS. A long list was provided during dialogue and some uncertainty remains on the choice of key suppliers. However, we have agreed principles for key equipment and how it is administered and what can change. |
| 8 (Contractor's Named Personnel) | At ISDS a high-level org chart was provided. This did not demonstrate coordination across disciplines and how Acciona teams would be managed. This has improved during dialogue and at ISFT we have clarity of the coordination approach, particularly around design coordination. |
| 11 (Times of Completion) | This remains a Schedule for Acciona to complete against their Contractor's Programme. We anticipate this will align with Schedule 19 (Terms of Payment). This is a bid back item on a list of agreed milestones. |

### 8.4.2 Technical

Table 8 provides details of the Value Optimisation implemented following dialogue.

In terms of the Authority's technical risk position, one of the Tenderer's key value optimisation items that was rejected was the reduction of the take-over test Trial Operation Period from 90 days to 30 days. This test period affords the Authority comfort in the ERF's ability to operate in a stable condition for a prolonged period and while 30 days is more commonly seen for commercial facilities, the Authority has sought a longer period to ensure its requirement that the new facility is fit for purpose considering the Availability Guarantees to be offered by the Tenderer.

Within the original drafting of Schedule 17 which deals with performance guarantees and damages for failure, the Authority sought to impose guarantees and tests typically applied to European facilities. However, during dialogue, it became apparent that the high levels of guarantees were beyond what the Tenderer was willing to offer. In almost all cases, the Authority has accepted the Tenderer's position and the guarantee tests and levels are now closely aligned to those typically seen in the UK marketplace.

At ISFT the Tenderer has not finalised their supply chain and has put forward an indicative list of potential suppliers. However, this list still required validation with supporting evidence of the suppliers' track records and quality systems. As a result, the list of pre-approved subcontractors can only be finalised in the lead up to the award of the contract as the Tenderer firms up its list of intended suppliers.

### 8.4.3 Commercial

The Authority maintained its position during dialogue and rejected certain proposed amendments from Acciona. Acciona indicated that they were unable to accept the Authority's position on the following points:

- **Step-Down' of the PCG** - Acciona indicated that they will not provide a full parent company guarantee where the liability of the parent company remains the same as the contractor for the full liability period. They have instead proposed a stepped down PCG. The step down reduces the extent of the Authority cover in the event of issues arising after the issue of the Final Certificate. This is a fixed position of the Acciona Board, and therefore a draft PCG to be used in the expected event that the PCG step down is bid back will be included in the ISFT documents. This means that there will be a suitable form to incorporate into the contract.
- **Termination for Convenience:** The Authority has agreed to an enhanced payment to the Contractor in the event that the Authority cancels the contract in the 12 months following contract signature. The Authority has proposed 5% of the Contract Price which would have been payable to the Contractor for the first six months following termination. The tenderer had requested 5% for the first 12 months following termination and was considering the Authority's proposal.

The Authority amended its requirements in response to comments provided by the Tenderer, and accepted the following updated positions:

- **Brexit and the associated supply chain risks**: to the extent that the Contractor would not be able to manage a change in legislation (arising from Brexit) that is not foreseeable, the Authority will bear the risk;
- **In Scope NAECI Activities:** the Contractor is deemed to have allowed for any cost and time implications of complying with NAECI and the SPA and is only entitled to claim additional time and/or costs in connection with In Scope NAECI Activities in very limited circumstances. Any entitlement is also conditional on the Contractor having been found to have complied with the requirements of NAECI and the SPA. Where the Contractor has complied with those requirements, they will only be able to claim relief in certain circumstances.
- **Liquidated Damages:** Calculation of Liquidated Damages for Performance and acceptance of the £100 per tonne figure for Delay.
- **Performance Guarantees and Damages for Failure:** the Authority has accepted the level of performance guarantees proposed by HZI.

### 8.4.4 Risk position at the end of dialogue

The following table sets out key risk position changes since ISDS. These changes were based on the principle of risk sitting with the party best able to manage it (in whole or in part), or with the Authority if neither party is able to manage that risk. The resulting risk allocation was considered commercially acceptable and incorporated into the ISFT documentation.

*Table 9: Risk position at close of dialogue*

| Risk Transfer | Comment |
|---|---|
| COVID-19 | Original contract only allowed entitlement for time. Entitlement now given for Cost in addition to time |
| Protester action | Original contract only allowed entitlement for time. Entitlement now given for Cost in addition to time |
| In Scope NAECI Activities | Entitlement for Cost and time in limited circumstances in connection with the In Scope NAECI Activities, provided always that the Contractor has complied with the requirements of NAECI and the SPA. Please see section 8.4.3 above |
| Brexit legislation and taxes and levies | Authority taking on risk for Brexit associated legislation and increases to taxes and levies. |
| Variations | The threshold at which the Contractor may object to a variation following Take Over has fallen from 5% to 2.5% of the Contract Price. |
| Additional rights of assignment | A new right for the Contractor to assign or novate the Contract to a group company in limited circumstances. |
| Inflation | Prices current at ISFT in October 2021. Authority is taking on inflation risk for the full contract period. |
| Bonds and Parent Company Guarantee | Reduced bonding structure and stepping down of the Parent Company Guarantee post Final Certificate. |
| Performance Guarantees | Relaxation of performance guarantees. Proposal remains reflective of market conditions<br>Incorporation of an "Exceptional Event" where the Availability Tests can be suspended following an exceptional defect in the Works. |
| Liquidated damages for delay | Approach provides flexibility to multiple scenarios in regard to the operation of the EfW rather than fixed mid-range position as previously drafted |
| Social Value | Incentivisation model rather than a deduction of monies |
| Liability Caps | Caps introduced for reliance on Contractor Documentation, lower caps by 2.5% on each of Delay Liquidated Damages and Performance Liquidated Damages with no option to increase the caps. |
| Liquidated Damages as exclusive remedy | The Delay Liquidated Damages and the Performance Liquidated Damages will (other than the right of termination) be the Authority's sole remedy for delay and/or performance shortfall. |
| Rely upon information | Introduction of the concept of "rely upon" information. The Contractor will be entitled to claim time/money where there are issues in the rely upon information that the Authority has provided about the Site. |
| Termination | The introduction of a new clause to allow the Contractor to terminate for Authority default.<br><br>The introduction of an enhanced termination payment if the Authority terminates for convenience within the first 12 months after the contract Effective Date. |

## 8.5 Closing dialogue

The conclusion of the Workstream Leaders, the independent engineer and legal advisor was that whilst the indicative price provided by the Tenderer was higher than anticipated, the Tenderer had provided a solution that was capable of meeting the needs of the Authority.

As such, the dialogue stage was closed and the Invitation to Submit Final Tender (ISFT) was published.

# 9 Invitation to Submit Final Tenders (ISFT)

## 9.1 ISFT Process

The Invitation to Submit Final Tenders (ISFT) was issued to Acciona on 5 October 2021. Acciona were asked to submit responses to a series of Requirements. A summary of the Requirements and their weightings are set out in Appendix A.

Tenderers were also asked to complete the Whole Life Cost Model Template which was then used to evaluate the prices of the Final Tender.

Acciona submitted their Final Tender on 25 October 2021.

## 9.2 ISFT Clarifications

Clarifications about the Works and the ISFT were submitted in writing through the Portal. Further details of all clarifications can be found in the ERF Clarifications Log.

## 9.3 ISFT Evaluation Protocol

The ISFT evaluation process was carried out in accordance with the ERF ISFT Evaluation Protocol and Annex 1 of the ISFT. The Protocol describes the process for the evaluation of Final Tenders, roles and responsibilities and the details of all Evaluators, Moderators and Subject Matter Experts. Annex 1 of the ISFT details how the Final Tender is scored, the weightings for the tender evaluation criteria and the evidence required for each score.

In addition, all parties involved in evaluation were required to declare any conflicts of interest. Training was provided to all members of the Evaluation Team and ongoing support was provided throughout the evaluation period by the ERF Procurement Team.

## 9.4 ISFT Evaluation Criteria and Weightings

The evaluation criteria and weightings were unchanged from the ISDS evaluation phase apart from the inclusion of the Collaborative Behaviour Interview within section A.5 Stakeholder Engagement. A summary of the ISFT Requirements and their weightings is set out in Appendix A.

## 9.5 ISFT Scores

The results of the tender evaluation are provided at summary level in the Authority Report Appendix C.

## 9.6 ISFT Bid Description

### 9.6.1 Section A Quality and Management

#### 9.6.1.1 Delivery Management

The NHLPP's Programme Manual and associated Management Plans sets outs the management principles that are to be implemented in the delivery of its projects. This is a key document within the NHLPP and has been used to develop the core principles of delivery management set out in the ERF's specifications and schedules.

The ERF procurement process has rigorously tested these principles against the Tenderer's submission to confirm and validate their ability to deliver the Authority's requirements.

The delivery experts from the Authority's advisory team have focused on the Tenderer's ability to understand and convert the Authority's requirements into a robust delivery programme through the design, construction and commissioning phases of the ERF project. In assessing this programme, the Authority has confirmed the Tenderer's ability to deliver the project's quality and performance criteria and key milestones. The Tenderer's programme leading up to the critical milestone of first fire on waste aligns with the Authority's baseline programme. The Tenderer has introduction an extended period between first fire on waste and commencement of the trial operation period, which did not form part of the Authority's baseline programme.

Whilst this extends the Tenderer's take over milestone, which takes the end of the project's construction and commissioning phases beyond that predicted by the Authority, the Tenderer's programme of readiness for commissioning and their approach to delivery of the testing programme during the trial operation period provides confidence that Authority's quality and performance requirements will be delivered and validated ahead of this critical takeover milestone.

This confidence has been further extended through the officer engagement throughout this procurement process with the Tenderer's team. Especially, during dialogue were extensive discussion and interaction took place to clarify the Tenderer's submission against the Authority's requirements. These engagements resulted in the realisation of the value engineering decision agreed between the Authority and the Tenderer. By engaging with the Tenderer is this way the Authority has been able to understand the capability and competence across all disciplines of the Tenderer's team.

The following core disciplines of delivery management have been rigorously dialogued and evaluated:

- Health, Safety and Wellbeing
- Delivery Management:
  - Project Execution Plan
  - Management of the Works and Contractor's Programme
  - Quality Management
  - Staff Competency
  - Risk Management
  - Cost Management
  - Asset Management
  - Digital Information Management
- Social Value

- Stakeholder Engagement
- Collaborative Working

In dialoguing and evaluating these core principles of delivery management the Tenderer's solution aligns with these core principles which have been upheld and maintained throughout the development of their quality and management proposal, and evidenced in their outline Project Execution Plan.

In line with the NHLPP's Programme Manual, the Tenderer will deliver the ERF utilising internationally recognised project delivery techniques, which will be defined within a NLHPP ERF Project Execution Plan. Within this Project Execution Plan, the Tenderer will specify its approach to delivery management that will provide the necessary project governance and assurance across HSW, quality, programme, cost, risk, asset, document, stakeholder and social value management. This management approach will allow the Authority to work collaboratively with the Tenderer to validate the delivery of the quality and performance criteria specified for the ERF, and provide the visibility and early warnings to manage and mitigate existing and emerging risks.

The Tenderer's approach to delivery management will ensure that they will comply with the requirements of the DCO, the Environmental Permit and with the DCO planning conditions with the London Borough of Enfield.

At the time of the final submission the Tenderer had not confirmed the individual team members with their organisation chart, but did provided evidence as to how these individual roles across the delivery functions will be managed and integrated within the Tenderer's project delivery organisation.

The Authority is therefore confident in the Tenderer's capability, experience and team to deliver the Authority's quality and performance requirements for the ERF project.

#### 9.6.1.2 Social Value

Acciona's quality social value submission at ISFT stage has largely remained the same as at ISDS stage. Overall, the social value quality submission was very good.

The approach to social value delivery included a well-structured team, including the ongoing involvement of Confab Lab as the Social Value Delivery Partner and an appointment of a locally-based based permanent Social Value Coordinator to be recruited at contract award. The delivery approach included establishment of a Social Value Governance Board with representation from three boroughs from Priority Local Area being prioritised for delivery of social value (i.e. LB Enfield, LB Haringey, and LB Waltham Forest) and local training providers to allow for planning for future skill needs and promotion of opportunities on the project.

Acciona's response includes the creation of 90 new apprenticeships in line with the Authority's requirements. The submission gives due consideration to recruitment, retention/ mentoring, with appropriate focus on Priority Local Area and Equality, Diversity and Inclusion (EDI).

The delivery of on-site skills training placements meets the Authority's requirements to provide 180 placements for trainees from the Priority Local Area. Acciona's approach includes consideration of disadvantaged and underrepresented groups who may benefit from pre-employability training which the Tenderer has incorporated into its recruitment process. At the end of the training placement, support is provided to the trainees' further applications for work or education.

With regard to local employment opportunities, Acciona will provide 418 full time equivalent local jobs during the contract period. A Workforce Development Plan will be established and shared with local delivery partners to manage skills requirements and employment opportunities. The approach also includes programmes for groups underrepresented in the construction workforce such as women re-entering the workforce and Black, Asian and Minority Ethnic (BAME) candidates. Acciona will implement a programme working with local businesses towards meeting the Authority's targets. To support achievability of this target, the approach includes capacity building activity with the local supply chain and regular Meet the Buyer events.

Acciona's approach to schools programme delivery provides a good range of educational activities, including site-based visits, careers and STEM workshops, and the implementation of the Carbon and waste Management Literacy project. The delivery of community projects includes volunteer time, financial support and in-kind donations.

EDI comes across strongly across all social value themes in the submission. Acciona will develop an EDI training plan, delivery EDI toolbox talks and establish a Diversity Champions Network across the workforce.

The monetised value for each Social Value Theme has been informed by the National Themes, Outcomes and Measures (TOMs) Social Value Measurement framework; National TOMs 2020: Social Value Calculator for Procurement. The total value of the Social Value Themes being delivered is £29,613,424.

#### 9.6.1.3 Stakeholder Engagement

The Tenderer's solution will deliver stakeholder management working with the Authority, recognising the range of stakeholders, including local residents, elected Members and technical stakeholders including Thames Water, Cadent Gas and Canal and River Trust. The Stakeholder Engagement Plan to be developed in the first four weeks of the contract will set out the processes and requirements for stakeholder communications. Key messaging will be jointly agreed.

### 9.6.2 Section B Technical

#### 9.6.2.1 DCO requirements

The DCO sets outs the key design principles including that the ERF will utilise the highest performing proven technology; will meet the strict requirements of the applicable emission directives and environmental permit; and result in no significant environmental effect on the surrounding environment. The Tenderer's solution aligns with these core principles which have been upheld and maintained throughout the development of their proposed design.

The Tenderer, supported by the long-established expertise from their technology supplier bring together two of the most prominent companies in the sector and have proposed a high performing design solution which delivers on the requirements of the Authority and fully complies with the DCO. The technology supplier is a global leader in the energy-from-waste industry and has the experience, track record and knowledge to deliver on a world-class facility for the Authority.

In line with the DCO, the Tenderer will deliver a plant utilising Advanced Moving Grate technology with 2 independent process lines with a maximum throughput capacity of 43.75 tonnes per hour, equivalent to 700,000 tonnes per annum for the ERF as a whole. As per the DCO requirements, the Tenderer's proposal will deliver a condensing steam turbine system

generating up to 78MW gross of electrical power. The turbine will allow for both heat and power providing heat at 35MW thermal with the potential to expand to 60MW thermal in the future. Early in the design stage the chosen boiler steam parameters at the unit of pressure of 50 bar and temperature of 425°C for the superheated steam were specified by the Authority to ensure high energy efficiency and the Tenderer will comply with this requirement.

#### 9.6.2.2 Compliance with Environmental Permit

The Tenderer's proposal will comply with the requirements of the Environmental Permit enabling the ERF to meet the very stringent emission limits agreed with the Environment Agency. To treat nitrogen oxide (NOx) the ERF will incorporate the most effective technology available i.e., Selective Catalytic Reduction. Specifically, they have confirmed they will comply with the requirement to achieve an emission performance of 80mg/m$^3$ for NOx. The facility will also combine a semi-dry stage and a wet process stage – referred to as a 'dry-wet' process. The concept of the combined system is that the major proportion of the pollutants are removed from the flue gases in a semi-dry system and the flue gas then polished downstream in a two-stage polishing scrubber (the wet part of the process) to further remove pollutants from the flue gas. The ERF will be the first in the UK to benefit from this proven technology, which is deployed in some of Europe's best performing plants.

In relation to the external appearance the Tender has confirmed that the size of the building envelop will align with the planning drawings both in height and area complying with the limits of deviation established as part of the DCO i.e. the building envelope will not breach the maximum limits of deviation.

At the time of the final submission the Tenderer had not yet appointed their preferred architect therefore, their approach to architectural treatment was less well defined than other parts of the submission. However, they have confirmed their architectural team will comprise of Royal Institute of British Architects (RIBA) qualified and registered Architects. During dialogue and the subsequent final tender, the Tenderer confirmed they will comply with the reference design for architecture and apply the principles set out in the DCO. They also confirmed that any variations from the reference design would be of 'equal or better quality' than that included within the documentation submitted by the Authority to the London Borough of Enfield for the purpose of discharging DCO planning conditions.

#### 9.6.2.3 BREEAM

A BREEAM (Building Research Establishment's Environmental Assessment Method) target of very good is required under the DCO and Acciona have confirmed they will comply with this requirement. A compliance coordinator will be appointed to oversee BREEAM activities as well as a licensed BREEAM Assessor to review the information produced and award credits towards the overall BREEAM score.

### 9.6.3 Section C Commercial – see Authority Report Appendix C

# 10 Award Recommendation and Next Steps for Procurement

## 10.1 Award Recommendation

Following completion of the ISFT evaluation processes, it is recommended that **Acciona** is awarded the ERF contract for the tendered Contract Price.

## 10.2 Next Steps for Procurement

### 10.2.1 Standstill Period

Upon receipt of Members approval, the project team will notify the Tenderer of the outcome of the procurement exercise. Feedback will be issued to the Tenderer and a 10-day standstill period will commence.

During the standstill period, the confidentiality requirements set out in the Evaluation Protocol will be adhered to.

### 10.2.2 Contact Award

Upon successful completion of the Standstill Period, the Project Manager will instruct the Project Support Officer to issue the confirmation of Contract Award.

The Contract is a deed and so will be sealed on behalf of the Authority part of which will require a hard copy. As the Contract comprises a very large number of appendices, it is likely a "hybrid" document will be needed with links to the final technical documents located in non-editable format in secure locations on Asite.

Information (e.g. insurance certificates) provided at SQ may be revalidated if required. The NLWA Legal and Procurement advisors will review and advise where this is required. It should be noted that a parallel procurement activity for the Owner Controlled Insurance Policy (OCIP) is being undertaken.

Once the Contract is issued for execution the Contract document folder within Asite will be amended to 'Read-Only' for all participants, save for the addition of the scanned, signed Contract cover sheets.

# Annex A: ISFT Weightings

| Project: E7 ERF Procurement<br>ISFT Scorecard Weightings | | | Weighting |
|---|---|---|---|
| **Quality and Management Scoring** | | | **24.00%** |
| A2 - Health Safety & Wellbeing | | | 10.00% |
| | A2.1 | Health Safety & Wellbeing Plan | 10.00% |
| A3 - Delivery Management | | | 5.00% |
| | A3.1 | Project Execution Plan | 0.50% |
| | A3.2a | Management of the ERF Programme | 0.50% |
| | A3.2b | Contractors Programme | 0.50% |
| | A3.3 | Quality Management | 0.50% |
| | A3.4 | Staff competency - Tenderer delivery team | 0.50% |
| | A3.5a | Risk Management Plan | 0.50% |
| | A3.5b | Contractor Risk Register | 0.50% |
| | A3.6 | Cost Management | 0.50% |
| | A3.7 | Asset Management | 0.50% |
| | A3.8 | Digital Information Management | 0.50% |
| A4 Social Value | | | 5.00% |
| | A4.1 | Quantitative and Qualitative Social Value | 5.00% |
| A5 - Stakeholder Engagement | | | 4.00% |
| | A5.1 | Stakeholder Engagement | 2.00% |
| | A5.2 | Collaborative Working Plan | 1.00% |
| | A5.2b | Collaborative Behaviour Interview | 1.00% |
| **Technical Scoring** | | | **46.00%** |
| B1 - Process Description | | | 31.50% |
| | B1.1 | Main concept description, completeness of scope of supply and supply chain management | - |
| | B1.2 | Incinerator/Boiler | - |
| | B1.3 | Flue Gas Treatment System | - |
| | B1.4 | Turbine/Generator/ACC/District Heating | - |
| | B1.5 | Auxiliary Equipment and Systems | - |
| | B1.6 | Electrical Equipment | - |
| | B1.7 | Control and Monitoring System (CMS) | - |
| | B1.8 | Raw Water Pre-Treatment plant, process water system, water pumping station | - |
| B3 - Civil Works | | | 6.90% |
| | B3.1 | Site preparatory works | - |
| | B3.2 | Foundations and Piling | - |
| | B3.3 | Structures and Buildings | - |
| | B3.4 | Roadways, utilities, general infrastructure, auxiliary buildings | - |
| | B3.5 | Other site civil works, fencing, security, landscaping | - |
| | B3.6 | Architectural response | - |
| | B3.7 | Buildings MEP | - |
| B4 - Process Layout | | | 1.84% |
| | B4.1 | Process layout, Site Plan and Site installation identification | - |
| B5 -Construction completion, Commissioning, Testing and Implementation of Operations | | | 2.96% |
| | B5.1 | Construction completion, Commissioning - cold and hot | - |
| | B5.2 | Trial Operation Period and Testing | - |
| B6 - Services | | | 1.80% |
| | B6.1 | Training | - |
| | B6.2 | Operations and maintenance 2 year support | - |
| | B6.3 | Additional on-going support | - |
| B7 - Environmental Management | | | 1.00% |
| | B7.1 | Environmental Management | - |
| **Commercial Scores** | | | **30.00%** |
| C1 - Commercial Proposal - Whole Life Cost | | | 19.00% |
| | C1.1 | Whole Life Cost | 19.00% |
| C1 - Commercial Proposal | | | 1.00% |
| | C1.2 | Consistency between the technical proposal and the Whole Life Cost model submission | 0.50% |
| | C1.3 | Acceptance of bond structure | 0.25% |
| | C1.4 | Acceptance of key supplier collateral warranty requirement | 0.25% |
| C2 - Contract Deviations | | | 10.00% |
| | C2.1 | Deviations and Clarifications on Contract | 10.00% |
| **TOTAL** | | | **100.00%** |

## APPENDIX B VALUE FOR MONEY STATEMENT

# Contents

# 1 Purpose of the Report

NLWA is a statutory joint waste disposal authority established in 1986, and its principal responsibility is for the management and disposal of waste collected by the seven constituent boroughs of Barnet, Camden, Enfield, Hackney, Haringey, Islington, and Waltham Forest (constituent boroughs).

The purpose of the report is to assess and provide confirmation that the outcome of the procurement exercise for the contract for the Energy from Waste construction represents value for money for the Authority and its constituent boroughs.

# 2 Value for Money

The Procurement outcome achieved and the consequent delivery of the Energy Recovery Facility asset within the Programme represent Value for Money for the Authority and the seven Boroughs that make up the North London Waste Authority. This is also true of the wider North London Heat & Power Project. The key measure utilises the Green Book which is guidance issued by HM Treasury on how to appraise policies, programmes, and projects. The five key elements to demonstrate Value for Money have been met. These are,

1. The project is performing against SMART objectives:

| SMART | Stated Objective | Evidence |
|---|---|---|
| **S**pecific | To procure an ERF that meets the requirements of the NLWA within the DCO granted in February 2017 and the baseline cost noted by members in March 2019 | The procurement process has now been completed and it has and demonstrates that the contract, if entered into, will meet the Authority's requirements.<br>The business case restatement evidences an anticipated outturn of **£1,217.73m** against the baseline cost in March 2019 of **£1,220.62m** after adjustment for inflation so that the comparison is on a like for like basis. |
| **M**easurable | Measure against the timeline for Member's decision in December 2021 and within the March 2019 baseline<br><br>Measure against the Authority's requirements in setting up the procurement | This report is presented to the Authority meeting on 16 December 2021.<br>The Authority's requirements have been met, as demonstrated in the Procurement Report. |
| **A**chievable | Performance against an agreed timeline agreed by participants and an agreed baseline cost | The proposed contract provisions, including programme, have been assessed as part of the procurement and assessed as meeting requirements |
| **R**ealistic | Benchmarked baseline cost and timeline | Market comparators have been obtained from the Authority's technical advisors to demonstrate that the ISFT Contract Price is broadly in line with the market once adjustments for |

| | | |
|---|---|---|
| | | current adverse market conditions, COVID-19 and ERF project specific risks associated with industrial action. |
| **T**ime Limited | Final date for Member's decision is 16 December 2021<br><br>Date for completion of works is September 2026 | Report presented to Authority meeting 16 December 2021.<br>Initial programme supplied in bid, agreed programme will be put in place following contract commencement, and progress monitored against that |

2. The project is delivering net present value through the following areas:

| | |
|---|---|
| Economic | Provides a facility within the baseline cost of 2019 and a lower cost to the boroughs than alternative means to treat residual waste (the Authority's statutory duty) |
| Environmental | The Authority requirements and procurement outcome reflect the commitment to high environmental standards to make this ERF the best performing ERF in the United Kingdom for emissions |
| Social | Through incentivised high value social initiatives (apprenticeships, use of local businesses, school engagement, diversity and equality initiatives, and the use of the NAECI working rule agreement as examples), demonstrates the commitment to real social value by the Authority. |

3. The cost of the project for the ERF is evaluated against a whole life cost model to ensure that there are no short-term capital cost gains made by increasing the long-term operational costs of the facility.
4. A full risk analysis has been completed in accordance with its declared progressive position; that this risk should sit with the party who is in the best position to manage it with the price of that risk being transparent to all parties. Where neither party can manage the risk, the risk remains with the Authority. Having established the risk profile for the project, mitigations have been planned to minimise the potential impact of such risks. Where the risk cannot be quantified it is still considered by the Authority and mitigations plans put in place.
5. As the procurement and build of the ERF form part of the wider North London Heat & Power Project it has been considered in its role in the wider context of the whole programme. Therefore, the programme, cost, social value and risk have all been considered vertically and laterally across the whole programme.

# 3 Value through Procurement

The procurement process has been conducted within the Public Contracts Regulations 2015. Following a difficult period for the EPC market supplying Energy from Waste facilities one tenderer progressed through the Invitation to Submit Detailed Solution (ISDS) stage to Competitive Dialogue and submitted a Final Tender. At the ISDS stage the process did include competitive tension as CNIM withdrew only at the time for submission, and therefore the price and position received were prepared based on a process of competitive comparison. The Authority recognised advantages that would ensure the delivery of greater value through the procurement process.

This process required an approach to dialogue which was suitable for the single bidder circumstance, and allowed for greater transparency in cost and risk discussions. This was delivered through:

- Greater focus on dialogue with one Tenderer
- A greater range of dialogue topics covered over three phases of dialogue
- Greater collaborative working practices established from ISDS
- Transparency of price including supplier quotations
- Direct dialogue with major technology sub-contractor
- Fair risk allocation after a clear understanding of the delivery structure
- One tender priced on quality of delivery rather than bidding down to a price sacrificing quality

In order to achieve this the Authority took the following steps during Competitive Dialogue:

- Set up a multidisciplinary (commercial, legal and technical) Commercial Working Group to review all aspects of the proposed solution. This provided a forum during dialogue for addressing the commercial and cost implications of technical proposals and ensuring that any proposals with regard to delivery of the Authority's Requirements were understood in the context of the emerging cost proposal.
- Information was sought from and provided by the Tenderer to allow verification of the costs presented
- From this group a completed value optimisation process was set up using value engineering techniques to lower the cost of delivery without compromising quality or project requirements

# 4 Conclusion

The procurement of the Energy Recovery Facility has been a well run and successful process that exemplifies the best practices of modern Public Procurement. It has delivered a contract for the delivery of the key asset in the North London Heat and Power Programme that will ensure,

- A healthy and safe environment for all those working on the project
- World class emission standards
- Ready to capture and store carbon for long term carbon [neutrality]
- A quality plant that will deliver Value for Money for North London for a generation

The Value for Money for the ERF is the foundation for a rational and well-made decision to award the ERF Works EPC Contract to Acciona to be made.

**APPENDIX C CONFIDENTIAL INFORMATION**

Please refer to Part II of the report pack.

## APPENDIX D BUSINESS CASE REVIEW AND RECOMMENDATION

## APPENDIX D SUMMARY OF THE NORTH LONDON HEAT AND POWER PROJECT BUSINESS CASE REVIEW AND RECONFIRMATION

### 1. PURPOSE OF THE REPORT

1.1. The North London Heat and Power Project (NLHPP) will provide new and replacement waste management and disposal facilities, authorised through a Development Consent Order (DCO) for a new Energy Recovery Facility (ERF) and associated works, which was obtained in February 2017. Construction has been underway since 2019 on preparatory works for the ERF, a new Resource Recovery Facility (RRF), a new Reuse and Recycling Centre (RRC) and a visitor centre providing community and education facilities and a new home for the Edmonton Sea Cadets.

1.2. This report provides a summary of the review of the business case for future waste disposal and confirms that the replacement ERF at the Edmonton EcoPark remains the most environmentally, socially, and financially responsible waste management solution for north London residents. It confirms that the alternatives will lead to higher net carbon emissions and cost significantly more than building a replacement ERF.

### 2. BACKGROUND TO THE 2021 BUSINESS CASE REVIEW

2.1. The original business case for the North London Heat and Power Project (NLHPP) was formally established in 2017 with the successful application for a Development Consent Order (DCO).

2.2. In line with best practice, officers subsequently implemented a phased project development process with reviews at key investment decision points. These reviews include a revalidation of the business case to make sure the assumptions which informed previous decisions remain valid considering any changes or developments.

2.3. In 2019, as the Project entered its Delivery Phase, officers established a comprehensive performance baseline of scope, cost, schedule and risk, and sought investment in the recycling facilities in EcoPark South. Since then, the Project has progressed with completion of £150m of capital works and £250m of contractual commitment associated with completion of the enabling works construction phase, contract award for the EcoPark South works, and completion of the procurement process in support of the award of the Engineer, Procure and Construct (EPC) contract for the ERF.

2.4. Prior to the decision to award the ERF contract based on a successful procurement process, it is necessary to revalidate the business case, primarily related to

determining that the ERF remains the most beneficial solution for disposal of north London's waste.

2.5. The review of the business case, at this juncture, is based on:

2.5.1. Confirmation that the ERF remains the most beneficial technical and environmental solution (Section 5 of this paper).

2.5.2. Confirmation that the overall NLHPP cost forecast remains within the agreed budget in light of current and forecast expenditure (Section 6 of this paper).

2.5.3. Confirmation that the NLHPP provides the most economical waste disposal solution for the boroughs (Section 7 of this paper).

2.5.4. Confirmation of the Authority's capability and resources to deliver the next phase of work, i.e., the design, construction, commissioning, and handover of the ERF (Section 8 of this paper).

## 3. AUTHORITY STRATEGIC DECISIONS TO DATE

3.1. The confirmation of the ERF as the most beneficial solution to north London's future waste management needs follows the Authority's strategic decisions over several years. Through these decisions, set out in Annex A to this report, Members decided to progress the application for the DCO, and, after it was granted, to authorise the procurement and construction of works to implement the NLHPP.

3.2. As part of the decision making, Members considered the options available for future waste disposal service in north London. An options appraisal was prepared when Members considered whether to implement the DCO, and updated consideration has been given to alternatives as part of the business case restatement reported on in this report. The conclusion was that the ERF solution is the best available for the management of waste arising in the area.

3.3. Members are also aware that the current Energy from Waste plant is the oldest in Europe, and that there is risk of service failure, and cost associated with maintenance of this plant, and that therefore a replacement solution for waste disposal is essential.

3.1. Following a decision of the Authority in July 2020, the procurement for the ERF works programme was started with an OJEU (Official Journal of the European Union) notice. The outcome of that procurement is reported separately on this agenda.

3.2. Members have received regular updates on the progress of the North London Heat and Power Project and have taken the necessary decisions to progress the project

to this point. If approved, this contract will lead to the construction of the best environmental solution for north London's waste disposal.

## 4. BACKGROUND AND STRATEGIC ISSUES

4.1. This section sets out some of the key strategic issues which have influenced the Authority in its decision making on the NLHPP, to provide context for the 2021 business case review.

### Emissions control

4.2. The application for the DCO included requirements for emissions control more rigorous than any other operational facility in the UK. As a result, the ERF will be the first in the UK to use Selective Catalytic Reduction to control NOx, and the first to employ a combined wet / dry scrubber system to reduce particulates, acid gases and other emissions.

### Climate change and carbon capture

4.3. The ERF will support one of the UK's largest district heat networks, with capacity to supply low-carbon heating and hot water to up to 50,000 homes and businesses. This will save carbon compared with homes having individual gas boilers or heat pumps.

4.4. The Authority has agreed and published a strategy for developing a Carbon Capture, Utilisation and Storage (CCUS) solution. The demolition of the existing facility in 2030 will provide adequate space for a carbon capture and conditioning plant and the ERF will be developed to be carbon-capture ready. A feasibility study is currently identifying options for the transportation and storage element of the full CCUS chain.

4.5. In November 2021, the Department for Business, Energy, and Industrial Strategy (BEIS) advised that waste management projects would be eligible for support through the Industrial Carbon Capture business model for the next planned tranche of the Government's Cluster Sequencing process and the Project is targeting being a part of this.

4.6. Once CCUS has been implemented, the ERF will be a priority waste asset able to operate if non-CCUS plants are required to cease operation. CCUS would likely make the ERF carbon negative through the sequestration of biogenic carbon dioxide and could help to rebalance emissions from other sectors to support the UK's overall effort to achieve Net Zero.

**Waste forecasting and flexibility**

4.7. The existing energy from waste plant is already unable to manage all of north London's residual waste. Around 13% is managed at other waste sites outside London, principally the Greatmoor energy from waste facility in Buckinghamshire and the Kemsley energy from waste facility in Kent. This reinforces the urgent need to build the new ERF, which will enable north London to achieve the Mayor of London's self-sufficiency targets.

4.8. The ERF being procured has the capacity to manage all of the forecast waste which will be collected by the seven boroughs. Section 7 of this report contains the forecast volumes of waste. This does not take account of the full amount of residual commercial waste produced by businesses in north London, which in total could be up to half a million tonnes per year. Should recycling rates improve faster than forecast, the facility does not need to be operated at its maximum capacity to function properly.

4.9. The facility can also operate on a single line for short periods of time, which is 350kt per annum, for example, during maintenance or seasonal variations. If in the future as the result of transformational waste prevention/recycling developments, residual waste fell to levels below those which could be currently foreseen, the Authority could restrict operations to a single line with modification to the plant/equipment.

**Consideration of alternatives**

4.1. Alternative solutions were considered prior to the application for the DCO, then again prior to the decision to implement the DCO, and have once again been considered as part of the review and reconfirmation of the business case. Alternative technical solutions considered for the end-disposal of residual waste do not provide the robustness required for the waste generated by households in north London area and would introduce significant financial and delivery risks. Pre-sorting of residual waste seeks to extract some recyclable materials before sending most of the refuse to an energy from waste facility. Reports from other facilities has shown that pre-sorting has typically delivered only low recyclate recovery rates, and results in poor quality material being extracted which does not reliably meet the specifications required for reprocessing. It remains the case that a pre-sorting solution as part of the NLHPP is not the best solution for the management of the Authority's waste as it would not lead to a material reduction in the size of the ERF needed.

4.2. Other possible solutions such as landfill or transporting waste to third party facilities outside the area are less environmentally sustainable, would be substantially more expensive, would depend on capacity being created elsewhere and operators being willing to bid to take north London's waste. They do not

provide opportunities for local district heating or for the employment, skills and social value which would come with the ERF.

## 5. CONFIRMATION THAT THE ERF REMAINS THE MOST BENEFICIAL TECHNICAL SOLUTION

5.1. In reviewing the ongoing validity of the previous decision to pursue the ERF solution, the business case review looked at alternative solutions; confirmed that the Authority's performance requirements in terms of scope, capability, quality and environmental performance have been maintained in the final proposal for the EPC contract; and confirmed that the proposed capacity remains valid in light of an updated review of north London waste forecasts. The review also examined the flexibility of the ERF to operate below full capacity and the technical and commercial impact of doing so, to support any future decision regarding the availability of capacity headroom.

### Review of Alternative Technologies

5.2. The Authority has carried out a re-examination of available waste treatment technologies as alternatives to landfill, including the available thermal waste treatment technologies, pre-sorting of residual black bag waste, and the range of non-thermal treatment technologies. The purpose of this exercise was to confirm whether other forms of treatment may have emerged since the last business case review that are capable of processing residual waste at scale in a proven, safe, reliable, and environmentally responsible manner. This assessment particularly considered recent large scale technology performance and failure.

5.3. The review included a re-examination of alternative thermal treatments, namely fluidised bed combustion, pyrolysis, gasification, distributed modular gasification, two-stage combustion, and the manufacture of sustainable aviation fuel. These were all assessed on their own merits but deemed less advantageous than Energy Recovery, for example by being unavailable or unproven at scale, or being an immature solution prone to performance issues.

5.4. The Authority also examined opportunities for pre-treatment of waste through Mechanical Biological Treatment (MBT), "Dirty" Materials Recovery Facilities (D-MRFs), and Autoclaves.

5.5. Mechanical Biological Treatment (MBT) consists of pre-sorting residual waste with additional organic waste treatment to reduce the quantity of food waste being burnt. The amount of recyclate/organic matter removed is generally below 10% of waste. This process is expensive and requires large scale facilities to carry out multiple processes.

5.6. MBT remains unproven with the volume of waste managed in north London and the outlook for the technology remains challenging. Few plants have been built,

and none have operated successfully at design capacity. Several MBT facilities based in the UK have closed or been converted to another waste management use as the cost efficiency of their operation has come under increasing scrutiny.

5.7. In relation to D-MRFs, data shows that mass sorting of residual household waste is not successful at very large scale. Recovery rates of recyclates from the waste are far lower through a D-MRF than through collecting recycling separately to residual waste. It typically recovers no more than 10% of recyclate from municipal waste, and in many cases far below this. It does not replace the need for an ERF. This experience has been borne out in facilities in the UK and internationally. An example is the Recycling and Energy Recovery Facility in Leeds which opened in 2016 and is an energy recovery facility with a pre-sorting facility. For the last year in which results were published, only 101 tonnes of plastic was extracted from 170,000 tonnes of residual waste, representing 0.06% of the residual waste. Officers will continue to monitor developments, but no evidence from current pre-sorting facilities would justify a material difference to forecast capacity needs for residual waste disposal.

5.8. Autoclaving has been widely used for the treatment of hospital waste and animal rendering and is not a disposal solution. There are several facilities operational in Australia, Europe and the USA but they have a limited track record. None of the facilities operate at the scale required. The largest facility identified has the capacity to process 150,000 tonnes per annum.

5.9. The review concluded that the only technology proven at the scale of operation required for north London is an ERF employing advanced moving grate technology. This technology has a long-established track record in managing waste at the scale required by the Authority, in a safe, environmentally responsible, and reliable manner.

**Confirmation of Technical and Environmental Performance for the ERF**

5.10. The aim of the ERF procured by the Authority has always been to utilise world class proven technology to deliver an environmentally advanced, financially sustainable long-term solution to safely dispose of the residual waste arising in the north London area. This requirement has been preserved and achieved through the technical proposal submitted by the tenderer for the ERF works contract, Acciona.

**Technical Performance**

5.11. The plant will operate two independent process lines or grates with a maximum throughput capacity of 43.75 tonnes per hour (tph), equivalent to 350,000 tonnes per annum (tpa) per processing line over the anticipated 8,000 operating hours each year, or 700,000 tpa for the ERF as a whole. The advanced moving grate system means that the ERF will have the ability to “turn down” its throughput to

70% of the maximum design capacity meaning that it will have the ability to operate at a throughput of 490,000 tpa. At this level, the Authority would continue to meet its heat and power supply obligations. HZI, the technology supplier in the Acciona tender, has constantly optimised, developed and adjusted its proprietary grate combustion systems to meet changing statutory requirements making its solution one of the best and most reliable systems on the market today. The technology offers the flexibility to accept waste of varying composition and calorific value. It is the most common form of energy-from waste technology and can be found across the globe with over 45 plants in the UK and over 450 plants throughout Europe.

5.12. The plant will also have an efficient steam boiler, and advanced combustion control system and a state-of-the-art steam turbine for the efficient generation of electricity for output to the national grid.

5.13. In electricity-only mode the plant will generate up to 78MW of electricity – equivalent to powering 127,000 homes. The facility also unlocks one of London's biggest low carbon heat networks, the Meridian Water Heat Network operated by Energetik (a company owned by the London Borough of Enfield), supplying a minimum 35MWth of heat with a potential to increase to 60MWth beyond 2035. As a result, at least 10,000 local homes will not require gas boilers. The heat network could be expanded to serve 50,000 homes in the future – saving 95% of the carbon emissions from a gas boiler.

*Environmental Performance – Air Quality*

5.14. The environmental performance specification of the ERF will deliver the cleanest and most advanced plant in the UK. The plant that delivers environmental performance takes over half the physical volume of the building. This addresses the treatment of Flue Gases that arise from the exothermic reaction on the grate.

5.15. In terms of actual performance, the ERF will be able to treat nitrogen oxide with the most effective technology available, Selective Catalytic Reduction (SCR). The Environmental Permit issued by the Environment Agency commits the Authority to achieving a NOx emission limit of 80 mg/Nm3 compared with the most stringent European standards of 120 mg/Nm3 as set out in the EUs Waste Incineration Best Available Technique Reference Document (WI BREF). In terms of future proofing, the SCR system can achieve a NOx emission as low as to 30 mg/Nm3 in normal operation through the addition of a further catalyst layer. This level of emission is much lower than other operational plants in the UK and only possible with SCR. Other UK plants typically operate at around 140mg/Nm3 or higher.

5.16. The temperature of the furnace must be 850 degrees Celsius before any waste is processed. This high temperature of combustion reduces the formation of dioxins and furans. Dioxins and furans in the combustion gases are then removed by

adsorption with powdered activated carbon in the reactor as part of the flue gas cleaning.

5.17. In summary, the equipment will mean that the ERF will be the cleanest in the country. The ERF will perform far better than current legal requirements for emissions and, by virtue of its very low emissions is considered to be future-proofed against changes to emissions regulations.

5.18. As a result of the emission controls and the high altitude of discharge, the contribution of the new ERF to pollutant concentrations at ground level is small. For the majority of the year, its contribution is close to zero and the predicted concentrations are well below the limits of detection. It would only be for a few hours in a year that its contribution would be measurable, and this would be at levels of less than 2% of the relevant air quality standard. It is therefore a benchmark asset for the UK, which other local authorities and private operators can follow. The emissions control performance compared to legal requirements is shown in the diagram below.

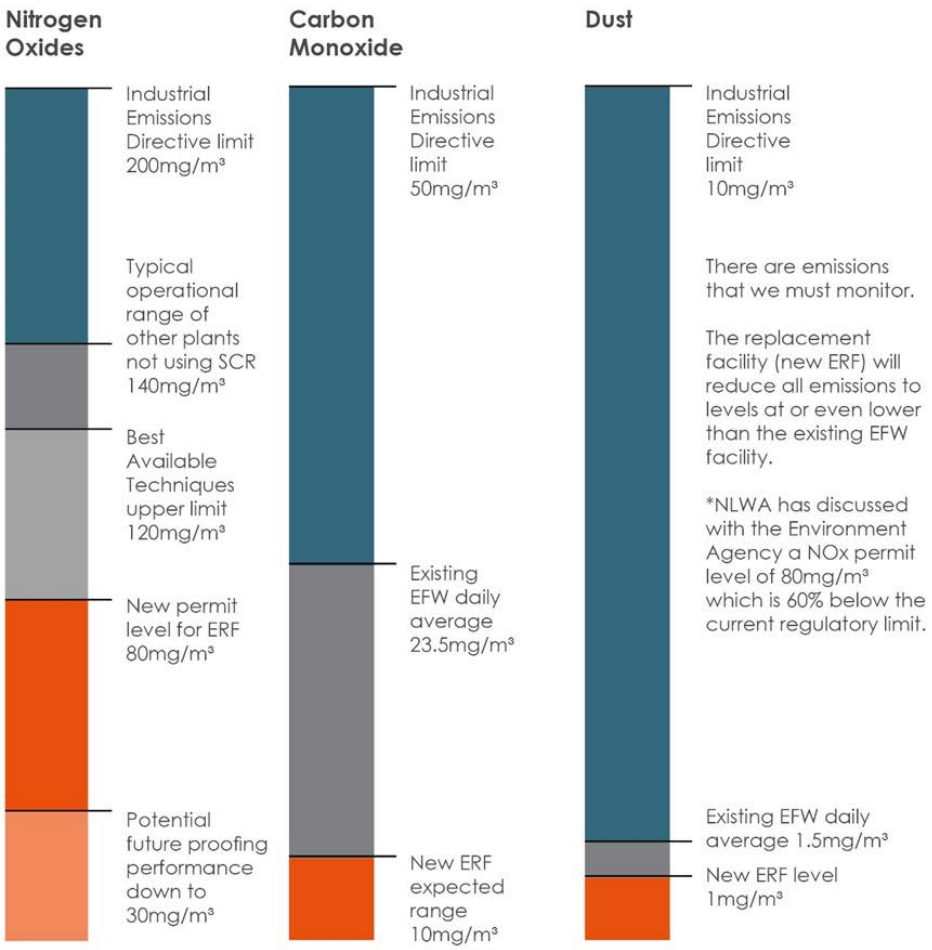


Figure 5.1: Comparison of ERF emissions control performance with the Industrial Emissions Directive safe limits, Environment Agency permits and current EfW performance.

*Environmental Performance – CO2 Emissions*

5.19. The net CO2 emissions from the facility have been calculated to be approximately 28,000t per annum. This is based on the calculation process published by The Department for Environment, Food and Rural Affairs (Defra), based on the emissions from non-biogenic waste and considering the displacement of fossil fuelled power generation (a coal power plant has a carbon intensity of approximately 800g CO2 kWh and a gas power plant has a carbon intensity of approximately 373g CO2 kWh, both above the net emissions of the ERF) plus the carbon content of recyclable material output from the thermal process.

5.20. The GLA have set a Carbon Intensity Floor (CIF) at 400g CO2 / kWh which provides a limit on CO2 emissions from an Energy from Waste Plant. It is intended that the CIF will be reduced to 300g CO2/kWh in the future. The GLA has acknowledged that the ERF will meet these requirements by virtue of the district heating scheme. The ERF has been confirmed to perform at 356g CO2 kWh operating at 35 MWth heat supply (which is already committed) and 284g CO2 kWh when operating at 60 MWth (for which the heat offtake system has been sized).

5.21. The Authority is taking forward its strategy to implement Carbon Capture and Storage (CCS) and engaging with such departments as the Department for Business, Energy and Industrial Strategy (BEIS) to promote its viability. Installing CCS will likely make the facility carbon negative through the sequestration of biogenic carbon dioxide.

**Assessment of Required Capacity for the ERF**

5.22. The business case review also considered whether the proposed capacity of the ERF remained appropriate in view of any changes to waste forecasts. The Authority undertook a review of waste forecasts across the boroughs and assessed the required ERF capacity to support the vision for north London to be self-sufficient in dealing with its waste. The review then assessed the ability of the ERF to accommodate uncertainties in waste throughput.

**Waste Modelling**

5.23. Waste modelling was produced in 2015 for the DCO. Since then, tonnage has not grown as expected, but the recycling rate remains stubbornly low at approximately 30% for the area, and there has not been the growth in borough commercial waste portfolios included in the DCO forecasts. The Authority carried out an exercise to provide an updated assessment of potential waste arisings to reassess the capacity

of the ERF and ensure that it will meet the short, medium and long term needs of the Authority.

5.24. The assessment looked at population growth in line with the GLA's projections. It also considered the potential effects of introducing of a Deposit Return Scheme (DRS) for drinks containers and also Extended Producer Responsibility (EPR) for packaging materials, although no firm details of the design or timing of implementation of these initiatives have been announced by Government and therefore this is subject to uncertainty. The scenarios taken forward for modelling are set out below.

5.24.1. Continuation of current recycling performance (Business as Usual);

5.24.2. Delivery of recycling levels set out within the Boroughs' Reduction and Recycling Plans (RRPs), along with gains from residual waste reduction initiatives; and

5.24.3. That the Boroughs collectively deliver a recycling rate of 50%.

5.25. The 2021 calculations provide a wide range of possible residual waste tonnages in 2050 and beyond – between 453,000 and 650,000 tonnes per annum (tpa) with the expected mid-point being 604,000 tpa. As waste is not produced at an even rate over the year but residents throw away more rubbish at certain times (for example after Christmas and bank holidays), those tonnages would require a peak capacity of 9,800 to 14,500 tonnes per week in the ERF. This range is wider than that modelled at the time of the DCO application, with the lower end of the calculation being below that previously forecast. However, it is consistent with the information provided for the DCO application. That consistency is reinforced by the fact that the DCO application modelling had as its central forecast that residual waste tonnage would be 568,000 tonnes in 2020/21 and actual tonnage was 570,394 tonnes.

5.26. The modelling outcome and comparisons with previous assessments in the DCO are shown below:

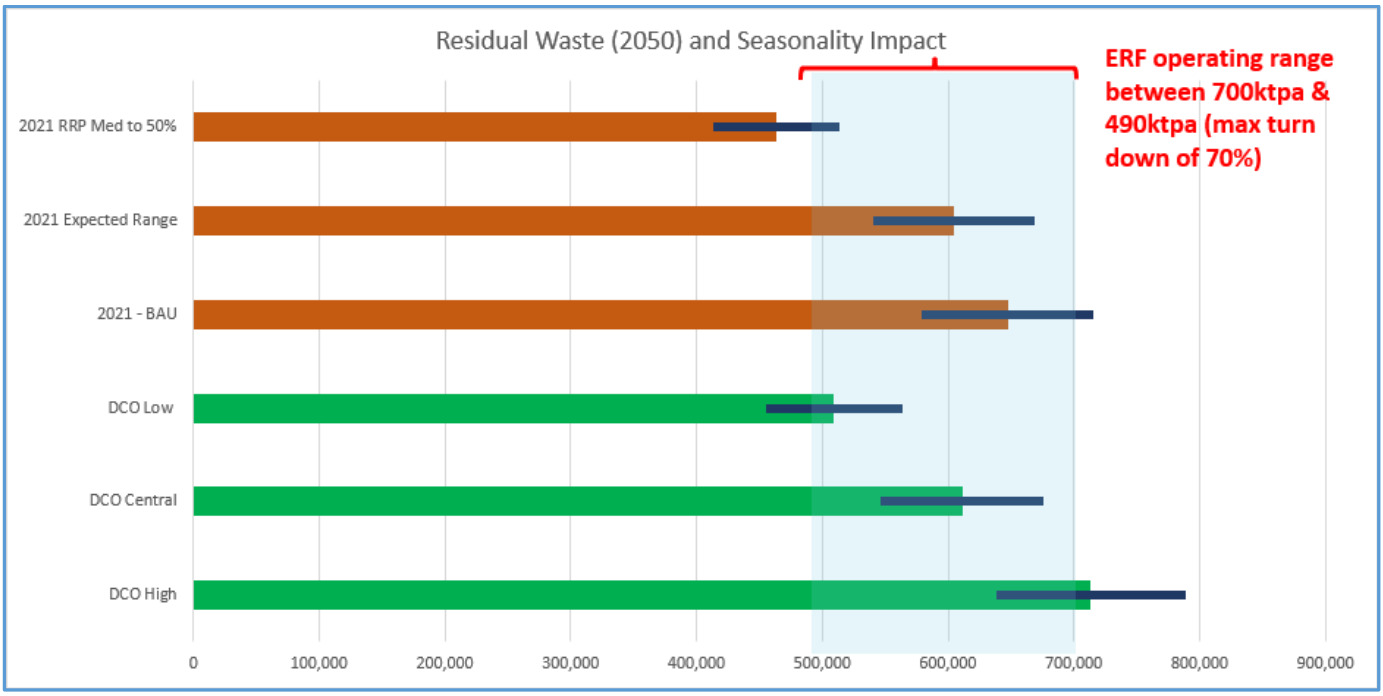



Figure 5.2: Forecast Waste Modelling Summary

5.27. To ensure that the ERF could manage all identified potential waste outcomes throughout the life of the facility without the need for exporting waste outside north London, and recognising the potential for a peak requirement for up to 14,500 tonnes per week (equivalent to 690,000 tpa over 8,000 operating hours per annum), it is concluded that the peak design capacity of 700,000 tpa for the new ERF is right-sized. This takes account of peak capacity needed for seasonal variations whilst recognising the temporary storage capacity in the bunkers to buffer against even higher temporary peaks beyond the nominal capacity of the facility.

*Flexibility of Operational range for the ERF*

5.28. In response to potential future reductions in residual waste arisings in north London the new ERF, although having a maximum capacity of 700,000 tpa, will be capable of operating a capacity of 490,000 tpa without significant technical issues. This enables the facility to function whilst disposing of north London waste only, as opposed to importing waste from outside the Authority to achieve full capacity. The 490,000 tpa figure represents each person in a significantly increased north London population reducing their personal generation of residual waste from current levels by approximately one third.

5.29. At 490,000 tpa throughput, the Authority would be able to meet its existing heat and power supply obligations to Energetik and Ark, as well as future anticipated power demands. This represents a turn-down ability to 70% which is a typical level

for these types of facilities. Below this level, the stability of the facility may be affected leading to "trips" or stalling of the facility, or the need for additional gas to support combustion.

5.30. Operating the ERF at lower capacity will be more expensive than operating at full capacity, primarily due to the loss of energy income from heat and electricity and also the loss of third-party gate fees. However, this would also be accompanied by the lower cost of treating recyclate and its associated income streams.

5.31. If in the future, as the result of transformational waste prevention/recycling developments, residual waste was to fall to low levels below those that could be currently reasonably foreseen, the Authority could consider a strategy of restricting operations to a single line with modification to the plant /equipment and the overall operation of facility.

## 6. REVIEW OF THE NLHPP COST FORECAST IN RELATION TO THE AGREED BUDGET

6.1. During the dialogue period for the ERF procurement, a Commercial Working Group, of officers and the Authority's external advisors, was formed to validate the Contract Price and was able to robustly analyse and challenge the contractor's costs and drive value for money through the procurement. In October 2021, Acciona submitted their Final Submission (ISFT) Contract Price.

6.2. Officers have undertaken a 'bottom up' analysis concluding that the Acciona Contract Price is representative of current pricing levels in the market. The dialogue with Acciona on costs employed 'open book' principles, with a high level of transparency provided across all cost categories, evidencing substantiation of 95% of the Contract Price through presentation of supplier quotations and supporting information.

6.3. To compare the Authority's March 2019 baseline budget related to the ERF against Acciona's contract price, an equivalent baseline figure (adjusted for inflation and contractor risk) was calculated to be within 2.5% of Acciona's price, confirming that the submitted price aligned with officers' expectations.

### Validation of the NLHPP forecast cost in comparison to March 2019 baseline budget

6.4. Since the NLHPP baseline budget was established in 2019, significant progress has been made during the delivery phase, including successful completion of enabling works projects to budget; contract award and significant progress on the EcoPark South construction; and completion of the dialogue and tender evaluation stage on the ERF. Cost performance on the Project has been consistently monitored during the delivery phase. The business case review in 2021 confirmed the forecast cost for the overall NLHPP programme at the 2019 price-point. This results in an equivalent programme cost estimate of £1,217.7m, compared to the upper bound

2019 baseline estimate of £1,220.6m. This demonstrates that the NLHPP programme will be delivered within the estimated cost range presented to Members in 2019. The figures are summarised below.

| Item | 2019 baseline (2019 prices) | Current forecast (2019 prices) |
|---|---|---|
| Construction costs | £776.4m | £881.0m |
| Programme costs | £183.4m | £219.6m |
| Contingency/risk exposure | £259.8m | £117.1m |
| **Total project budget** | **£1,220.6m** | **£1,217.7m** |

Figure 6.1: Summary of current NLHPP cost forecast compared to 2019 business case baseline (all at March 2019 prices)

6.5. The baseline was established in 2019 prior to procurement and commencement of the works contracts. The NLHPP was to be executed on an operational, brown-field site without adverse effect on the ongoing waste management operations. For a project of the magnitude, duration and complexity of the NLHPP in its early stages, it was essential to have a prudent risk allowance which was benchmarked against industry experience, and to baseline the construction and programme costs against activities for which there was already a high degree of predictability, recognising that elements of the risk allowance would eventually be required for delivery of the construction and programme. In the subsequent 30 months, the enabling works phase has been successfully completed, the major EcoPark South contract has been awarded and commenced, and the ERF contract basis and price has been identified. This progress has resulted in the gradual draw-down of risk allowances into the base construction and programme costs and the establishment of a current forecast with a high degree of confidence based on the experience of the last 30 months.

**Validation of the Authority-controlled contingencies**

6.6. On evaluation of the ERF tender, the register of Authority-held risks was updated, and peer reviewed by Fichtner Consulting, to reflect the liabilities held by the Authority under the intended contract. An independent review of risk and contingency levels was carried out by Oxford Global Projects, based on Reference Class Forecasting techniques for equivalent projects and programmes.

6.7. Reference Class Forecasting is a recognised forecasting/benchmarking method of predicting outcomes for major projects, through looking at actual outcomes in a reference class of similar projects to that being forecast. The study confirmed the adequacy of the contingency held for both the ERF contract and the overall NLHPP programme.

**The Impact of Inflation**

6.8. The budget of £1,220.6m against which cost performance is measured was established at the March 2019 price point and excluded the impact of subsequent inflation and exchange rate fluctuation. These are difficult to predict and beyond the control of the Authority. To establish a consistent performance measure, all costs have been monitored at the March 2019 equivalent.

6.9. However, the impact of inflation has been incorporated into borough levy forecasts so that the indicative expenditure for the boroughs is closer to currently forecast actual expenditure.

## 7. CONFIRMATION THAT THE NLHPP PROVIDES THE MOST ECONOMICAL WASTE DISPOSAL SOLUTION FOR THE BOROUGHS

7.1. The impact of numerous changes surrounding the construction and subsequent operation of the NLHPP has been modelled to determine the impact on the levy costs to the seven boroughs for provision of waste management services by the Authority. Officers also compared the levy to alternatives to assess whether the NLHPP remains the most economical solution in comparison to alternatives.

**Outcome from the Modelling of the Levy**

7.2. The initial outcome from the levy calculation is shown in the figure below.

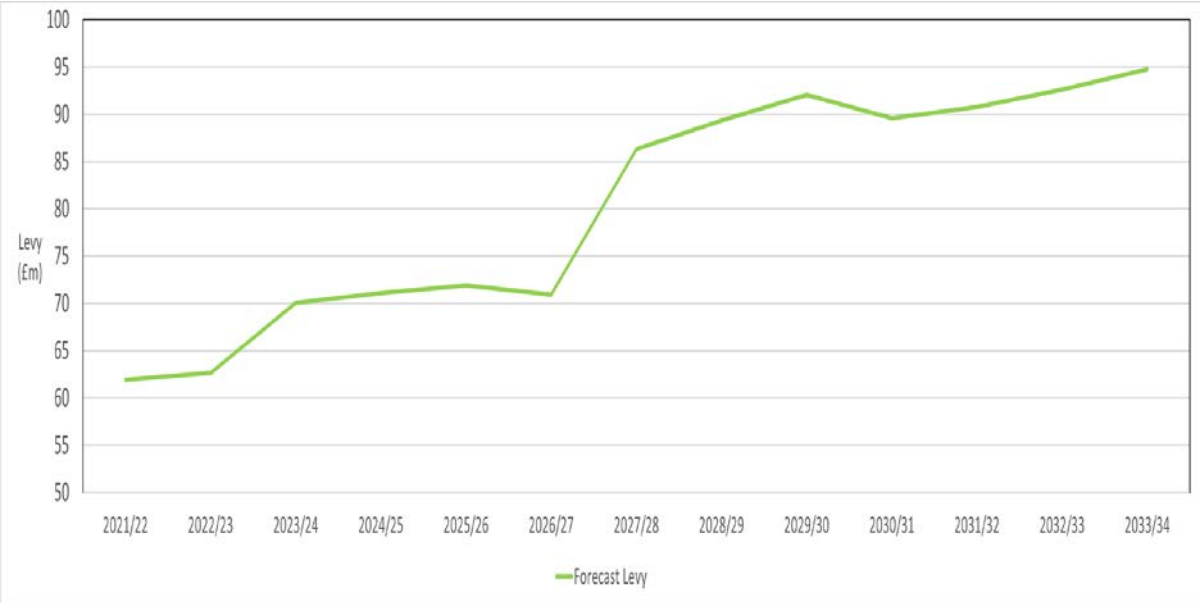



Figure 7.1: Current Draft Levy Model

7.3. The initial levy projections until 2025/26 are similar to previous forecasts provided to boroughs. Due a longer period to formal handover of the ERF by the contractor

and achievement of full operations than previously assumed in the NLHPP baseline schedule, the point at which the levy will increase is delayed by 1 year, to 2027/28. This is due to the Minimum Revenue Provision (MRP) for the ERF now starting from 1 April 2027 rather than 1 April 2026.

7.4. The levy in 2020/30 is now forecast to be £92m. The dip in the graph in 2030/31 is caused by a £5m per year Minimum Revenue Provision amount associated with the original purchase of LondonEnergy Ltd coming to an end and is not related to the NLHPP.

7.5. In the current levy update, the following factors have informed assumptions built into the model;

7.5.1. The latest capital cost forecast including the Energy Recovery Facility contract bid price

7.5.2. Latest future estimates of electricity prices

7.5.3. Interest rate updates

7.5.4. Revised tonnage projections

7.5.5. Updated operating costs

7.5.1. Exchange rates

7.6. Officers have also compared the forecast levy costs to those of other statutory joint waste disposal authorities. The following table provides an indicative comparison of levy cost per tonne of waste across comparable statutory waste authorities. This data is from publicly available information from the accounts/annual reports of the waste authorities. The indicative levy rate is approximate only as the authorities report their total waste in different ways which may not be exactly comparable. However, the rates are representative of relative levy costs per tonne of waste between authorities.

| Authority | Total Waste (Kt) | Levy (£m) | Indicative Levy rate (£/t) |
|---|---|---|---|
| Greater Manchester WDA - 2020/21 | 904.0 | 167.2 | 185.0 |
| Merseyside WDA - 2020/21 | 450.0 | 77.5 | 172.2 |
| East London WA - 2020/21 | 461.0 | 67.5 | 146.4 |
| West London WA - 2020/21 | 603.0 | 63.4 | 105.1 |
| Western Riverside WA - 2020/21 | 372.0 | 50.1 | 134.7 |
| North London Waste Authority - 2020/21 | 731.0 | 55.2 | 75.5 |
| NLWA - forecast 2030/31 levy in 2020/21 prices | 746.0 | 74.9 | 100.4 |

7.7. This shows that at present the North London Waste Authority has the most economical total cost per tonne of waste of all statutory authorities and costs would remain favourable in comparison with other authorities once the new facility is in operation.

**Comparison with Levy Based on Alternative Waste Disposal Methods**

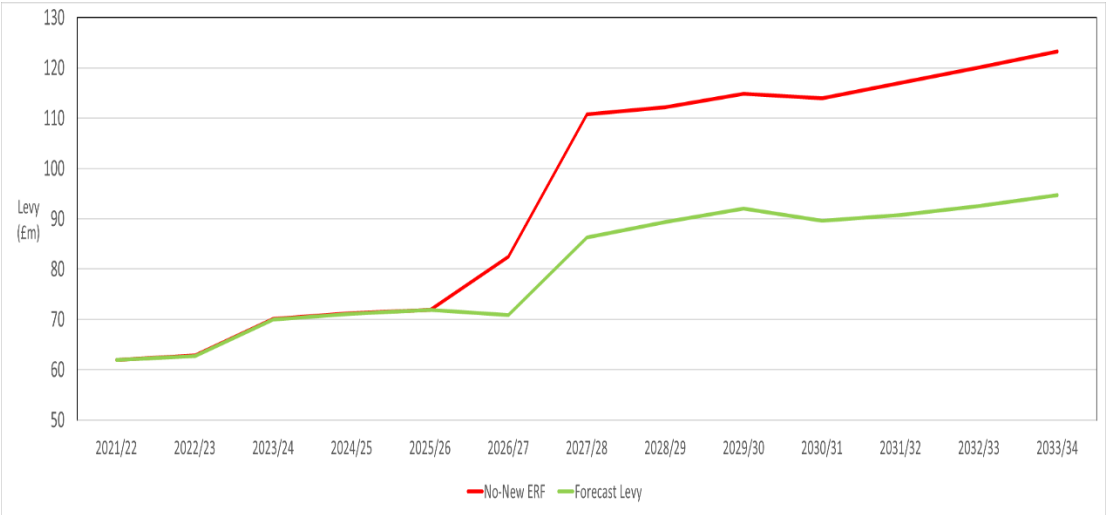
7.8. An indicative levy was calculated on the assumption that the ERF was not built but instead all waste was treated at a third-party facility, assuming that sufficient capacity could be secured. In this scenario, the EcoPark South recycling facilities are still completed, and the existing EfW facility ceases operation in 2026 and is then demolished and the site remediated.

7.9. 400,000 tonnes of residual waste would be treated under a long-term contract at current long term market rates plus inflation. The remaining waste would be treated using shorter term contracts at current rates achieved by the Authority for residual disposal. This is on the assumption that in such a case members would wish the Authority to have flexibility in relation to future waste volumes and avoid committing to supplying current levels of residual waste for a 25-year period. These figures include assumed transport costs. They do not assume any investment in relation to "pre-treatment" of waste, which would increase costs further.

7.10. The comparison with the levy for the NLHPP is shown in the figure below. The study concludes that the NLHPP saves north London residents at least £20m per year over the asset life, compared with sending the waste elsewhere in the country or abroad.

7.11. It should be noted that the graph below excludes a one-off increase to the levy that would occur if it was decided not to build an ERF at Edmonton. If no ERF capital asset is created, then the costs incurred on developing the ERF proposals would have to be expensed to the levy. The final value of such costs would be subject to agreement with the Authority's auditors on what elements could be allocated to the other assets being constructed (e.g. under the EcoPark South contract) but costs to be expensed would include those incurred directly on the design and procurement of the ERF plant and costs such as the clearance of the site for the ERF.

Figure 7.2: Overall Levy comparison between NLHPP and use of 3rd party facilities.




7.12. The forecast levy for each borough is included in Annex B to this report for information. This is indicative only, as the precise split of the levy requirement will depend on actual tonnages of waste delivered, and on the terms of the Inter Authority Agreement, which will be reviewed prior to the start of operations of the ERF and may require updating. That workstream will be progressed with borough Directors of Environment and reported on further in due course.

## 8. CONFIRMATION OF THE AUTHORITY'S CAPABILITY AND RESOURCES TO DELIVER THE NEXT PHASE OF WORK

8.1. The Programme Director has confirmed the Authority's strategy to self-manage the delivery of the ERF Project through a single lump sum EPC IChemE contract and has confirmed that it has availability and access to the project specific resources it needs.

8.2. The system, process and resource capabilities and capacities required by the Authority to provide its overarching management role and to meet its obligation under the ERF IChemE contract have been examined and confirmed. Figure E.1 in

Annex E summarises the resources required in terms of people (including specialist skills); assets that the Programme will use; and systems, services and technology, and how the resource needs will be met.

8.3. A Delivery Readiness Plan has been established to identify the key tasks that must be delivered ahead of the contract Effective Date. An assessment of existing and future resource needs has been undertaken to understand the maturity of the NHLPP's existing resources and to identify action plans to ensure that these resources are fit for purpose for ERF delivery.

8.4. A re-shaped ERF organisation of the ERF team will also be implemented to support delivery of the ERF project as it transitions from procurement into the EPC delivery phase. This organisation is shown in Annex C.

**ANNEX A AUTHORITY DECISION RECORD**

| Date of meeting | Meeting type | Agenda item | Report title | Decision(s) taken | Notes |
|---|---|---|---|---|---|
| 29/07/2020 | Programme Committee meeting | 9 | EcoPark South Construction Contract Award | THAT the Committee delegated authority to the Programme Director to award the contract to the Tenderer identified in the Part II report and to manage the EcoPark South Construction contract. | |
| 25/06/2020 | NLWA Meeting | 22 | North London Heat and Power Project - Energy Recovery Facility Works Procurement | THAT authority be delegated to the Programme Director to begin the procurement for the contract for the Energy Recovery Facility Works; | |
| 15/03/2021 | Programme Committee | 15 | North London Heat and Power Project - Procurement of an Owner Controlled Insurance Programme for the Energy Recovery Facility | To procure an Owner Coordinated Insurance Programme (OCIP) for the Energy Recovery Facility (ERF) as set out in the report, to be in place at contract award of the Energy Recovery Facility in January 2022 | |

| Date of meeting | Meeting type | Agenda item | Report title | Decision(s) taken | Notes |
|---|---|---|---|---|---|
| 02/04/2020 | Authority (consultative) | 12 | Application of a Working Rule Agreement for the Energy Recovery Facility Project and Update on the Employment Relations Code of Practice | THAT the application for National Agreement for the Engineering Construction Industry registration for the Energy Recovery Facility Project be agreed; | No formal Member meeting held: decision taken by the Managing Director following a consultative meeting with Members |
| 13/02/2020 | Authority | 17 | Energy Recovery Facility Procurement Strategy | THAT the Authority agreed the strategy for the procurement of the Energy Recovery Facility construction and commissioning; | |
| | | | | THAT the Authority noted that procurement plans would be finalised to conform with the strategy agreed by Members; and | |
| | | | | THAT the Authority noted that Member approval would be sought in due course, in order to start procurement, planned for July 2020. | |
| 03/10/2019 | Authority | 15 | NLHPP Financing Strategy | THAT the NLHPP financing strategy, including the identification of Public Works Loan Board (PWLB) as the primary source of finance and municipal bonds as the secondary source of finance, be approved; | |

| Date of meeting | Meeting type | Agenda item | Report title | Decision(s) taken | Notes |
|---|---|---|---|---|---|
| | | | | THAT the forecast capital expenditure and borrowing requirements for the remainder of FY2019/20 and FY2020/21 set out in section 4 of the report be noted; | |
| | | | | THAT it be noted that future Prudential Indicators and Authority budgets shall take account of possible interest rate risk mitigation approaches, including any necessary increases to allow for forward borrowing. | |
| 22/07/2019 | Programme Committee | 15 | Baseline Cost Update | THAT the Committee agreed that the Project Cost Estimate be used as the Baseline for future planning and performance measurement; | |
| | | | | THAT the Committee agreed that the Authority continue to treat the scope of capital works as that currently defined in the Development Consent Order (DCO); | |
| | | | | THAT the Committee agreed that the proposed borough recycling rates be used as a basis for future levy forecasts; | |

| Date of meeting | Meeting type | Agenda item | Report title | Decision(s) taken | Notes |
|---|---|---|---|---|---|
| 06/12/2018 | Authority | 16 | North London Heat and Power Project Update | THAT the proposals from LondonEnergy Ltd for preparation for management of the Energy Recovery Facility set out in Appendix A of the report and the outline proposals for the waste management contact between the Local Authority and London Energy Ltd be noted; | |
| 04/10/2018 | Authority | 8 | North London Heat and Power Project - Update | THAT the outcomes of the Best Value Consultation carried out in October/November 2017 be noted and that those outcomes be taken into account when determining the funding and contracting structure for the delivery of the ERF and associated works as authorised by the DCO; | |
| 04/10/2018 | Authority | 8 | North London Heat and Power Project - Update | THAT it be agreed that the accent colour for the site and the buildings on site, including the ERF be orange, as set out in paragraph 6 and Appendix C of the report; | |
| 04/10/2018 | Authority | 16 | North London Heat and Power Project - Energy Recovery Facility (ERF) Delivery Strategy | THAT it be agreed that the construction of the ERF be funded through direct public borrowing by the Authority, on the basis set out in Section 5 of the report with the final selection of public funding source be made by the Authority in due course; | |

| Date of meeting | Meeting type | Agenda item | Report title | Decision(s) taken | Notes |
|---|---|---|---|---|---|
| 04/10/2018 | Authority | 16 | North London Heat and Power Project - Energy Recovery Facility (ERF) Delivery Strategy | THAT it be agreed that the contract for the facility be procured through a design and build contract on the basis set out in paragraph 8.2 of the report and paragraph 9.7 of the Delivery Strategy through a public procurement process and that the Managing Director be authorised to prepare contract and procurement documents for the construction of the ERF, on the basis that a further report will be submitted to the Authority in due course to authorise the commencement of any procurement; | |
| 04/10/2018 | Authority | 16 | North London Heat and Power Project – Energy Recovery Facility (ERF) Delivery Strategy | THAT the commentary on social, environmental and employment issues set out in paragraph 3.6-3.8 of this report and in Section 6 of the Delivery Strategy be noted; | |
| 04/10/2018 | Authority | 16 | North London Heat and Power Project - Energy Recovery Facility (ERF) Delivery Strategy | THAT it be agreed that LondonEnergy Ltd (LEL) should be the operator of the new ERF, that the work proposed with LEL to prepare for this be noted and that it be agreed that the officers finalise the draft terms and documentation of a contract with LEL for the operation of the whole EcoPark site for approval by the Authority in due course; | |

| Date of meeting | Meeting type | Agenda item | Report title | Decision(s) taken | Notes |
|---|---|---|---|---|---|
| 04/10/2018 | Authority | 16 | North London Heat and Power Project - Energy Recovery Facility (ERF) Delivery Strategy | THAT it be agreed that the NLWA acquire the freehold or a long leasehold interest in the EcoPark from LEL, taking the account the considerations set out in section 11 of the report, and that the Managing Director be authorised to negotiate the price and terms with LEL for approval by the Authority in the current financial year. | |
| 07/12/2017 | Authority | 17 | North London Heat and Power Project – Update and Procurement of Works Contracts | Agrees to the proposed application for a non-material amendment to the Development Consent Order as set out in section 6 below; | |
| 28/09/2017 | Authority | 13 | North London Heat and Power Project - Best Value Consultation | Notes the requirement to consult on changes to service delivery under the Best Value legislation; | |
| | | | | Agrees the paper attached at Appendix A for consultation, subject to final drafting checks and the inclusion of the practical arrangements for response, and delegates authority to the Head of Legal and Governance to make those changes; | |
| | | | | Agrees that the consultation will be carried out largely through the NLWA and north London borough websites, as set out in section 2; | |

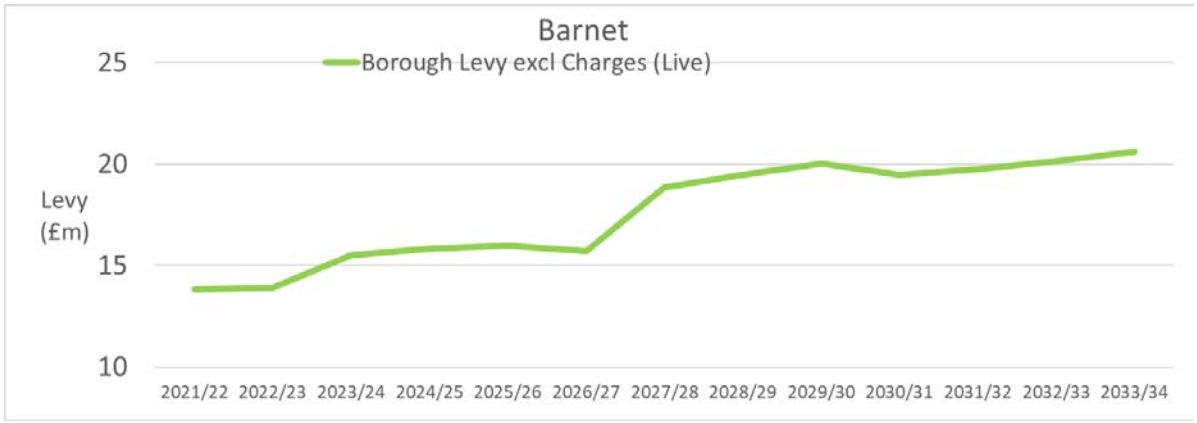
| Date of meeting | Meeting type | Agenda item | Report title | Decision(s) taken | Notes |
|---|---|---|---|---|---|
| | | | | Agrees that the consultation period will be six weeks and will commence in the second week of October 2017; | |
| | | | | Notes that the outcome of the consultation will be presented to the Authority for consideration when decisions on the procurement funding and contract strategy for delivery of the ERF are taken | |
| 22/06/2017 | Authority | 21 | North London Heat and Power Project - Update and Next Steps | THAT the work on the detailed delivery of the ERF will continue, in preparation for consideration of a business case relating to delivery of the ERF, for a decision on procurement strategy, contract and funding approach in mid-2018. | |
| 05/04/2017 | Authority | 6 | North London Heat and Power Project - Development Consent Order Update and Next Steps | Notes the decision of the Secretary of State to grant the Development Consent Order for a replacement Energy Recovery facility at the Edmonton EcoPark with associated development; | |
| | | | | Notes the next steps in preparing for implementation of the Development Consent Order, subject to further decisions by the Authority, as set out in section 3 of this report; | |

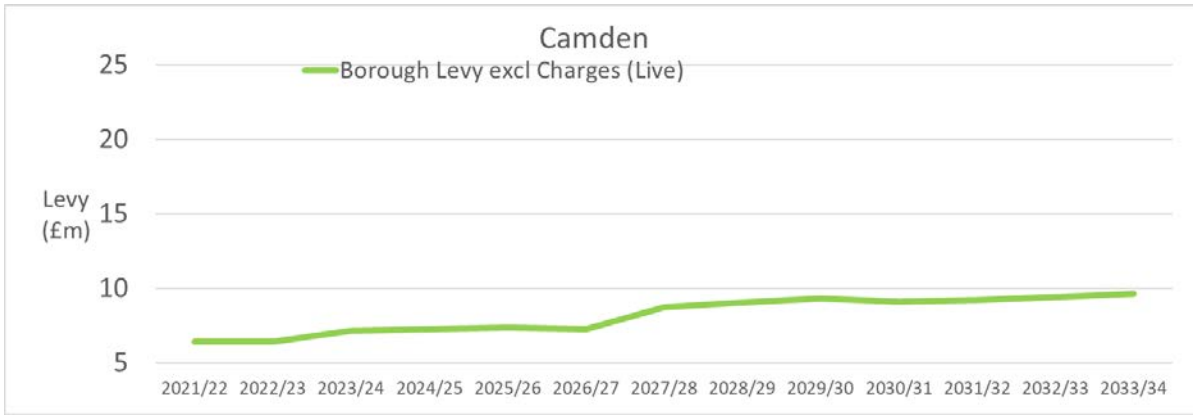
| Date of meeting | Meeting type | Agenda item | Report title | Decision(s) taken | Notes |
|---|---|---|---|---|---|
| | | | | Notes that consultation will be required before final decisions are taken on implementing the Development Consent Order. | |
| 07/12/2016 | Authority | 11 | Future Residual Waste Management | THAT Option 3 (build the DCO scheme) be agreed as the preferred option being the option assessed as having the lowest cost and the lowest level of risk; | |
| | | | | THAT it be agreed that the preferred timescale for delivery of the DCO, subject to detailed consideration in 2017, is for the new ERF to be in full operation no later than by 2027 as set out in section 4, and agree that in order to achieve this timescale the works set out in that section and in Appendix D will be carried out in 2017, including the works proposed in relation to the electricity export cable and the sewer diversion; | |
| 25/09/2015 | Authority | 10 | Development Consent Order Consultation | Notes the Consultation Report at Appendix A; | |
| | | | | Agrees the responses to comments received during Phase Two Consultation including proposed changes to the Scheme as a result of those comments. | |

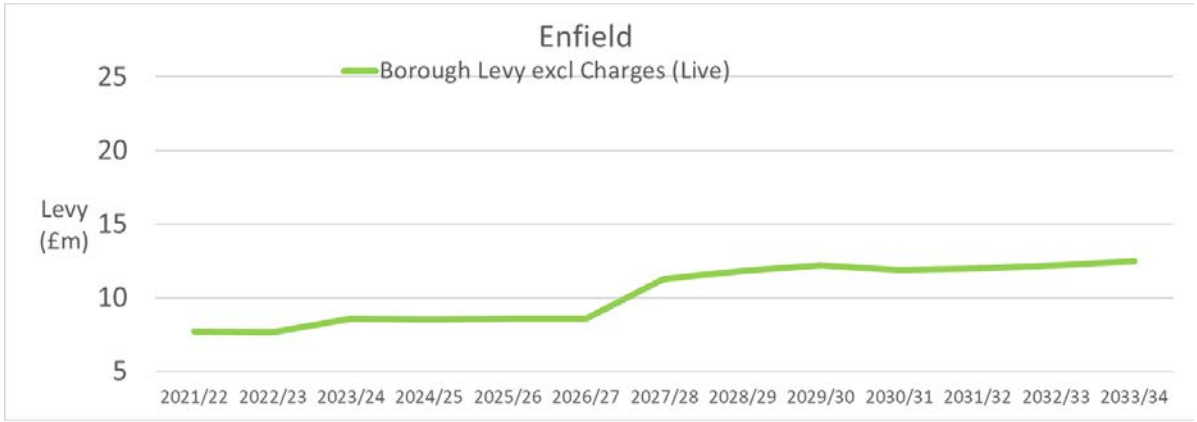
| Date of meeting | Meeting type | Agenda item | Report title | Decision(s) taken | Notes |
|---|---|---|---|---|---|
| 25/09/2015 | Authority | 11 | Development Consent Order Application | Agrees the scheme as set out in the report as the scheme for which an application for Development Consent Order will be made; | |
| | | | | Approves the air cooling system option; | |
| | | | | Approves the submission of the application for Development Consent for the scheme; | |
| | | | | Notes the timescale proposed for submission; and the process for the application thereafter. | |

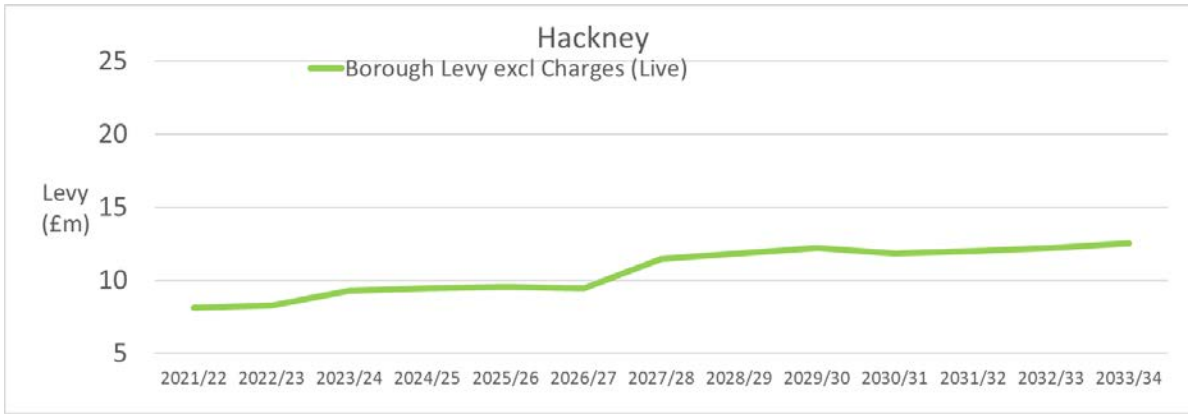
**ANNEX B INDICATIVE INDIVIDUAL BOROUGH FORECASTS**

These are indicative forecasts of levies for the boroughs. Actual costs will depend on the volumes of waste sent for disposal in the year in question and the apportionment between the boroughs.




Hackney
Borough Levy excl Charges (Live)
Levy (£m)
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20
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5
2021/22 2022/23 2023/24 2024/25 2025/26 2026/27 2027/28 2028/29 2029/30 2030/31 2031/32 2032/33 2033/34


Haringey
Borough Levy excl Charges (Live)
Levy (£m)
25
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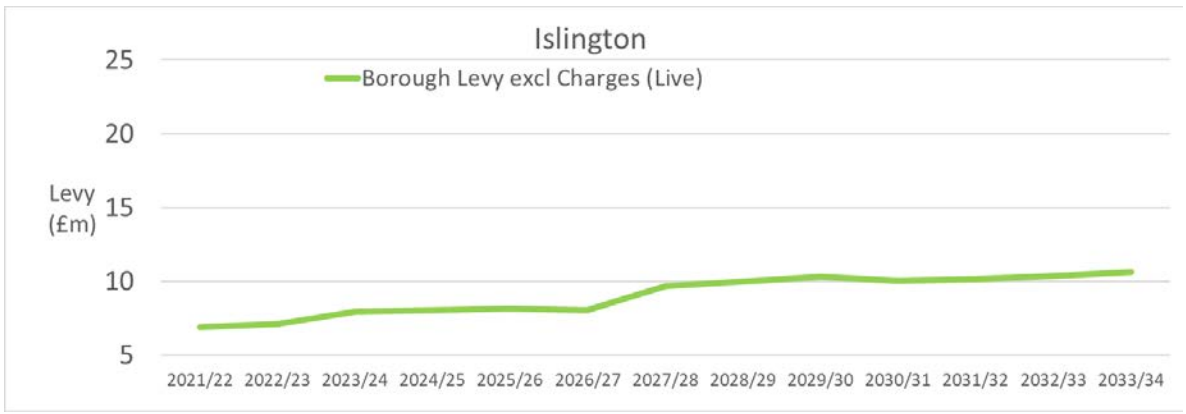
2021/22 2022/23 2023/24 2024/25 2025/26 2026/27 2027/28 2028/29 2029/30 2030/31 2031/32 2032/33 2033/34


Islington
Borough Levy excl Charges (Live)
Levy (£m)
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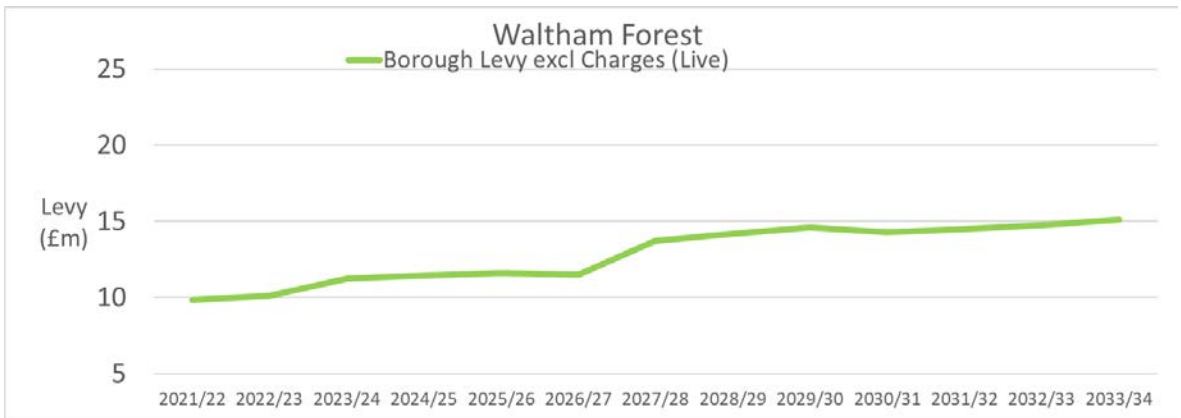
2021/22 2022/23 2023/24 2024/25 2025/26 2026/27 2027/28 2028/29 2029/30 2030/31 2031/32 2032/33 2033/34


Waltham Forest
Borough Levy excl Charges (Live)
Levy (£m)
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2021/22 2022/23 2023/24 2024/25 2025/26 2026/27 2027/28 2028/29 2029/30 2030/31 2031/32 2032/33 2033/34

## ANNEX C PROPOSED PROJECT MANAGEMENT ORGANISATION FOR THE MANAGEMENT AND ADMINISTRATION OF THE ERF EPC CONTRACT