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Our Ref: ED62445
 Issue Number 1

26 May 2016

Re: With reference to Request for Proposal on auditing of renewable heat generating installations under the Non-Domestic Renewable Heat Incentive (RHI) Scheme in Northern Ireland

Dear Edmund,

We are delighted to provide this brief proposal in response to your e-mail to us on May 23, 2016. Please find enclosed a brief description of our methodology and relevant expertise.

Our estimated price for completing the audits and associated reporting is Sensitive commercial. This price is indicative, it includes travel cost that is charged based on actual incurred.

I hope our proposal is of interest and looking forward to hearing from you.

Best regards,

Mahmoud Abu-Ebid

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1 Introduction

The Department of Enterprise, Trade, and Investment (DETI) launched the Northern Ireland Renewable Heat Incentive (NI RHI) in 2012. The NI RHI is available for domestic and non-domestic generators of renewable heat technologies and provides long term financial support for eligible renewable heat technologies <1MWth.

In February 2016 DETI however announced that the NI RHI for non-domestic installations will be suspended to new applicants from 29 February 2016 as the target for the renewable heat had been exceeded and the budget available exhausted. In order to help assessing the credibility of the high volumes of applications received prior to scheme closure and also whistle-blower allegations, Ofgem E-Serve (Ofgem) has approached Ricardo Energy & Environment for undertaking a number of audits of non-domestic RHI installations in Northern Ireland.

It is expected that 72 non-domestic RHI installations will be audited in Northern Ireland. This audit estimate covers all technologies, a mix of pre/post-accredited sites and a mix of small/medium/large capacity bands. This estimate may however be slightly adjusted in light of any emerging evidence or ongoing discussions with the Department for the Economy (DfE). Our proposal for the delivery of the audits is below.

2 Our Proposed Methodology

Our approach will be based upon our established methodology for the current non-domestic RHI audit programme for Great Britain (GB), which is delivered for Ofgem.

2.1 Auditing

As agreed at a meeting with Ofgem on 20 May 2016, the same approach to site inspection, report generation and sign-off will be employed as for the current GB non-domestic RHI audit programme to ensure consistency in approach. At the start of the auditing, Ofgem will advise us of the sites to be audited in Northern Ireland. We will review Ofgem's list and create an outline plan giving our suggestions for selection of auditors and scheduling, including any proposals to campaign audits for efficiency purposes. As for the current GB audit programme, the sites will be notified of the audit visit within 10 working days prior to the audit (5 working days prior in the case of pre-accreditation audits).

In order to increase the efficiency of the use of resources we suggest campaigning the site audits in Northern Ireland. Based on the estimated split of audits between pre- and post-accreditation, as indicated in the email of Edmund Ward dated 23 May 2016, we suggest one campaign of audits last for one week, during which 6 audits will be undertaken with one day in the middle allocated for audit report write up. On assumption that 72 non-domestic NI RHI audits will be required, we expect to undertake 12 campaign visits to Northern Ireland. The actual number of visits will however depend on the final number of audits selected and also their distribution in Northern Ireland, while using resources as efficiently as possible.

Our approach will allow us to deliver to the same deadlines achieved under the GB RHI audit programme. Therefore a draft report will be submitted to Ofgem within 15 working days of completing an audit (5 days for pre-accreditation audits). Our review team, all of whom have RHI experience, will review all audit reports before they are submitted to Ofgem to confirm all requirements have been met. Individual audits will be reported separately. We suggest that the site selection be uploaded to the IT Portal, developed for the current GB RHI audit programme, where the progress could be tracked.

As agreed at a meeting with Ofgem on 20 May 2016, we will be utilising existing audit report templates developed for the current GB RHI audit programme noting that no additional checks would be warranted. Audits in Northern Ireland to date have only been on solid biomass installations. It is however expected that the new round of audits in Northern Ireland will also include a selection from the following technologies: ground source heat pump, water source heat pump and solar thermal. We will therefore review the existing audit reports templates used for audits in GB for the technologies to accommodate the specifics of the Northern Ireland RHI Regulations. The updated templates will be sent to Ofgem for their approval.

2.2 Reporting

After the completion and their approval by Ofgem of all individual audit reports, we propose to deliver a separate overview report to Ofgem. The report is expected to be at a similar scope to the lessons learnt reports for GB under the current non-domestic RHI audit programme. The final overview report will provide a summary of the audits undertaken in Northern Ireland, overview of the identified non-compliances and up to three lessons learnt case study examples on the most common non-compliances or serious issues with eligibility. It is expected that there will be 10-15 pages to the report, including any figures, tables and photos.

The final overview report will be accompanied with a spread-sheet providing outcomes for each audit for the purposes of identifying compliance trends. We suggest that the spread-sheet include the following data fields for each installation audited: RHI installation number, location, technology, complexity, capacity, economic sector, assurance rating and non-compliances identified.

2.3 Project Plan

As discussed above, we anticipate 12 audit visits will be undertaken to Northern Ireland. We suggest a 3-month (12-week) auditing period to complete these audits. The auditing period will be preceded by a two week long audit allocation and notification period. We do however our best to reduce the suggested auditing time by campaigning the team i.e. we endeavour that several auditors will undertake their visits on a same week.

The following Gantt chart summarises our anticipated scheduling of the project tasks.

Figure 1: Gantt chart

	Weeks																				
Task	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Refining audit report templates	█																				
Audit allocation	█	█																			
Audit notification	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█						
Auditing			█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Individual audit reports				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Report summarising findings																					█

2.4 Team members

We have assembled a team of experienced non-domestic RHI auditors from Ricardo Energy & Environment. Our auditors have all the relevant experience required for successful delivery of all the different systems and technologies indicated. The auditors will be supported by a team of experienced RHI report reviewers and admin team, as used under the current GB RHI auditing programme. We also expect no changes to the management of the work as compared to the current GB RHI audit programme - our project manager and primary contact point for Ofgem will be Anna-Liisa Kaar, Mahmoud Abu-ebid will be our project director, offering high level guidance.

We propose to use a core team of five auditors who have extensive experience on the current GB RHI audit programme. In addition to this core group of auditors we will also be able to draw resources from a wider pool of auditors from within Ricardo Energy & Environment. We confirm that the selection of auditors will be limited to those that have been approved by Ofgem for the current RHI audit programme.

All members of the proposed core team have at least 18 months' experience and several team members also have prior auditor experience on the Northern Ireland programme also. The audit experience of individual core team members is set out in the following table.

Table 1: Experience matrix for core auditor team

Auditor	GB Programme Auditor Since	NI Audits	Pre-accreditation audits	Complex Sites	Large Sites	Technologies			
						Biomass	Ground-Source Heat Pumps	Water-Source Heat Pumps	Solar Thermal
Jackie Elenjickal	2014	✓		✓		✓	✓	✓	✓
John Harvey	2014			✓		✓			✓
Michael Morrell	2013		✓	✓	✓	✓	✓	✓	✓
Simon Morris	2012	✓	✓	✓	✓	✓	✓	✓	✓
Seamus Rooney	2013	✓	✓	✓	✓	✓	✓	✓	✓

3 Financial and commercial offer

3.1 Price and invoicing

3.1.1 Auditing price

Ofgem estimates there to be 72 non-domestic RHI installations audited in Northern Ireland. This audit estimate covers all technologies, a mix of pre/post-accredited sites and a mix of small/medium/large bands. We acknowledge the estimate may be slightly adjusted in light of any emerging evidence or ongoing discussions with the DfE.

The cost of Northern Ireland audits will be based on the fixed price per audit methodology employed for the GB RHI audit programme. The table below provides the breakdowns of the suggested split of the Northern Ireland audits by Ofgem and our suggested price for the audits based on the split.

Table 2 Breakdown of auditing price

Type ¹	Base No of Audits (A)	Fixed Price Per Audit (B)	Total Cost (A*B)
Large Simple	0	Sensitive commercial information redacted by the RHI Inquiry	Sensitive commercial information redacted by the RHI Inquiry
Large Complex	6		
Medium Simple	20		
Medium Complex	42		
Small Simple	3		
Small Complex	1		
Total	72		

¹ Provided based on the following complexities of the installations: small (0-19kW), medium (20kW-199kW) and large (200kW - 999kW).

3.1.2 Travel

In accordance with the current practice we will also invoice for the cost of **travel time** and **travel and subsistence (T&S)** in addition to the cost of the audits. These will be charged based on actual number of visits undertaken and T&S incurred during these visits.

We will charge Ofgem for travel time to Northern Ireland at rate of [redacted] (senior consultant day rate) per visit on the basis of a half-day for an outbound or return journey. Our estimate for the total cost of travel time is [redacted], based on an assumption that there will be 12 visits to Northern Ireland. The travel time will however be charged based on actual number of visit undertaken.

T&S will be charged on actual costs incurred. Indicative T&S cost per visit to Northern Ireland is [redacted], which is inclusive of flights, accommodation, car hire, fuel and meals. This indicative T&S is our best estimate based on our auditing experience. We however note that the indicative site selection includes a good selection of pre-accreditation sites that have reduced notification period (5 working days). Travel would therefore need to be arranged at short notice, resulting in increased T&S costs. We are however willing to confirm the travel with Ofgem, where the T&S exceeds the indicative budget by x% (to be determined), if Ofgem so wish. On assumption that 12 visits will be undertaken to Northern Ireland, an indicative T&S budget is [redacted].

3.1.3 Reporting & Project Management

We assume that three days of senior consultant time (at rate [redacted]) will be spent on reporting – 1 days for compiling the spread-sheet and 2 days for the final overall report, as discussed in section 2.2. Therefore the total cost for reporting is [redacted]. We also expect there to be an additional 2 days spent by our project manager for allocating audits, arranging the audits and the team and liaising with Ofgem. The total cost for project management activities is [redacted] (2 days at senior consultant rate [redacted] per day).

1 day of senior consultant time will be provided free-of-charge for updating the audit report templates for heat pumps and solar thermal.

3.1.4 Total price

Taking into account the cost elements mentioned in the sections above, **the total indicative price for the 72 audits is** [redacted]. This price can however vary on the actual number and type of audits undertaken and T&S occurred.

This price does not include a discount of 20% that we offer for the sites with multiple installations of 3 or more at one site and also 10% discount for solar thermal audits (both applied on the audit fixed price), in accordance with the current GB non-domestic RHI audit programme.

Table 3 Breakdown of the total price

Activity	Price
Auditing	[redacted]
Travel time	[redacted]
T&S	[redacted]
Reporting	[redacted]
Project management	[redacted]
Total	[redacted]

Invoices for the auditing, travel and T&S shall be submitted on the satisfactory completion of and acceptance of the audit reports by Ofgem. T&S claims will be accompanied by spread-sheets explaining the costs occurred. The final payment for reporting will be submitted on the acceptance of the report by Ofgem.