



## TENDER – COMMERCIAL PROPOSAL

### **The Supply of Technical Services, Verification of Development Plans and Costs Associated with the Hinkley Point C New Nuclear Power Plant**

Contract Reference Number 1037/06/2015

Submitted by:

**LeighFisher Limited**

65 Chandos Place, London WC2N 4HG UK

Prepared for:

**Department of Energy & Climate Change**

**10 July 2015**

**TENDER FOR THE SUPPLY OF TECHNICAL SERVICES, VERIFICATION OF DEVELOPMENT PLANS AND COSTS ASSOCIATED WITH THE HINKLEY POINT C NEW NUCLEAR POWER PLANT.**

**CONTRACT REFERENCE NUMBER 1037/06/2015**

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## 1 INTRODUCTION

LeighFisher Limited, in association with Jacobs UK Ltd, is delighted to submit this proposal in response to your request for the supply of technical services, verification of development plans and costs associated with the Hinkley Point C new nuclear power plant.

We propose that LeighFisher Limited, part of the Jacobs Engineering Group of companies, will lead the provision of the required technical services, to ensure that we provide the independent technical advice required and avoid conflicts of interest.

In this proposal we have presented our relevant core sector expertise, our experience in the particular sector, as well as the assignment team experts. We have also set out the detailed information required in your request documentation. We believe we are best placed to provide the services you require because:

- Our previous experience and knowledge of the HPC Project, gained from our work to date on the HPC Cost Discovery & Verification (CD&V) review and through our role as Technical Adviser to IUK for the HPC project, means we can seamlessly continue to provide the required services required, without having to learn about the project, saving both time and cost;
- Our resource is supplemented by specialist advice from our affiliate company Jacobs who provide specialist technical expertise and also have experience of the HPC CD&V process. The Jacobs resources are managed by our project manager, providing a one-stop-shop solution that means you only have to deal with a single point of contact;
- Our key team members have been engaged on the HPC CD&V process since the outset and have built an effective relationship with the DECC and NNB teams. You can be assured that our team members will not change unless absolutely necessary and we will see the process through to its conclusion; and
- We will work co-operatively and constructively with the rest of your adviser team to ensure that there is no omission or duplication of work. Our team has worked effectively with your chosen financial adviser (KPMG) on the HPC CD&V process and we understand each other's way of working, so you can be assured that we will work together efficiently to support the procurement.

## 2 UNDERSTANDING THE REQUIREMENT

DECC requires technical advice to support its negotiations with NNB Generation Company Ltd (NNBG) to build Hinkley Point C nuclear power station (HPC). In October 2013 DECC and EDF Group agreed the key terms of a Contract for Difference (CfD) for the HPC project and in October 2014 the European Commission (EC) announced that it had approved the HPC State Aid case.

The HPC plant is to comprise two reactors of the UK EPR design with a combined capacity of over 3.2GWe. The new plants are based on the design of the Flamanville 3 plant currently under construction in France. The UK EPR is an evolution of the French N4 and German Konvoi designs, which integrates UK specific nuclear safety and environmental requirements. The plant is to have an operational design life of 60 years. HPC is to be developed by NNBG, currently a wholly owned subsidiary of EDF Energy (UK) Limited, whose ultimate parent company is Electricité de France SA (EDF SA). There are currently no other owners of NNBG through NNB Holding Company Limited, though the anticipated ownership structure does include other investors.

HM Government and NNBG are working to finalise the documentation for the HPC project. An open-book Cost Discovery and Verification (CD&V) exercise is required as part of this process, for which expert nuclear engineers are required to evaluate, verify and, where appropriate, challenge costs submitted by NNBG.

We have already undertaken an initial CD&V review of the HPC project for DECC which concluded that the estimated costs were reasonable. This supported DECC's successful negotiation of a Strike Price with the developer in October 2013. Since that time, the NNBG cost estimate has continued to evolve and we have undertaken further reviews to provide DECC with an updated assessment of the costs, including for the State Aid case.

A final confirmatory CD&V review is required to confirm that the costs remain in line with those underpinning the agreed strike price and remain reasonable. This is to include consideration of the construction, operation and decommissioning costs. In particular, you require:

- *Detailed verification of the range of costs submitted by the developer*
- *Close interaction with the developer to secure additional information and challenge their assumptions where necessary*
- *Facilitation of the transfer of data and information into the cost and price model*
- *Adaptation of tools developed in the work above so that these can be used for subsequent developments, if relevant*

The following engineering capability is requested to undertake the review:

- *Considerable experience of work on civil nuclear reactor projects. Previous experience of working on civil Pressurised Water Reactor projects is essential (subcontracted expertise is acceptable). Recent experience of new generation (often called Generation III+) PWRs is desirable, though not essential.*
- *Knowledge and expertise on the evaluation of lifetime costs associated with a nuclear power plant project (including the supply chain).*

- *In-depth knowledge of the UK regulatory regime for nuclear power, of international standards applicable to nuclear power plants and of best practices relevant to the nuclear industry.*
- *Sufficient depth and breadth across the organisation to directly cover much of the work required, and to ensure continuity of work and timely completion under any foreseeable circumstances.*
- *Ability to identify at an early stage all relevant gaps in the organisation's expertise, then to further subcontract and robustly manage high calibre advisers to address these gaps.*

The CD&V process is to be completed by the NNBG Final Investment Decision (FID) date, currently set as 30 September 2015. Our reporting is required to suit the DECC business case approval process, with final reports required prior to the NNB FID date. We understand that the timelines for the CD&V work may shift depending on progress with the project.

The required outputs of the CD&V process are:

- *A detailed report with a conclusion on the correctness of the cost ranges estimated by the developer and the reasonableness of the uncertainties claimed by the developer.*
- *An auditable suite of documentation, covering the processes followed, information exchanged and evaluations undertaken to achieve the above outcomes.*
- *A report capturing lessons learnt from this work and how best to use the work undertaken for any similar future projects.*
- *Contributing to evaluation of the project, including involvement in lessons learned work from a technical advisory perspective.*
- *Working with DECC and the Low Carbon Contracts Company Ltd on contract management activities which require technical expertise.*

Our approach to delivering your requirements is set out below.

## 3 APPROACH

### 3.1 Activities to be Undertaken

*Detailed verification of the range of costs submitted by the developer*

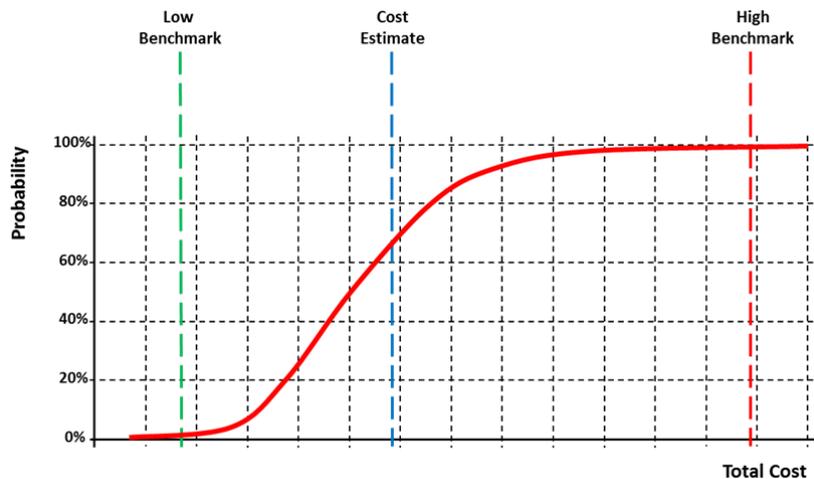
Our review will build upon the CD&V work completed to date, in-line with the following process:

1. Familiarisation with up to date Data Room contents;
2. Reviews of the NNBG cost estimate data:
  - *Individual packages*
  - *Programme wide packages*
  - *Operating Costs*
  - *Decommissioning Costs*
  - *Programme Risks*
  - *Construction Schedule*
4. Review of historic / reference cost data to define a benchmark for comparison;
5. Assess the reasonableness of individual package cost estimates, including:
  - *Identifying areas where we agree with the NNBG estimate*
  - *Identifying areas where we do not agree with the NNBG estimate*
  - *Identifying where we would make adjustments to NNBG estimates (using three point estimates) to represent our view of realistic pricing, based on our assessment of the package and knowledge of historic costs*
6. Assess the reasonableness of risk allowances within each package and overall programme;
7. Prepare adjusted cost estimates, based on the NNBG estimate, and undertake a risk analysis to determine our view of a reasonable cost range; and
8. Compare the NNBG estimate with an assessed reasonable price range and the benchmarks.

We will update the previously prepared benchmark comparisons with reference projects and published cost data, taking into account new information. This will include consideration of Flamanville 3 data.

For the construction costs, we will undertake an updated risk analysis to provide a cost distribution which can be used to compare the estimate and benchmarks. The process involves a detailed review of the NNBG cost estimates and the preparation of a risk adjusted estimate to determine our view of a reasonable construction cost. The developer's cost estimate and benchmarks are compared with the modelled cost range as illustrated below.

## Illustrative Cost Distribution



We will review the operating assumptions (plant capacity and availability) and estimated operating costs, including operation & maintenance, asset renewal, fuel, business rates and grid costs. Our review will build on our existing knowledge of the project and the reviews undertaken to date. We will work alongside your Insurance adviser when considering insurance costs.

We have previously reviewed the decommissioning cost estimates provided in the NNBG Detailed Decommissioning and Waste Management Plan (DDWMP). We will review the findings of our previous DDWMP review to ensure that they are up to date prior to FID. The NNBG estimates require to be updated to take into account (amongst other things) the change of Interim Spent Fuel Store (ISFS) design from a wet to dry storage system. This change is not expected to be confirmed until after the NNBG FID. If required, we will undertake a review of the updated DDWMP if it is provided within the timescale of this assignment.

*Close interaction with the developer to secure additional information and challenge their assumptions where necessary*

We will engage with NNBG to ensure that we have a clear and accurate understanding of the costs. This will commence with an initial review of the updated NNBG data, to consider the suitability and completeness of the information provided and to identify initial queries. Our approach will be to work flexibly, to accommodate changes of programme.

Our team will continue to take a constructive approach to the CD&V review process, working cooperatively with DECC and the NNBG teams. We will maintain a robust approach to the review of NNBG cost estimates, challenging their assumptions and estimates where necessary to establish the veracity of the costs.

We have had an ongoing involvement in the project since the Strike Price was agreed, maintaining our knowledge of the costs as the NNBG estimates have evolved to take into account tender information and technical development. We will build on the work we have already undertaken for the CD&V process to provide a final confirmatory review. Our team has access to and is familiar with the NNBG on-line dataroom and will make use of this to work efficiently from LeighFisher offices where possible.

#### *Facilitation of the transfer of data and information into the cost and price model*

The NNBG cost estimates form the cost input data for the cost and price model that informs the CfD Strike Price. We will work with your financial adviser (KPMG) to check that the base costs estimate data is accurately, consistently and comprehensively transferred from the cost estimate to the NNBG financial model. This will include tracking the costs through the NNB cost data, including the “BEES” construction costs summary sheet to the “Flow Sheet” and “Input Mapping File”, which distribute the construction and non-construction costs through time, to the expenditure profiles used in the financial model. Other costs, such as land, fuel and operating costs which are entered directly into the model will also be checked.

A key consideration is the alignment of the expenditure profiles with the NNBG construction schedule. Our team will work with KPMG to gain an understanding of the latest NNBG schedule. We will review the expenditure profiles for the main construction contracts for consistency with the key contract terms (such as milestone payments) as well as the programme of work.

In addition, we will work with KPMG to understand the value and timing of the costs expended by NNBG to date. These costs should be accurately represented in the financial model.

#### *Adaptation of tools developed in the work above so that these can be used for subsequent developments, if relevant*

We do not propose to develop any tools specifically for the purposes of the CD&V review. We will, however, provide a lessons learned report on completion of the CD&V review.

### **3.2 Working Arrangements**

LeighFisher Limited will lead the CD&V work, supported by specialist from the Jacobs group of companies as required. LeighFisher and Jacobs can supply all the expertise required to complete the assignment from within their own resources. We do not anticipate having to make use of sub-consultants for this project.

### 3.3 Protection of Information & Security Arrangements

We are aware of the project confidentiality requirements and have been working in strict compliance with these during the CD&V work we have undertaken to date. We will continue to respect the confidentiality requirements and ensure that the personnel involved have signed the required non-disclosure agreement. All members of our CD&V review team have the required level of government security clearance (Cabinet Office Baseline Personnel Security Standard (BPSS) as a minimum). Only personnel within the CD&V review team will be provided with access to the NNBG cost data and our CD&V reports.

### 3.4 Key Project Indicators (KPIs) / Deliverables

*A detailed report with a conclusion on the correctness of the cost ranges estimated by the developer and the reasonableness of the uncertainties claimed by the developer.*

Our reports will address the Construction Costs, Operating Costs and Decommissioning Costs. This will include an assessment of the cost uncertainties, risks and overall cost estimates. The reasonableness of the construction costs will be determined through comparison with a cost distribution determined through a risk analysis and benchmark costs derived from published cost data. We will work with you to agree the final content and format of the required reports prior to issue.

*An auditable suite of documentation, covering the processes followed, information exchanged and evaluations undertaken to achieve the above outcomes.*

We will provide a set of reports which addresses the full scope of the CD&V review process, including the methodologies adopted, source data, cost analysis and benchmarking. We anticipate provision of the following reports:

- *An Executive Summary*
- *CD&V evaluation report addressing the costs at FID*
- *Supporting detailed report(s) and appendices addressing the full CD&V review process*

We also expect to prepare a joint executive summary CD&V report, combining separately produced sections prepared by LeighFisher, your financial adviser (KPMG) and your insurance adviser (Willis).

*A report capturing lessons learnt from this work and how best to use the work undertaken for any similar future projects.*

A Lessons Learned report or presentation will be provided on completion of the CD&V review. The format of the report will be agreed with you prior to preparation. We have previously provided some feedback to DECC on the CD&V process and this will be updated/expanded as required.

*Contributing to evaluation of the project, including involvement in lessons learned work from a technical advisory perspective.*

We will provide technical support to DECC to support project evaluation activities, as required, including lessons learned work. We will agree the scope of any support required prior to commencing work.

*Working with DECC and the Low Carbon Contracts Company Ltd on contract management activities which require technical expertise*

We will provide technical support to DECC to support contract management activities, if required. We will agree the scope of any support required prior to commencing work.

### **3.5 Conflict of Interest**

*Confirmation that they have no conflict of interest in respect of this work regarding the development at Hinkley Point C;*

LeighFisher has been advising DECC on the CD&V process since 2012 and we have successfully maintained an independent advisory team through this period. We confirm that we have arrangements in place to ensure that no conflict of interest arises during the course of this assignment. This includes ensuring that advisers within the CD&V review team are not engaged on other work for NNBG. LeighFisher has not undertaken any work for NNBG.

LeighFisher has a contract with NNBG to provide technical adviser services to IUK. This contract has been put in place to allow the provision of independent technical advice for the benefit of IUK (not NNBG) and involves critical scrutiny of NNBG's proposals.

We recognise that parts of our affiliate company, Jacobs UK Ltd are engaged on technical work for NNBG, but these resources are kept independent of our review team through the separation of the LeighFisher and Jacobs companies, which are independently managed and operated.

*A list of existing relationships which could be considered potential conflicts of interest, along with a description of how these are proposed to be managed.*

LeighFisher provides Infrastructure UK with separate technical advice in relation to the HPC project. We do not believe that this relationship provides a conflict of interest, as both parties are arms of

the UK Government. However, before sharing information between IUK and DECC under this new appointment we will re-confirm that this is acceptable to the parties.

Like many major consultancies with technical capability in the nuclear sector, Jacobs has worked on the HPC project and on other projects for EDF Energy. Jacobs provides engineering services to NNBG through a design framework and to Soffinel (an EDF-Areva joint venture). Jacobs also provides project and construction management resources to NNBG for the management of the enabling, civil and marine works contracts. In addition, Jacobs undertakes work for EDF Energy providing engineering support for life extension projects at existing nuclear power plants. Jacobs individuals engaged on work for NNBG or EDF Energy are not to be utilised on any work in relation to the CD&V review.

CD&V review team members will respect the project confidentiality arrangements and will not share information gained through the CD&V review project with members of the Jacobs Group engaged on HPC or other work. Similarly, the LeighFisher CD&V review team will not have access to Jacobs data related to HPC.

*Details of how potential future conflicts of interest will be identified and avoided or managed.*

The consultants selected for this commission from both our in-house LeighFisher resources and our sister company Jacobs, have not been involved with the HPC project for NNBG. We will ensure that staff with links to Jacobs on-going work with NNBG are not involved in the DECC assignment.

Should a conflict be identified during the course of our work we will advise you immediately. Measures would then be put in place to address the issue, such as the removal from the project team of conflicted individuals.

Through our roles as advisors in more than 150 privately financed infrastructure projects worldwide, we are used to maintaining strict confidentiality and have systems in place that will be applied to this assignment, to ensure electronic and physical walls between our other projects (both within LeighFisher and in Jacobs) and this assignment:

- (i) LeighFisher has been established by Jacobs Engineering Group (JEG) with a view to maintaining independence from the wider Group in circumstances where conflict may arise.
- (ii) LeighFisher is managed and operated as an independent company within JEG, with directly employed staff and a management team which is accountable to a separate Board, that of LeighFisher Inc. LeighFisher policy is to maintain complete independence from the business development, marketing and operations of other affiliated Jacobs companies. LeighFisher maintains separate offices from the Jacobs Group, with stand-alone computer servers and corporate procedures.

- (iii) For due diligence assignments further restrictions are put in place by LeighFisher such that only the team on the assignment can access electronic and physical information relating to the project.
- (iv) LeighFisher does, from time to time, seek specialist technical support from individuals within affiliated Jacobs companies, but only with the consent of its client and other relevant parties. In such circumstances both the individual and the individual's line manager(s) are required to recognise the potential for conflict and to sign undertakings that the individual will not work on conflicting assignments. Furthermore, such individuals are normally senior consultants approaching retirement or working part-time with minimal potential to be re-assigned to a full-time role on the project and/or are based in a Jacobs office which has no involvement in the project.
- (v) Each individual working on this Project will have read and acknowledged the confidentiality requirements.

LeighFisher has been established as a separate corporation providing independent and objective facility, business, financial, environmental, and operational consulting services, especially front-end facility and financial planning work. While LeighFisher is owned by JEG, it is separately incorporated and managed in order to provide the necessary independence and autonomy to render independent and objective services. LeighFisher has a separate Board of Directors with three LeighFisher members and two Jacobs members. LeighFisher management reports directly to this Board and there is no operational oversight or management of LeighFisher by JEG. Below is a summary of how LeighFisher has been established vis-à-vis the larger JEG organization:

- *Owned by JEG, but separately incorporated as LeighFisher Inc. (incorporated in Delaware)*
- *Separate Taxpayer ID number*
- *Separate management team; no management reporting to JEG*
- *Separate performance unit with completely separate accounting of profit and loss*
- *No financial incentives for selling services of any other JEG operating unit*
- *Separate business development decision-making process and no requirement to team with JEG for pursuing work (in fact, LeighFisher and JEG sometimes compete)*
- *Separate staff management process (including project staffing assignments, performance reviews, salary adjustments, promotions, etc.)*
- *Separate quality control process*

In summary, LeighFisher is an autonomous entity that, while owned by JEG, operates completely independently.

*A copy of their organisation's code of ethics*

LeighFisher aims to work to the highest ethical standards.

Ethical behaviour is a hallmark of our company culture and is dependent on the actions and behaviour of our employees each and every day. The expectations for our employees' actions are defined in our Code of Conduct. To ensure continued awareness of these expectations we have an annual Code of Conduct Reaffirmation (COCR) process, through which each employee confirms their commitment to the Jacobs Group Code of Conduct. A copy of the Jacobs Group Code of Conduct is attached to this proposal

LeighFisher is an equal opportunities employer.

### **3.6 Performance Monitoring**

We will work closely with your project manager and hold regular progress review meetings. A list of outstanding information and actions will be maintained throughout the process.

A formal Question and Answer (Q&A) process will be used to raise clarification queries with NNB. All correspondence with NNB, including Q&As, will be copied to your project manager to ensure that DECC is aware of all matter raised with NNB.

LeighFisher also operates a formal process which, for each project we undertake, aims to identify and confirm our clients' key requirements and to assess our clients' satisfaction with our performance. For each project a LeighFisher director is nominated to apply the process who is not involved with the day-to-day delivery of the work.

## 4 CAPABILITY

### 4.1 Organisation

#### 4.1.1 Relevant Experience

LeighFisher operates as an integrated practice to provide a diverse range of specialist consulting skills, including as on this occasion, when those needs are multidisciplinary in nature. LeighFisher provides a full range of technical due diligence services, at all stages of the programme development process, including:

##### Strategy

- Policy Development
- Strategy
- Pre-procurement Review
- Organisational Review
- Asset / Estate Review
- Operational Review
- Procurement Strategy
- Delivery & Funding Models
- Business Case Development

##### Procurement

- Market Interest
- Contract Structure
- Output Specification
- Performance Regime
- Payment Mechanism
- Procurement Documents
- Bid Analysis
- Negotiation Support

##### Risk & Finance

- Economic Modelling
- Quantified Risk Analysis
- Risk Based Demand Forecasting
- Whole Life Cost Modelling
- Project Appraisal
- Independent Financial Review
- Risk & Opportunity Management
- Due Diligence

##### Programme Management

- Organisation & Governance
- Feasibility
- Scoping & Options Studies
- Project Definition
- Stakeholder Management
- Benefits Management
- Implementation & Delivery
- Project Processes & Toolkit

LeighFisher is certified to Quality Standard ISO 9001.

Examples of relevant experience demonstrating the broad range of expertise of our team are set out below:

Project Review and Appraisal:

- *Hinkley Point C: Cost Discovery and Verification 2012-2015: We have undertaken the Cost Discovery and Verification review of the HPC project for DECC since 2012. This has included a detailed review of NNBG's estimates for construction, operation and decommissioning costs and has required an in depth understanding of the construction proposals. We have undertaken cost benchmarking and risk analyses to identify a reasonable project cost range to assess the reasonableness of the NNBG costs.*
- *Hinkley Point C: Technical Adviser to Infrastructure UK: We have provided technical due diligence reviews and other technical advice to Infrastructure UK (IUK, part of HM Treasury)*

*in relation to the HPC project. This includes an assessment of the risks to project funders, which requires a detailed understanding of NNBG's delivery arrangements for the HPC project, together with the proposed works and supply contracts, schedule, etc.*

- *Aircraft Carrier Independent Financial Review. Led by ██████████, LeighFisher was responsible for the Independent Financial Review (IFR) of the MoD's Aircraft Carrier programme. This entailed data capture activities and "should-cost" modelling using 3-point estimating, commenting on cost control mechanisms and configuration management, a review of the risk register, undertaking risk analysis and providing an independent perspective to project findings and deliverables. LeighFisher also supported the MoD negotiating team prior to the Manufacturing Phase contract award, including development of risk and reward payment mechanisms.*
- *Thameslink Procurement Review*
- *TFL London Trams Procurement Strategy Review*
- *BNFL Risk Review*

Lenders Technical Advisor for more than 150 assignments, including:

- *Future Logistics Information Service*
- *Tornado GR4 Synthetic Training Refinancing*
- *Future Strategic Tanker Aircraft Project*
- *Search and Rescue Helicopter Service*
- *Heavy Equipment Transporter*
- *Joint Services Command and Staff College*
- *Medium Support Helicopter Aircrew Training Service*
- *Attack Helicopter Training Service*
- *London Underground PPP*
- *Numerous projects in the road, rail, health, education and other sectors*

While LeighFisher provides advisory services in its own right, we can and often do call upon the wider skills and resources within the Jacobs Group, whether in the UK or internationally.

Jacobs are at the forefront of Gen IV technology development having made significant investment into a Generation IV nuclear power reactor (an accelerator driven thorium reactor (ADTR)). Jacobs nuclear power engineering experience includes projects as diverse as:

- *Moorside: UK partner to Owner's Engineer for NuGen;*
- *Wylfa: Provision of design services to Owner's engineer through a framework agreement with Horizon;*
- *Design and project management for the decommissioning of B30, Sellafield;*
- *Provision of engineering support to EDF Energy for life extension projects in relation to existing nuclear power plants*
- *Manufacture and installation of the primary heat exchangers at Bradwell NPP;*

- *Turnkey design and build of the Radwaste Plant for Sizewell B Power Station;*
- *Retrieval and processing of legacy ILW/LLW at Dungeness A, an operating power station;*
- *UK pre-licensing of AP1000; including concept design of the Regulatory compliant radwaste system;*
- *Sizewell B, resin handling systems, radwaste encapsulation plant and the solid and liquid waste incinerators, area and process radiation monitoring, seismic monitors and process/site nuclear sampling systems.*

In terms of evaluating project costs for nuclear and conventional power plants, our team has a diverse range of experience including:

- *DECC generation cost review (LeighFisher/Jacobs): We are advising the Department for Energy and Climate change on the costs and technical parameters of nuclear, gas, coal and carbon capture power plants up to 2030. These parameters include capital costs, operating costs, availability, efficiency and plant life. Our analysis will inform DECC's estimations of the levelised costs of generation.*
- *National Government (Confidential) – Provision of a paper defining the potential cost and return of instigating and Nuclear Power programme in a non-European Country including an analysis of Nuclear Facility Construction Costs worldwide and budget estimates for potential Nuclear Power Facilities (Jacobs);*
- *Jordan Power Station – High level budget estimates for the construction of a new Nuclear Power Station including two nuclear reactors 10km inland from the sea water intake and outfall. Approximate construction value circa £8bn (Jacobs).*
- *ITER Power Station – (1) Provision of cost estimates for all aspects of the new build nuclear fusion power station. (2) Reviewing cost estimates developed by the Domestic Agencies for packages of work at the ITER site. (Jacobs/LeighFisher);*
- *Kilroot Power Station Phase II – Coal/Oil Conversion – Complete cost consultancy and estimating service (Jacobs);*
- *Vasilikos Oil Fired Power Station (240MW) – Complete Cost Consultancy and Estimating Service (Jacobs);*
- *Shoreham CCGT Power Station (400MW) – Complete Cost Consultancy and Estimating Service (Jacobs) and*
- *Staythorpe CCGT Power Station (1500MW) – Complete Cost Consultancy and Estimating Service (Jacobs).*

#### **4.1.2 Depth of Resource and Resilience**

LeighFisher has over 180 staff worldwide and over 70 in the UK in offices in London, Reading, Manchester and Scotland. In addition, Leigh Fisher has direct access to more than 8,800 staff in the UK within Jacobs from a wide range of disciplines including more than 600 currently involved in the nuclear industry and not involved in the EdF new build programme. This strength in depth provides resilience in the event of spikes in the resource requirements.

### 4.1.3 Technical Knowledge

As a Nuclear Site Licensee at AWE, Jacobs have intimate knowledge of the requirements of the regulators in the UK including ONR and EA. In terms of best practice, Jacobs supports the Steering Group for the DECC sponsored initiative considering lessons learned from nuclear projects including the report on Nuclear safety culture. Jacobs also has staff who sit on nuclear safety committees for EdF and Horizon. They wrote the guidance note for cooling water systems for new power stations for EA and completed a review of nuclear infrastructure in the UK for EA in 2009. Jacobs have selected team members who liaise with ONR, NDA and EA on a regular basis.

### 4.1.4 Collaboration

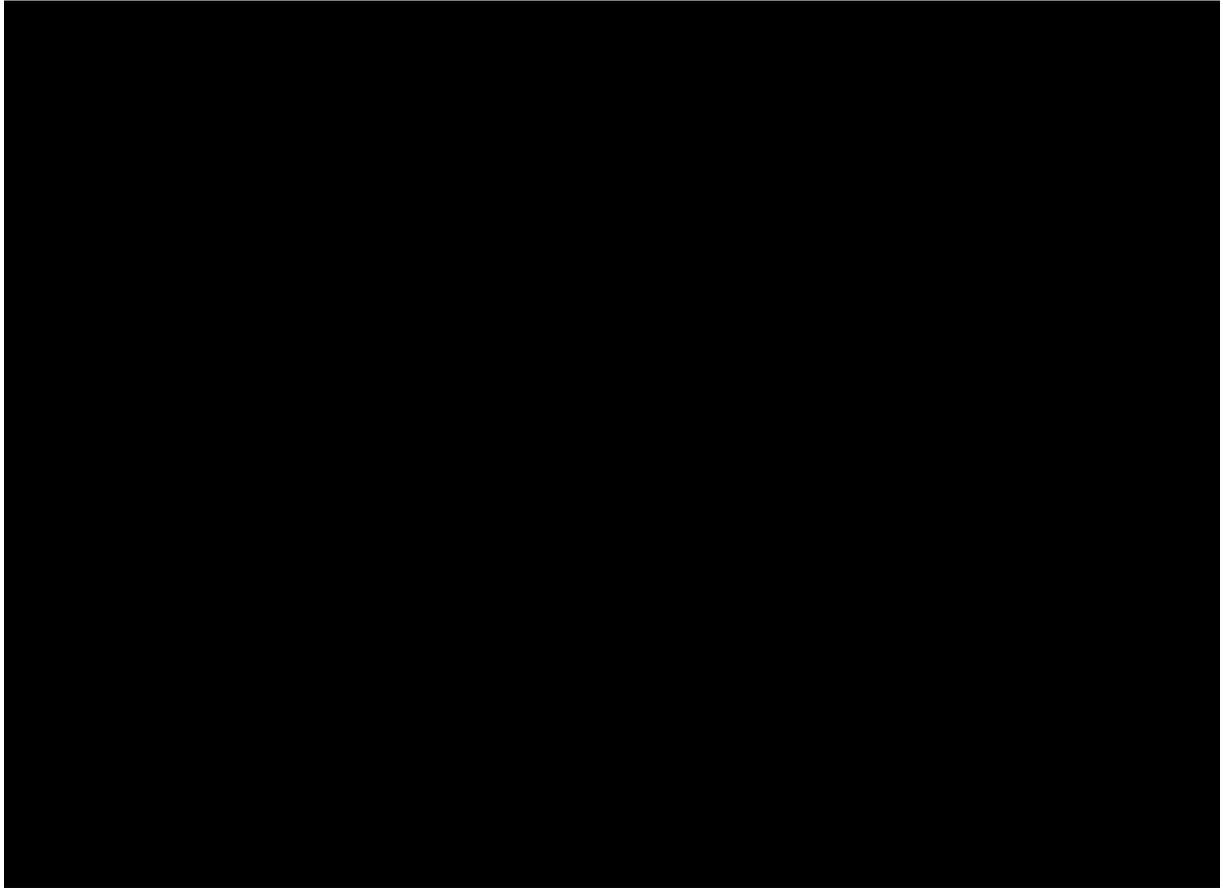
We are a relationship based company and are involved in many collaborative arrangements with clients and partners. Many of these arrangements have existed for over ten years. LeighFisher works with a diverse range of technical, legal and financial experts and are used to specifying and managing inputs from them to meet defined and challenging deadlines. We have successfully worked alongside advisers from KPMG during the HPC CD&V project and have built a collaborative working relationship with them. Previously, we have developed close working relationships with other advisers on many projects. When working as lenders' adviser for private finance projects we regularly work as part of a team with legal and financial advisers. LeighFisher collaborated with Deloitte and RAND in a multi-disciplinary team to undertake an independent financial review of the Main gate Submission for the Aircraft Carrier Project for MoD. Some of the methodologies adopted in this review have been used on the HPC CD&V work we have undertaken to date.

Our colleagues from Jacobs have developed many long term, time-tested relationships and collaborations. Jacobs is working with three other companies in an Alliance involved in the enhancement of plant and equipment for EdF at all their sites in the UK. [REDACTED]

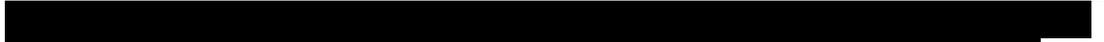
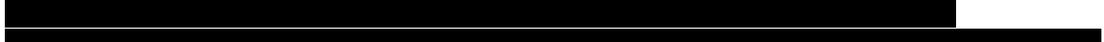
### 4.1.5 Staffing

We will make use of advisers who already have experience of the HPC project through the CD&V review or IUK advisory work completed to date. Should further resources be required, we can draw upon the wider LeighFisher team in the UK or from a pool of Jacobs' technical expertise. We will ensure that no conflict of interest arises by not engaging any personnel involved with the HPC project in another capacity (such as undertaking work on behalf of NNBG) on the CD&V review.

## *CD&V Review Team Organisation*



The following staff will be made available for the assignment with their key role highlighted. Experienced staff are required for provide the necessary level of experience and expertise. Our team consists of highly skilled professionals with many years' experience and all have been involved with the HPC CD&V process. LeighFisher and Jacobs and have a deep resource of senior staff that may be utilised to support the review. In particular, the following senior (Director) and middle (Principal) staff members are proposed, for whom full CVs can be provided on request:

	Director	Lead Adviser
		
		
		
		
		

[Redacted]

[Redacted] Director Executive Director

[Redacted]

[Redacted] Director Project Principal

[Redacted]

[Redacted] Principal Mechanical Systems

[Redacted]

[Redacted] Director Electrical Systems and Operations

[Redacted]

[REDACTED]

[REDACTED] Director Nuclear Fuel and Decommissioning

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[Redacted] Director Cost Estimating

[Redacted]

[Redacted] Director Safety Critical Control Systems and Systems Integration

[Redacted]

[Redacted] Principal Cost analysis and benchmarking

[Redacted]

[Redacted] Principal Cost analysis and benchmarking

[Redacted]



Principal

Planning, Environment and Sustainability



Further resources may be utilised from the LeighFisher and Jacobs organisations if required.

#### **4.1.6 Availability**

We confirm that all of our team are available for the assignment. Many of our team will have been engaged on the HPC CD&V review to mid July 2015 and we confirm that they would continue in their current roles should our proposal be successful, providing a seamless transition to a new CD&V consultancy contract.

## 5 WORK PLAN

### 5.1 Task and Milestones

The Invitation to Tender identifies a completion date of 30 September 2016. Within this period we consider that a 3 month period is required to complete the CD&V process, though general support to DECC, data gathering, liaison and coordination might occupy the balance of the 15 month period. We understand that NNBG aims to complete their Final Investment Decision (FID) process by the end of September 2015, which broadly aligns with a 3 month CD&V review if the process were to commence in July 2015. Our proposed 3 month programme of work is illustrated below, with our estimated resource profile, assuming starting work in July 2015 with a target date for FID of 30 September 2015. Our initial objective would be to complete the review of NNBG's final FID cost estimate and prepare our summary report to DECC over a 2 month period, to suit DECC's internal approval processes. Final adjustments, for factual accuracy checks by NNBG for example, together with supporting appendices including details of the CD&V reviews undertaken would be prepared during the final month in the run up to the NNBG FID.

Week commencing (Mon)	July				August				September				October				
	06/07/15	13/07/15	20/07/15	27/07/15	03/08/15	10/08/15	17/08/15	24/08/15	31/08/15	07/09/15	14/09/15	21/09/15	28/09/15	05/10/15	12/10/15	19/10/15	26/10/15
<b>NNB</b>																	
NNB to supply outstanding information	X																
NNB factual accuracy checks																	
NNB FID																	
<b>Review Financial Model Inputs</b>																	
Review documents and Meetings with NNB																	
Review IWS																	
Review Flow Sheet/Input Mapping																	
Review Agreed Contract Pricing																	
Sunk Cost Analysis to end 14 (KPMG)																	
Sunk Cost Analysis to FID (KPMG)																	
Review Fuel Pricing																	
<b>Reporting</b>																	
Update deliverability review (make use of IUK work) (KPMG+LF)																	
Revisit FA3 benchmarking (LF+KPMG)																	
Update risk analysis																	
Review indexation																	
Report tables etc.																	
NNB factual accuracy check of report data																	
Draft Pre-FID Evaluation Reports (LF / KPMG format)																	
DECC approvals																	
Assumptions book final check																	
Update LF and KPMG reports																	
NNB final factual accuracy check																	
LF / KPMG final QA of Evaluation Reports																	
Prepare LF / KPMG Supporting reports (detailed annexes etc)																	
Prepare joint Exec Summ (KPMG/LF) / Public facing document																	
NNB final factual accuracy check and LF / KPMG QA																	
<b>Resource Profile</b>																	

The timing of information release by NNBG could be subject to change and we will work with NNBG and DECC to develop and update an agreed work plan through the process. We understand that the NNBG programme to FID is flexible and recognise that the CD&V service period set out in the invitation to tender allows for completion to be postponed a late as 30 September 2016. We will provide a flexible service to accommodate delays should they arise, but please note that significant delays would entail the use additional resources.

Should additional work be required or the FID date delayed, we would agree with you a revised work plan and scope to take into account the change of scope and/or programme.

## 5.2 Subcontractors

We do not propose to make use of subcontractors for this project.

Should an unforeseen need arise for us to appoint a specialist subcontractor, we would use our tried and tested corporate procedures for the selection and appointment of suppliers. We would not appoint a subcontractor without confirming the requirement with you and would seek your approval prior to commencing a procurement process and the selection of a preferred supplier.

## 6 PRICING

### 6.1 Price

#### 6.1.1 Charge Rates

Our charge rates would be as the Jacobs rates set out in the FATS framework, summarised as follows:

##### Charge Rates (per day)

Grade	Rate per Day (8hrs)
Partner/Director	██████████
Principal	██████████
Engineer	██████████
Assistant	██████████

These rates represent a minor increase compared to the rates we have previously charged for the CD&V review, which remained unchanged between 2012 and 2015, and represent a substantial discount compared to our commercial charge rates.

#### 6.1.2 Terms and Conditions

We recognise that the FATS invitation to tender proposes an appointment under DECC terms and conditions; we request that you consider an appointment under the slightly amended DECC terms and conditions previously agreed and used for our HPC CD&V work. This approach would maintain contractual consistency with the previous CD&V work undertaken by us. We would welcome an opportunity to discuss this further prior to contract award.

#### 6.1.3 Fee Summary

As set out in Section 5.1, we estimate that a 3 month period is required to complete the CD&V process prior to the NNBG FID. We offer a firm price (as indicated on in schedule 1 of the FATS tasking form) of £150,000 for a 3 month CD&V review, building on the work completed to date. Additional data gathering, liaison, coordination or other services required outside the three month CD&V review would be reimbursed on a time-charge basis as we are unable to reasonably forecast what inputs may be required, or the overall timescale. That said, we would expect the balance of 160 days (of the 300 days indicated in the invitation to tender) to be sufficient to cover a 12 month delay of the NNBG FID to September 2016. In the event of a significant delay to the NNBG FID we would expect to agree a revised Firm Price in advance of completing our work.

However, in order to provide value for money, we propose that an alternative capped fee arrangement is adopted, as set out below and based on the above work plan and charge rates. Fees would be charged based on time expended, up to the agreed fee cap. Reasonable travel and accommodation expenses for those advisers based outside London would be charged at cost. An

expenses sum has been estimated based on 5% of the time charge, based on experience of the project to date.

Item No	Description	Price £ (Ex VAT)
1	Detailed verification of the range of costs submitted by the developer.	Incl.
2	Close interaction with the developer to secure additional information and challenge their assumptions where necessary.	Incl.
3	Facilitation of the transfer of data and information into the cost and price model.	Incl.
4	Adaptation of tools developed in the work above so that these can be used for subsequent developments, if relevant.	Incl.
	<b>Sub-total: Capped Fee for defined tasks (see build up below)</b>	<b>149,746</b>

## Part A – Staff/project team charges

*Grade/level of staff	Daily rate (ex VAT)	No. days offered over course of contract	Total price offered per grade
Partner/Director	█	█	█
Principal	█	█	█
Consultant	█	█	█
Assistant	█	█	█
<i>Contingency (10%)</i>		█	█
<b>Sub-total</b>		█	<b>£142,615</b>

[\*Suppliers should also include sub-contractors]

## Part B – Non-staff/project team charges

Item	No. of items	Price per item (ex VAT)	Total price per offered
Travel and accommodation (5%)		█	█
Photocopying			Incl.
<b>Sub-total</b>			<b>£7,131</b>

## Part C – Full price offered

<b>Sub-total Capped Fee (Part A + Part B)</b>	<b>£149,746</b>
<b>VAT (20%)</b>	<b>£29,949</b>
<b>TOTAL (Sub-total + VAT)</b>	<b>£179,695</b>

The above fee has been estimated based on a 3 month CD&V process. Should there be a delay prior to or during the three month CD&V process, or if DECC requires services continuing beyond the end of the process, we will seek to agree with you the extent and nature of the level of resources needed to complete the services so as to agree a revised fee if required, to reflect the revised work schedule and any related adjustment to scope.

Any additional services requested by DECC would be charged at the applicable charge rates set out above.

## 6.2 Cost Control

Progress and forecast costs to completion will be monitored and reported by our Project Manager on a regular basis. This will allow an expenditure profile to be developed which can be used to monitor progress. Consultant time will be recorded through our timesheet system. We monitor costs on a weekly basis, which allows our Project Manager to control costs and progress in real time and take action if the costs exceed expected levels. Invoices will be submitted on a monthly basis and include a weekly summary of time and costs incurred, following the process we have established for our previous CD&V work. Expenditure will be reported against agreed budgets to monitor overall expenditure

The production of deliverables will be scheduled and monitored closely to ensure that the necessary submissions are made on time.

Should a variation to the scope of work or programme be required, any cost and programme implications will be agreed with you in advance of undertaking any additional work.

## 6.2.1 Price Summary Form

1. To: <b>Department of Energy &amp; Climate Change</b>		2. From: <b>LeighFisher Limited</b>				
Date of submission: <b>10/07/15</b>						
In response to your request for a quotation		Dated <b>03/07/15</b>				
Reference: <b>1037/06/2015</b>						
*The work can be undertaken and our detailed response is attached. <input checked="" type="checkbox"/>						
*We are unable to provide the resources/deliverables identified on this occasion. <input type="checkbox"/>						
(* Check box as appropriate)						
Signed: 		Name: (Block Capitals)				
Date: <b>10/07/15</b>		<b>C J WILSON, Director, LeighFisher Limited</b>				
2. Task title): <b>THE SUPPLY OF TECHNICAL SERVICES, VERIFICATION OF DEVELOPMENT PLANS AND COSTS ASSOCIATED WITH THE HINKLEY POINT C NEW NUCLEAR POWER PLANT</b>						
3. Unique Reference Number: <b>1037/06/2015</b>						
4. Start Date: <b>July 2015</b>		Completion Date: <b>30 Sep 2016</b>				
<b>5a. Quotation</b>						
Broad Capability Area No.	Grade	Daily rate quoted at ITT	Daily rate quoted for this task	Reduction on original ITT rate	No of Days	Total
	Partner/Director	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	Principal	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	Consultant	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	Assistant	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	Contingency (10%)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	<b>Sub-total</b>					<b>£142,615</b>
<b>5b. Travel</b>				Unit cost	Number of Journeys / Miles	Total
		Rail				
		Motor Mileage				
		Air				
		Sea				
		<b>5% allowance for expenses to be charged at cost:</b>				<b>£7,131</b>
<b>5c. Subsistence</b>				Unit cost	Number of Night/Days	Total
	Estimated expenditure on:					
	Accommodation					
	Meals					
	Misc (please state below)					<b>Incl. in travel</b>

The above T&S costs relate to the period: **July 2015 to completion**

5d. Other Costs	<b>Sub-contractor Price</b>	<b>NONE</b>	
	Sub-Contractor Details	N/A	
	Materials	<b>NONE</b>	
	Other (Please provide details below)		Cost
	Description		
			N/A
Total Price		<b>£149,746 (excl. VAT) Capped Fee Proposal</b>	

## 7 ATTACHMENTS

### Appendix 6 to Schedule 3 (DEFFORM 539A (Edn 08/13)

#### Tenderer's Commercially Sensitive Information)

ITT Ref No: 1037/06/2015
Description of Tenderer's Commercially Sensitive Information: Price
Cross Reference(s) to location of sensitive information in Tender: Price - section 6 of Commercial Proposal
Explanation of Sensitivity: Commercial
Details of potential harm resulting from disclosure: Will result in unfair future competition
Period of Confidence (if applicable):
Contact Details for Transparency / Freedom of Information matters: Name: Chris Wilson Position: Vice President, LeighFisher Address: 65 Chandos Place, London WC2N 4HG UK Telephone Number: 0207 420 1777 Email Address: chris.wilson@leighfisher.com

**Jacobs Group Code of Conduct**