ofgem e-serve

Non Domestic Renewable Heat Incentive Audit Strategy

This paper sets out the means by which Ofgem will fulfil its responsibilities to audit GB and NI NDRHI installations to verify compliance with the scheme requirements

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Contents

1. Version History

Version	Date	Author	Comments
1	1 September 2011	Ade Obaye	
2	16 January 2014	Rob Reid	
3	28 January 2014	Rob Reid	Incorporates Ade Obaye comments
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2. Introduction

2.1. The Renewable Heat Incentive (RHI) is a Government environmental programme that provides financial incentives to increase the uptake of renewable heat. For the non domestic sector, it provides a subsidy, payable for twenty years to eligible, non domestic renewable heat generators and producers of biomethane for injection.

2.2. We are responsible for implementing and administering the scheme. DECC are responsible for policy development. Our duties and functions lie primarily in the administrative and compliance elements of the scheme. These include:

- receiving and assessing applications for accreditation
- receiving and reviewing periodic generation data for accredited non-domestic installations
- receiving and assessing proposed fuel measurement and sampling procedures for biomass fuels

- receiving and assessing fuel measurement and sampling data for biomass generators
- calculating periodic support payments to accredited installations and making payments
- undertaking enforcement such as withholding payment, reducing payment or revoking accreditation
- undertaking fraud prevention and detection activities including site and desk audits, ID verification checks and reviews of schematic diagrams and other information.

2.3. DECC estimates the NDRHI will deliver 12,000 heat generation installations by 2015 and DETI estimates the NI NDRHI will deliver 360 heat generation installations by 2015. £32 million has been paid to over 2,800 NDRHI participants as at January 2014.

2.4. With a scheme of this size, it is important that measures are put in place to protect the available funds from fraud and ensure that payments are only made to those that are entitled. An ongoing cycle of RHI installation audits is a key tool in ensuring this.

3. Audit Approach

3.1. A sample of accredited and not yet accredited NDRHI installations and biomethane facilities will be subject to inspection during accreditation/registration and throughout the duration of eligibility for NDRHI payments. Audits will typically be conducted to commence at six monthly intervals (April - September and October - March) during the year. Audits will also be carried out on an ad-hoc basis where Ofgem decides suspected abuse, misuse or fraud issues necessitate an immediate inspection.

3.2. We will carry out desktop audits on a percentage of small ($\leq 45kW_{th}$) and medium scale ($46kW_{th}$ - $\leq 1MW_{th}$). Desk based audits will typically be carried out where they would prove more cost effective than a site audit and where a physical inspection is not required to verify compliance. The remainder and all large ($>1MW_{th}$) scale installations will be subject to site audits.

3.3. Inspections of NDRHI installations are permissible under the RHI Regulations 2011 and the RHI Regulations (Northern Ireland) 2012. Regulation 50 states that the Authority or its' authorised agents may request entry at any reasonable hour to inspect an accredited RHI installation and its associated infrastructure to undertake any one or more of the following:

- verify that the participant is complying with all applicable ongoing obligations
- verify meter readings
- take samples and remove them from the premises for analysis
- take photographs, measurements, video or audio recordings
- ensure that there is no other contravention of these Regulations.

3.4. We have interpreted "reasonable hour" to mean that site inspections will generally be conducted between 9am – 5pm, Monday to Friday. In order to simplify access and ensure availability of key personnel, data and documentation, we will normally give prior notice of inspections. However, there may be occasions where we believe it is appropriate to conduct unannounced site inspections and we reserve the right to do so.

3.5. We will appoint an external contractor with the necessary capabilities to undertake site audits of NDRHI installations. These will be carried out in accordance with the audit plan while ensuring value for money. The contractor will be required to:

- agree an audit programme with Ofgem
- review relevant documentation relating to the installation

- carry out a site visit (and, where necessary, visit any off-site heat use measurement or off-site sampling facilities)
- provide a report detailing audit outcomes.

3.6. The external contractor will also supply us with a periodic report for the relevant audit round that includes:

- A summary of the NDRHI audit programme findings to date
- A summary of the NDRHI audit programme findings for the reporting period
- Feedback on the NDRHI audit programme including any recommended actions related to the RHI Regulations, Ofgem NDRHI communications materials and improvements to internal controls to address issues identified at site audits.

3.7. We will be responsible for the development and implementation of the audit programme, including management of the external contractor undertaking site audits on our behalf (see section 8 for further details).

4. Audit Objectives

4.1. The objectives for the NDRHI Audit Programme are that it will:

- monitor participant compliance against RHI eligibility criteria and obligations
- detect instances of suspected abuse, misuse, fraud or non compliance
- act as a deterrent to those that may be tempted to break the rules of the scheme
- provide indicative information on the quality of system design, installation and operation where these would indicate a need for further training.

4.2. In order to satisfy these objectives, we will audit a sample of targeted and randomly selected installations to ascertain whether:

- information provided during accreditation or registration is correct and that an installation is entitled to be accredited or registered
- accurate and reliable fuel measurement data is being submitted to Ofgem (where applicable)
- eligible heat claims are plausible given the capacity of an installation and the amount of fuel being used
- meter readings/output volumes notified to Ofgem are appropriate and are such that the right amount of NDRHI support payments are being made quarterly
- meter numbers, positions, installation date, calibration date are correct
- temperature sensors are appropriately placed and have not been tampered with
- the installation does not have a heat rejection facility, or if it does, that it is appropriately metered (to detect where a participant may be purposefully wasting heat)
- any calculations of ineligible heat are plausible and failure to install meters is reasonable
- systems have been suitably installed, commissioned and maintained and heat generation is at acceptable levels given the capacity of the plant and heat load.

5. Selection Criteria

5.1. In order to make best use of resources and be cost effective, the audit sample will consist of installations targeted due to:

- installed capacity/size of NDRHI payments

- reasonable concerns by staff while processing applications or periodic data submissions
- risk-based selection based on trends from audit findings and other risk criteria
- geographical considerations

5.2. We will also select a random sample of installations to verify the effectiveness of the targeting and as a means of identifying new risks and issues that may not have been identified through the targeted approach. Table 1 shows some of the risk-based selection criteria that are currently being used and their associated risks.

Table 1: Examples of risk-based selection criteria

Selection criteria	Risk
Installations receiving the greatest payments	Undetected non compliance could lead to significantly large NDRHI payments being made to installations that are not eligible to receive accurate payments
Installations commissioned before RHI go-live in November 2011	Installations are eligible for the RHI if they were commissioned on or after 15 July 2009. As the RHI went live in November 2011, this means that there are installations that would have been installed and commissioned without any Guidance materials or Regulations to refer to. This increases the risk that these types of installations are not compliant with the scheme requirements.
Installations with complex or multiple metering arrangements	Complex installations typically include multiple buildings, multiple meters, ineligible plant and external pipework that increase the risk that at least one component of their installation is non compliant
Biomass installations using fuel supplied from their own sources	Participants using fuel from their own sources to supply their biomass boiler are less likely to be maintaining records regarding the type and quantity of fuel used in their boiler
Multiple biomass installations on one site	Where one installation on one site identifies a non compliance, it is likely that all installations on the same site are non compliant. Undetected non compliances are likely to result in significant cumulative payments being made as multiple installations on one site have frequently been designed to maximise payments at the higher biomass tariff.
Complex or multiple installations using IRMA providers that have been identified as having not correctly identified ineligibility issues for other installations.	Inaccurate Independent Reports on Metering Arrangements (IRMAs) increase the risk that installations are being accredited on the basis of incorrect information. This increases the risk that significant payments are being made until the issue is identified at audit

6. Sample Size

6.1. As part of our work to determine the appropriate sample size for NDRHI audits in mid-2011, we commissioned Deloitte to investigate the most appropriate methodology for audit sampling based on industry best practice, and to produce data on appropriate sample sizes based on their findings.

6.2. Deloitte recommended the Monetary Unit Sampling (MUS) method for determining the NDRHI audit sample size. Monetary unit sampling provides a direct linkage between the financial value of payments and sample selection, applying materiality (an "acceptable" level of error) and confidence percentages reflecting an assessment of risk in the population. The MUS approach weights each installation's chance of select to reflect the volume of heat generated and the tariff for the technology type and installation size.

6.3. A further refinement involved segmentation of the audit population into sub populations sharing similar characteristics in order that each sub population could be sampled and evaluated separately. Audit effort could then be focused to those installations considered to present the greatest risk of error. The segmentation adopted was installation size reflecting DECC's categorisation of installations.

6.4. We have correlated with Deloitte's recommended sample size as much as possible, weighting our selection towards installations receiving the greatest payments. However, there have been far fewer applications than originally forecast. There have also been significantly more medium installations and significantly fewer large installations' accredited on the scheme. Table 2 represents how the sample size has had to be adjusted accordingly to remain within the available site audit budget.

Table 2: Comparison between Deloitte forecast and actual sample size for site audits

Year	Installation size[1]	Deloitte forecast	Actual sample size	Variance
2012-13	Small	37	30	(19%)
	Medium	48	103	115%
	Large	57	7	(88%)
	Total	**142**	**140**	**(1%)**
2013-14	Small	43	39	(9%)
	Medium	98	177	80%
	Large	74	17	(77%)
	Total	**215**	**233**	**8%**

6.5. We recognise that Deloitte recommended the sampling methodology and sample size before the audit programme had begun. As a result, their recommendations do not take into account our audit findings, in particular non compliances identified to date and their material impact on payments. They also do not take into account the level of uptake, in particular variances between accredited medium and large installations.

6.6. Fraud Prevention and Audit Governance (FPAG) is undertaking an assessment of the potential cost of misuse, abuse, fraud, misreporting and error across all eServe

[1] Small = up to and equal 45kWth, Medium = 46kWth up to and equal 1MWth, Large = greater than 1MWth

environmental schemes. The first phase involves research and analysis on the assessment of risks posed, and the application of different types of fraud to each of our schemes within the context of our fraud strategies and existing risk management framework. The second phase will involve developing methodologies to be applied to each scheme, and also collectively.

6.7. Subject to the completion of FPAG's work, we will require Deloitte to provide the following based on the level of non compliance being identified and their material impact on payments for NDRHI:

- a robust methodology for determining the audit sample size by number of installations segmented by installation size
- a robust methodology for determining the audit sample percentage segmented by volume of new and cumulative applications.

6.8. Deloitte will be required to provide guidance so that we can modify the audit sample size and audit sample percentage described above to reflect updated application projections, levels of non compliance and their material impact on payments.

6.9. In the interim, we plan to maintain our site audit sample size at 7.5% of new applications in 2014-15. This is based on the high level of non compliance from site audits and will be subject to actual application volumes. On the basis of application projections, this will result in up to 308 site audits being carried out in 2014-15.

6.10. We plan to apply Deloitte's recommended 3.5% audit sample size for desktop audits carried out in 2014-15. This is based on the findings from the desktop audit pilot phase that took place in 2013-14. On the basis of application projections, this will result in up to 142 desktop audits being carried out in 2014-15.

7. Auditor capabilities

7.1. Depending on the type of audit, there will be significant differences in the skill set and knowledge base required for the audits to be carried out effectively and accurately.

Desk-based audits

7.2. Generally, desk-based audits will require less technical expertise than a site audit. A typical desk-based review will require checking documentary evidence and process descriptions against NDRHI application responses, periodic data submissions and ongoing obligations. We will carry out this type of audit, making use of internal technical resource as required to verify compliance with NDRHI requirements.

Site audits

7.3. For smaller installations, including those classified as having simple or standard metering arrangements, we will require auditors with the following skills or knowledge:

- water supply operations
- energy and mass balances
- data handling
- comparing records
- fluid mechanics
- thermodynamics
- understanding of eligible heat use
- hot water metering
- metering installation and calibration

7.4. For larger installations, including those classified as having complex or multiple metering arrangements, we will require auditors with the same skills and knowledge as for smaller installations, and in addition:

- steam system operations
- steam metering
- biomass/biogas handling
- statistics (sampling theory, errors and uncertainty)
- process engineering experience
- interpreting system schematics

8. Resources

8.1. We will require an audit team to manage the NDRHI audit programme. The team will be responsible for specific tasks that include:

- planning and monitoring the audit programme
- managing the external contractor(s)
- developing and refining audit checks
- carrying out desk-based audits
- approving site audit reports including assurance ratings
- compiling management information and reporting to senior management
- assisting with E-Serve audit contract procurement processes

8.2. We will recruit staff with the necessary skills and knowledge to undertake the duties and functions of their respective roles. This will include:

- strong numerical and analytical skills paying particular attention to detail
- excellent written and verbal communication skills including reporting to senior management
- experience of applying the principles and practices of risk management
- experience of contract monitoring and management

8.3. We will maintain standard operating procedures that are updated periodically, in particular where process improvements are made. These will provide detailed descriptions of processes, roles and responsibilities, with timescales for when tasks are carried out. These will be used as the basis for induction training so that new starters can become productive as quickly as possible

8.4. We will monitor resource requirements taking into account variations in application volumes, audit findings and other factors that have an impact on the audit sample size. Based on current audit volumes, we require three FTEs that include an Audit Manager, Audit Assistant Manager and Audit Administrator.

9. Procurement of external contractors

9.1. We will outsource the site audit function to an organisation that has the necessary skill set and knowledge base to undertake site audits on our behalf. The tender process is being managed by FPAG as a combined contract, incorporating requirements for all E-Serve environmental schemes.

9.2. We will play an active role in the procurement process, in particular by providing content for the Invitation to Provide a Proposal, assessing bids and contract mobilisation before contract commencement. On an ongoing basis, we will also participate in contract management arrangements coordinated through FPAG.

10. Budget

10.1. We have an agreed budget for the site audit programme that has been submitted as part of the corporate planning process. Table 3 includes details of the budget for the site audit programme during 2014-17. This will be reviewed annually taking into account application volumes, audit findings and the resulting impact on sample size.

Table 3: Proposed budget for the site audit programme (April 2014 – March 2017)

	2014-15	2015-16	2016-17
Site Audits	£374,000	£365,000	£269,000

11. Reporting and Governance

11.1. We will report internally through the NDRHI Implementation Board, while responding to regular and ad-hoc requests from other E-Serve Management Committees.

11.2. On a bi-annual basis, we will review management information on audit findings to date in advance of site selection for the next audit round. Our audit findings will inform decisions regarding our risk-based approach to site selection.

11.3. On an annual basis, we will provide a report on the audit programme to the NDRHI Implementation Board and DECC Project Board. This will include analysis on the audit programme, including the material impact of non compliances and actions being taken to address issues identified at audits.