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**Compliance Mechanism
and draft Secondary
Legislation**

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11th January 2012

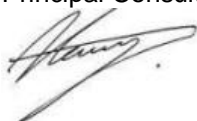
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Contents

1.	Introduction	4
2.	Identification of the Designated Customers and the Contingent Support Mechanism	7
3.	Proposed design of the Compliance Mechanism	9
	Annual identification of the Designated Customers	9
	Notification of the audit requirement	9
	Compliance process part 1- initial checks	9
	Subsequent actions required by the Designated Customer	11
	Subsequent actions required by the EEMO	11
	Compliance process part 2 – Final checks	12
	Non compliance by the Designated Customer	12
	Next round of EAMs audits	12
4.	Draft Secondary Legislation for the implementation of the EAMs	14
	Draft regulation	14
	Implementation of the Draft regulation	16
	Appendix A – From desk study report – EAMs proposals	
	Appendix B – From desk study report - Accreditation and certification of audit assessors	
	Appendix C – 15 th NSC mtg	
	Appendix D – proposed CSM application form	
	Appendix E – proposed CSM application form for the release of funds	
	Appendix F – proposed notification form	
	Appendix G – proposed compliance form	

1. Introduction

The UNDP Mauritius Country Office has hired, on behalf of the Ministry of Renewable Energy and Public Utilities, the Building Research Establishment Ltd (BRE), along with its Partners in Mauritius, as consultants to prepare and develop a new regulatory framework for the implementation of an Energy Audit Management Scheme (EAMS) and a Contingent Support Mechanism (CSM) for the Non-domestic Building Stock in the Republic of Mauritius.

The objectives of this project are to develop:

- an Energy Audit Management Scheme, an Energy Audit Manual and a **Compliance Mechanism Scheme**;
- a Certification programme for energy audit certifications and secure accreditation of a future Certification body in Mauritius by a recognized accreditation body;
- a certified Training scheme and materials for energy auditors;
- a Contingent Support Mechanism (CSM).

The inception report (Client report number 266-261) presented an outline vision of the proposed EAMS process where a qualified auditor goes in to review a building, prompted by a trigger, in order to:

- § Come away with enough information to drive iSBEM asset calculation;
- § Enter data and run calculation;
- § Form an opinion on measures to be advocated (adding to recommendations from software);
- § Enter operational energy into tool;
- § Enter measures and re-run calculation, to produce ranking with approximate savings;
- § Tool will reconcile the savings figures/ratings with operational energy information for the building;
- § These would then feed into the application process for the contingency support mechanism, using the currency KW/hr (CO₂) savings per MUR invested.

Alongside this the accreditation of the EAMS was considered and we recommended that:

- § MAURITAS be accepted as the accreditation body for this scheme, in light of their experience of accrediting ISO 9001 and 14001 management schemes.
- § MSB be the first certification body and later roll it out to private certification bodies. They have experience of certifying ISO 9001 and 14001 management schemes amongst others, and keeping the process initially within one certification body gives an element of control when ironing out minor problems and setting standards.

We envisage the certification process should be where:

- § The applicant who applies to be an auditor must have minimum qualifications of an honours degree or equivalent in a relevant construction based subject plus membership of a professional body such as the Council of Registered Professional Engineers (CRPE) or the Mauritius Architects Association. During this application process the applicant should provide evidence of this and their experience in relevant skill sets – e.g. surveying, building services, energy modelling etc.
- § The applicant would undergo a training program which covers the following competencies:
 - Using the Mauritius Energy Audit tool based on Simplified Building Energy Model (SBEM).
 - Commercial building construction and surveying.
 - Building Services.
 - Advanced services, zoning and new build issues.
- § After a period of practice with the tool (we recommend at least a week's worth), the applicant then sits an exam. This exam should be set by a technical manager(s) who could be based either in the certification body or in the Energy Efficiency Management Office (EEMO) within the Ministry of

Energy and Public Utilities (MEPU). In either case the proposed technical manager would need to have the same qualifications and training as the applicants, and will need further training in the production, marking and QA of the exam.

- § On passing the exam the applicant would be registered with certification body and we recommend that a national registry of auditors should also be kept by the EEMO.
- § The certification body would then QA the scheme by regular auditing (e.g. by checking a sample of energy audits), with a disciplinary procedure to deal with poor performance.
- § All energy audits would be passed through the certification body and then lodged on a national register held by the EEMO.

In the desk study - *Desk review of International Standards for Energy Audits and recommendations for Mauritius, BRE Client report number 268-129* – some of these views were firmed up (see appendix A).

We recommend that the energy audits should be required for “designated consumers” who meet a set of criteria to be confirmed in discussion with the Government. It is hoped that the Central Electricity Board (CEB) will be willing and able to make the selection against these criteria by applying a preliminary check to all non-domestic consumers as part of the billing process.

The most important points were that the auditors were to be certified (see appendix B), the EEMO were pivotal in policing the scheme and a National Registry would be needed to store the data. The auditors lodged their audits with the certification body (the Mauritius Standards Board – MSB), who after the specified Q/A procedures then lodge them on the National Registry which is managed by the EEMO.

Issues arising were:

- Mauritius Building Energy Audit Tool (MBEAT) could be used to generate output files which could be the basis of a registry system for the Government of Mauritius that offers administrative support to the controlling body (Government or accreditation scheme). Using this registry, a stock model could be constructed that would be the basis of benchmarking and provide underpinning evidence for future regulation and market transformation. The other advantage to adopting such a tool is that it can be adapted in the future to carry out compliance checks that all new buildings meet a minimum standard for Energy Efficient Building Regulations and produce the associated documentation. As a result this can be used as a starting point for an integrated approach to the improvement of the building stock with respect to energy efficiency of new buildings and in the future for Energy Performance certification of the existing stock. These EPCs could be in the form of A-G ratings, similar to those already used in the EU for buildings and white goods.

Although there currently is no funding available for this additional functionality within MBEAT a National registry of some form will need to be set-up. The minimum requirements for this are discussed later in this report.

- MAURITAS be accepted as the accreditation body for this scheme but will not be ready to accredit this scheme until mid 2012 at the earliest.

The 15th NSC meeting held on Friday 7th Oct 2011 (see appendix D) confirmed Additional funds have been acquired by the Ministry of Energy and Public Utilities (MEPU) and it will now be possible for the EEMO to precede with the following supplementary project activities:

- (i) Interim Certification of the initial batch of 45 trained Auditors
- (ii) Implementation of the EAMS, including capacity building of MSB
- (iii) Accreditation of the Certification Body, including capacity building of MAURITAS

The MEPU will appoint an International Certification Body already accredited to ISO 17024 and running a similar scheme, through a tendering process, for the implementation of the EAMS and for the interim certification of the auditors.

An International Accreditation Body will also be appointed for the Accreditation of the Certification Body and for the necessary capacity building of MAURITAS.

All additional activities related to the Building Control Bill Project (e.g., amended scheme, amended MBEAT, etc.) and the setting up of a National Registry will be implemented at a later stage, with the appointment of a suitable Consultant.

In an email of the 12th December 2012, Mr. Preetam Chaundee, of the EEMO, inform BRE that:

We have drafted an addendum to the UNDP-GEF Project Document and have already secured additional funding for the interim certification of the 45 trained Building Energy Auditors and for the accreditation of the Certification Body to ISO 17024. A Consultant shall be appointed for the interim certification by the end of February 2012; an External Accreditation Body shall be appointed for the accreditation part, tentatively by the end of May 2012.

2. Identification of the Designated Customers and the Contingent Support Mechanism

In client report 275-019 - *Contingent Support Mechanism - Review and Recommendations*- BRE have proposed how the Designed Customers are identified along with a mechanism for the Contingent Support Mechanism. It is proposed that the Compliance Mechanism and proposed legislation dovetail with these as much as possible to avoid any duplication of effort and keep administrative costs to a minimum.

The CEB provided the finalised dataset of the CEB's top 700 clients which was passed to BRE on the 25th August 2011. BRE carried out a filtering procedure to remove process based companies and identified 320 clients, of which the top 50 energy users can be targeted in the first year. The data provided by CEB is limited, due to customer confidentiality, to the following identifiers:

- § An Account Reference – so that the CEB customer can be traced back to the CEB base data.
- § An Installation Type.
- § Economic Activity – An up to 5 word description.
- § KWh usage data for the last 12 months – per month, total annual and monthly average.

Based on the limited information required, a filtering process was carried out to remove possible process based companies or those with not enough information to identify as building based. This left a total of 320 CEB customers remaining, of which the 50 with the highest annual electricity usage were designated are those targeted for energy audits in the first year of the EAMS – **the Designated customers**.

The NSC wishes to:

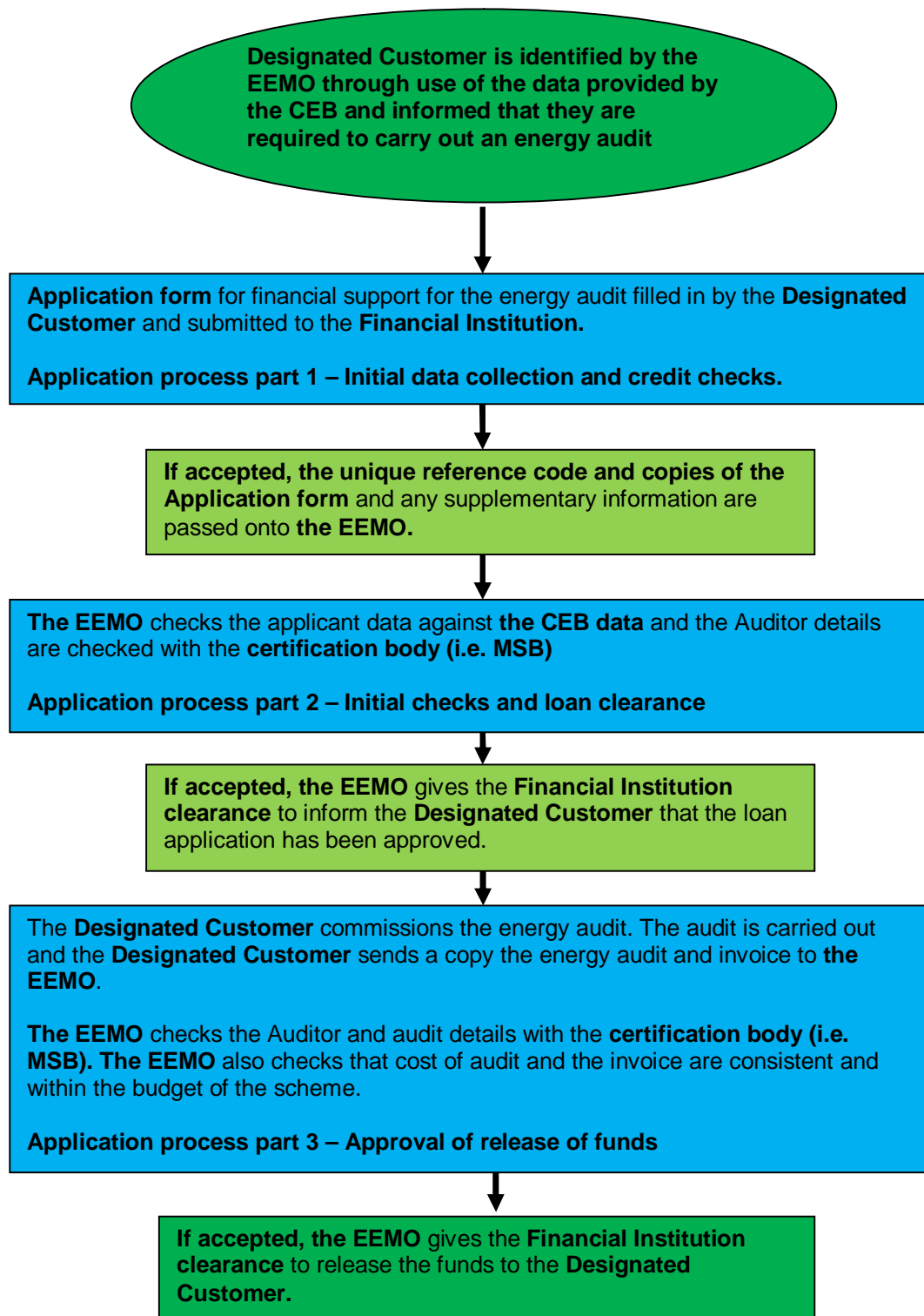
- § Target 5000 customers over the lifetime of the scheme.
- § In the first 5 years of the EAMs have the top 320 clients identified above to carry energy audits on their buildings.
- § An audit to be carried out on new buildings, 3 years after they are built but with no link to the building regulations thresholds on floor area and to be identified by the date of start of the CEB Contract.
- § An audit should be repeated every five years.

These aspirations will require the EEMO to have a sophisticated database and we recommend that this is updated on an annual basis. This initially would be with the top 320 CEB customers and refreshed with data from the CEB on an annual basis. This needs to be carried out to take into account:

- § Changes in ownership.
- § Changes in activity on the site.
- § Construction or demolition on the site.
- § Changes in energy usage – possibly due to updated processes and /or changes in staff numbers.

We also recommend that the new buildings identified have an energy usage threshold before they are audited. This is because with rapid urban growth there may be issue with capacity building of the auditors. Also, there is an issue with the possible cost effectiveness of the audit and we initially suggest that the energy usage of the baseline 320th CEB customer be used. This threshold can then be revisited and tailored as the EAMs matures as a scheme. An alternative is to only audit the new build that exceeds the 500m² threshold that triggers the Energy Efficiency Building Regulations which are part of the Building Control Bill, although the NSC have appeared to discounted this approach.

These designated customers will then be subject to the compliance mechanism and the contingent support mechanism. The proposed design of the scheme for the contingent support mechanism is shown as an overview of the envisaged process in the figure on the next page. As can be seen there will significant overlap with any proposed compliance mechanism.



3. Proposed design of the Compliance Mechanism

Annual identification of the Designated Customers

The proposed compliance mechanism starts with an annual identification of the **Designated Customers** by the **EEMO** using **CEB** data. In terms of compliance the mechanism for identification needs to be transparent and we have proposed a mechanism above that allows flexibility in that the number of buildings to be audited can be adjusted annually by the means of a published list.

In addition to this, there would be the 5 year repeats for those who have already had an audit and those which have been newly built would have an audit 3 years after construction (as identified by the start date of their new CEB contract).

The final list of buildings to be audited within the annual timeframe would be published by the EEMO on their website. This would be an annual event and we suggest that the first list should be published on the 1st January 2013. The reason being that the consultants to act as the interim certification body will not be appointed until the end of February 2012 and the external accreditation body until the end of May 2012 (see end of Section 1). To get the certified Energy audit scheme up and running and accredited will take at least 6 months and more likely 9 months.

Notification of the audit requirement

In line with the publication of an annual list the EEMO will notify every **Designated Customers** of their obligation to carry out an audit on their building within the annual time frame (i.e. within a year of the list publication date). The information that needs to be captured and checked by the **EEMO** is similar to that required by the proposed application forms for the CSM mechanism (see appendix D and E). The most important piece of data is the **unique reference code for Designated Customers**, the unique identifier needs to be allocated at this stage and be used in any future actions and correspondence. At this point we need to consider timings and suggest that the **Designated Customers be given 30 working days (from the date of the notification letter from the EEMO to engage a certified auditor and inform the EEMO using the proposed notification form in appendix F.**

If the **Designated Customer** does not respond he is given a final warning and told he must respond within 5 working days. If this does not occur then the Designated Customer will be fined 500MUR per working day, until a response is forthcoming.

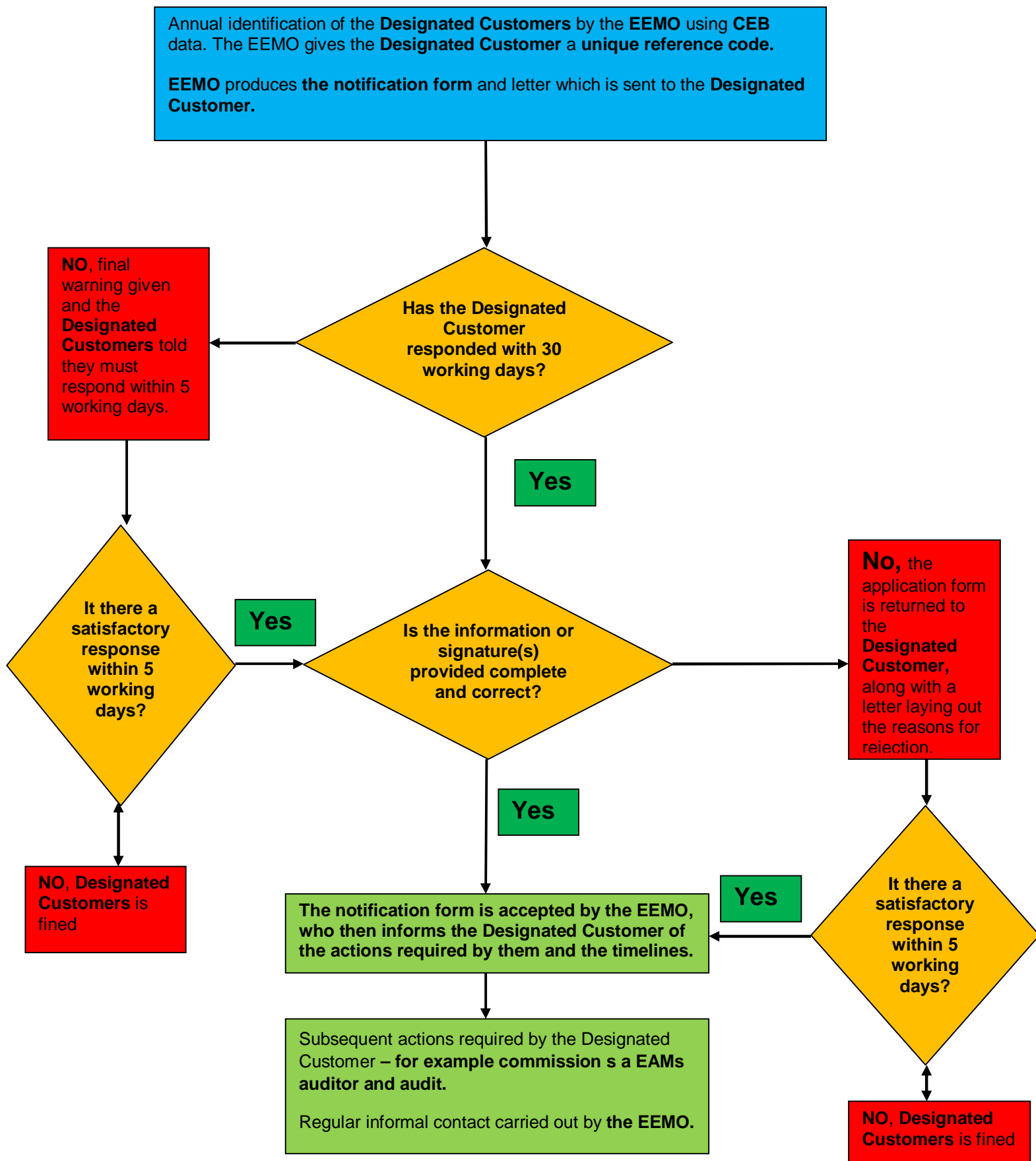
(This is based on the estimated cost of an individual audit being 150,000MUR divided by 225 working days giving a fine of 666.67MUR per working day. We have rounded this down to 500MUR per working day.)

Compliance process part 1- initial checks

The role of the EEMO is to act as "Gate Keeper" for this scheme and show due diligence in checking that the EAMs audits are correctly carried out. This role will involve the EEMO carrying out checks at both the pre and post energy audit stages to ensure:

- § The correct site is audited.
- § A qualified and certified auditor is used.
- § A "fit for purpose audit" report is produced.

The purpose of this stage, see figure 1, is for the EEMO to check consistency of the data submitted by the **Designated Customer**, in the **notification form**, with data sourced from the CEB database and obtain confirmation from the certification body (i.e. Mauritius Standards Bureau (MSB)) that the auditor details are correct and the auditor is certified to carry out the energy audit.

Figure 1: Compliance process part 1- initial checks

Due to customer confidentiality the EEMO is in a unique position – both EEMO and the CEB are government bodies and as such can share information. In the sifting process BRE were only allowed to see edited account information – i.e. an account identifier and brief sector description of the organisation. The EEMO will have full access to the account information and therefore the critical checks will be:

§ Checks with CEB data

- § Are the site Name and Address consistent?
- § Do the CEB contract(s) references and account number(s) match?
- § Are the Meter reference(s) correct?
- § Is the Annual electricity usage (kWh) the same?

If there are inconsistencies with the CEB data the EEMO will ask both the applicant and the CEB to check the validity of their data.

Once this check is carried out the EEMO will check auditor data with the Mauritius Standards Bureau. Again a special relationship exists due to both being under the government umbrella. The purpose of this check is to confirm that the auditor is certified and a member of a valid scheme

§ Checks with certification body

- § Are the Auditor details correct?
- § Is the auditor a member of the correct scheme? – i.e. Mauritius Energy Audit Certification Scheme.
- § Is the auditor's current membership valid and up-to-date?

If required, the **EEMO** will then ask the **Designated Customer** for further clarification (within 5 working days) or by default the process will continue. The **Designated Customer** must respond in full to the **EEMOs** requests within 5 working days or be fined 500MUR per working day, until a full response is forthcoming.

Subsequent actions required by the Designated Customer

Once the **Designated Customer** has sent the notification form to **EEMO** they will be expected to undertake the specified actions within the prescribed timeframe of 12 months from the original notification date:

- Commission a certified EAMs auditor.
- Ensure that the EAMs audit of their site, as specified in the notification notice, is carried out.
- Ensure that the EAMs audit report and associated documentation has been lodged with the certification body.
- Fill in and sign the **compliance form** (see appendix G) and send to **the EEMO**, along with a copy of the EAMs audit report and associated documentation.

Subsequent actions required by the EEMO

The EEMO will be expected to monitor the progress of the **Designated Customer** informally during the Energy Audit stage including the production of the EAMs energy audit report and associated documentation.

However, if the **compliance form** (see appendix G), along with a copy of the EAMs audit report and associated documentation, has not been sent to the EEMO one month before the **Designated Customer's** annual deadline – a letter should be sent to **Designated Customer** reminding them of the deadline and their obligations.

Compliance process part 2 – Final checks

This is the second time the **EEMO** undertakes its role as “Gate Keeper” for this scheme. The purpose of this stage is for the **EEMO** to check the **compliance form** for consistency of the auditor details for the second time with the certification body (i.e. MSB).

The purpose of this check is to confirm that the auditor that actually carried out the audit was that proposed or any alternative is certified and a member of a valid scheme

§ Auditor checks with certification body

- § Are the Auditor details correct?
- § Is the auditor a member of the correct scheme? – i.e. Mauritius Energy Audit Certification Scheme.
- § Is the auditor’s current membership valid and up-to-date?

The second set of checks are concerned with the audit itself to ensure that it has been carried out correctly and in line with the procedures required by the **Mauritius Energy Audit Certification Scheme**.

• Checks on Audit details and invoice

- § Date of audit
- § Energy Audit Report (EAR) number
- § Date of lodgement with certification body
- § Floor area (m²)

If required, the **EMMO** will then ask the **Designated Customer** for further clarification (within 5 working days) or by default the process of this round of auditing has ended. The **Designated Customer** must respond in full to the **EEMOs** requests within 5 working days or be fined 500MUR per working day, until a full response is forthcoming.

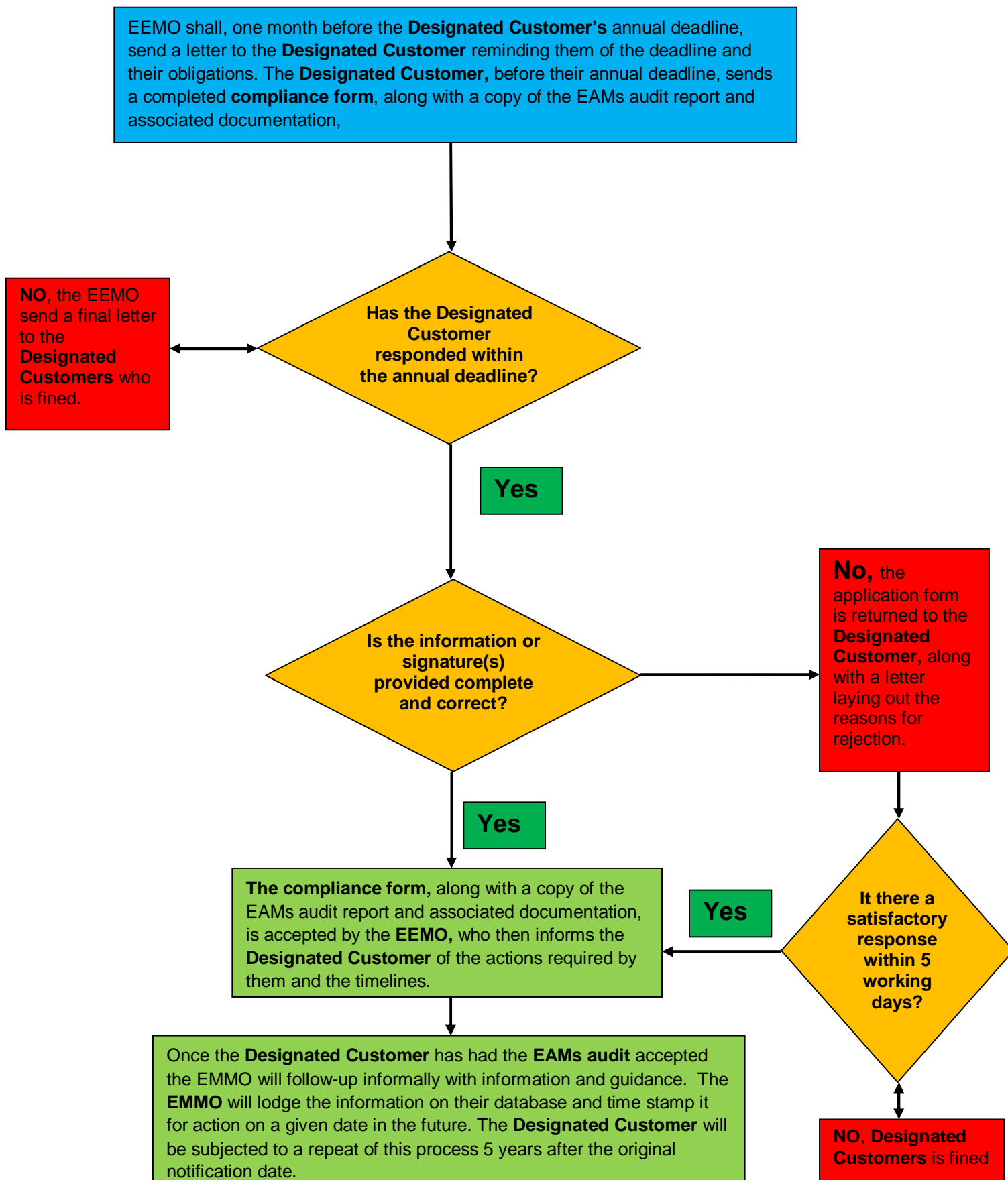
Non compliance by the Designated Customer

If the **compliance form** (see appendix G), along with a copy of the EAMs audit report and associated documentation, has not been sent to the EEMO before the **Designated Customer’s** annual deadline – a letter will be sent to **Designated Customer** reminding them of the deadline and their obligations. At this point the **Designated Customer** will be fined **15,000 MUR plus a further 500MUR per working day**, until a full response is forthcoming.

(This is based on the estimated cost of an individual audit being 150,000MUR and 10% being a reasonable penalty).

Next round of EAMs audits

Once the **Designated Customer** has had the **EAMs audit** accepted by the **EEMO** it is envisaged that they will implement the recommendation and become more energy efficient. The EEMO will remain in informal contact informing them of any new energy efficiency initiatives and best practice guidance. As a part of the formalised follow-up process, the **Designated Customer** will be subjected to a repeat of this auditing process 5 years after the original notification date. The **EMMO** will lodge the information on their database and time stamp it for action on a given date in the future.

Figure 2: Compliance process part 2 – Final check

4. Draft Secondary Legislation for the implementation of the EAMs

This draft legislation below is intended to be an amendment to **ENERGY EFFICIENCY ACT 2011- To provide for the setting up of the Energy Efficiency Management Office**. The draft regulation is the “**Energy Audit Management Scheme (EAMs) regulation for Mauritius**”. This regulation will only be applied to Non-Residential Buildings.

The Regulations proposed detail only the administrative requirements which are special to proving compliance with the minimum Building Energy Audit requirements. This has to be put into relation with the procedures and requirements of **ENERGY EFFICIENCY ACT (EEA) 2011**. Therefore this document should not be read in isolation and special attention should be paid to **PART IV – ENERGY AUDITS** of the **ENERGY EFFICIENCY ACT 2011**.

Draft regulation

Government Notice No. of 2012

THE ENERGY EFFICIENCY ACT

Regulations made by the Minister under section 23 of the Energy Efficiency Act

1. These regulations shall be cited as the Energy Audit Management Scheme Regulations 2012.

2. In these regulations –

“CEB” means the Central Electricity Board;

“EEMO” means the Energy Efficiency Management Office as established under section 4 of the Energy Efficiency Act 2011;

“designated customer” means CEB customer identified by the EEMO using CEB data as requiring an energy audit on its non-residential building. These would be the high energy users from existing Non-Residential Buildings including those 3 years after their construction as identified by the start date on their CEB contract;

“annual list” means the list of Designated Customers to be audited within the annual timeframe and shall be published by the EEMO on its website by the first week of January;

“energy auditor” means a person who is a member of an accredited Energy Auditor Certification Scheme which uses the Mauritian Building Energy Audit Tool;

“energy auditor certification scheme” means the accredited scheme for energy auditors which will certify an Energy Auditor to carry out an Energy Audit on a Non-Residential Building using the Mauritian Building Energy Audit Tool software;

“certification body” means the organisation who has certified the Energy Auditors to be members of the Energy Auditor Certification Scheme under ISO 170024 Conformity Assessment - General Requirements for Bodies Operating Certification of Persons;

“accreditation body” means the organisation that has accredited the Certification Body’s Energy Auditor Certification Scheme;

“energy audit” means an audit of the energy usage of a Non-Residential Building carried by a Certified Energy Auditor, using the Mauritian Building Energy Audit Tool, who is a member of an accredited Energy Auditor Certification Scheme;

“unique reference code” means the unique identifier allocated to the Designated Customer, by the EEMO, at the notification stage and will be used in any future actions and correspondence;

“notification form” means the form issued by the EEMO to the Designated Customer, to capture and confirm the details of the company, site, auditor and signatory;

“Compliance form” means the form issued by the EEMO to the Designated Customer, to capture and confirm the details of the company, site, auditor, audit and signatory.

3. The Energy Efficiency Management Office shall in conjunction with the CEB data identify the Designated Customers requiring an energy audit on their Non-Residential Building(s). The annual List of Designated Customers shall be audited within the annual timeframe and shall be published by the EEMO on their website.
4. (1) The EEMO shall inform the Designated Customers by way of registered post that they have 30 working days from the date of the notification letter, to engage an Energy Auditor and to return the completed Notification form to the EEMO.
 (2) In the absence of the notification form from the Designated Customer, within 30 working days of the final warning is issued by the EEMO, the Designated Customer has 5 working days to fully respond by engaging an Energy Auditor and returning a completed Notification form to the EEMO.
5. Where the Designated Customer does not respond to the EEMOs requests, it shall be fined 500 rupees per working day, until a full response is forthcoming.
6. (1) On the submission of the Notification form, the EEMO shall check the accuracy of the data. The process shall include comparison with data sourced from the CEB and obtaining confirmation from the certification body that the Energy Auditor details are correct and is certified to carry out the Energy Audit.
 (2) The EEMO may request the Designated Customer for further clarification to which the Designated Customer shall respond within 5 working days.
6. Where the request for clarification is not submitted, a fine of 500MUR per working day shall be imposed by the EEMO until a full response is forthcoming.
7. Designated Customer shall be expected to complete the specified actions within the prescribed timeframe of 12 months from the publication date of the annual List of Designated Customers —
 - (a) Commission an Energy Auditor to carry out an Energy Audit;
 - (b) Ensure that the Energy Audit, as specified in the Notification form, is carried out;
 - (c) Ensure that the Energy Audit report and associated documentation has been lodged with the Certification body;
 - (d) Fill in and sign the Compliance form and send to the EEMO, along with a copy of the Energy Audit report and associated documentation.
8. Where the Compliance form along with a copy of the EAMs audit report and associated documentation, have not been send to the EEMO before the Designated Customer’s annual deadline, a letter shall be sent to Designated Customer reminding them of the deadline and their

obligations and the Designated Customer shall pay a fine of 15,000 rupees plus a further 500 rupees per working day until a full response is forthcoming.

9. In addition to those new Designated Customer identified in regulation 3, the Designated Customers who have already carried out an Energy audit shall be expected to carry out a repeat of the Energy Audit every 5 years.
10. These regulations shall come into force on 2012.

Made by the Minister on 2012.

Implementation of the Draft regulation

In drafting the final version of the regulation our legal expert, Mrs Gaitree Jugessur-Manna, has identified three issues that need to be dealt with:

1. **Whether the proposed regulation is ok in its rights** - As submitted we are of the opinion that the proposed regulations are not legally in order since it is not covered under section 23 of the EEA.
2. **How can the EEA be amended to allow the regulations to work properly?** - We propose that section 23 of the EEA be amended to:
 - (a) give power to the Minister to make regulations for the energy audit management scheme in residential and non-residential buildings; and
 - (b) impose a penalty on non-compliance of the energy audit management scheme.
3. **Whether the Non-residential definition is in the Building Regulations and Code?** – in the draft Energy Efficiency Building Code the distinction is made clear between residential and non-residential buildings. To make it more binding we may want to make mention of it in the regulations.

Appendix A – From desk study report – EAMs proposals

5 Proposals for Energy Audit Management Scheme (EAMS)

5.1 Overall format of scheme

The purpose of the Energy Audit Management Scheme (EAMS) is to facilitate improvement of the energy management of the non-domestic building stock of Mauritius. The intention is to engage auditors to audit the buildings, in some cases with financial support from the Mauritian Government, in order to determine which need improvement measures to be applied so that the energy consumption of those buildings is reduced.

This section of the report discusses the possible format of the EAMS including how it could engage with the recipients of the service, how it could operate on a technical level including tools to evaluate and prioritise measures, what information would be needed to evaluate building energy performance, which measures are likely to be considered, and what capabilities would be required of the auditors.

Policy decisions

Before finalising the format of the EAMS, we suggest that the Mauritian Government needs to take some policy decisions regarding the scope and scale of the scheme. Our recommendations and our understanding of the Government's requirements are indicated by the bold text amongst the following options, and have been assumed later in the document. It is of course open to the Government to choose alternative ways to implement the scheme.

1. What proportion of the non-domestic building stock is to be addressed, on what time scale? It might be desirable to have all buildings audited and improvements made quickly, but this will have implications for
 - a. The number of audits required in a given period
 - b. The number of auditors to be trained, and their expectations for long-term engagement with the scheme if work peaks early but then declines
 - c. The time profile of Government funding support

We suggest that the building stock should be audited progressively over a period of years, in order to spread the costs and human and capital resources required.

2. To what extent does the Government expect the business community to pay for the scheme, in terms of
 - a. The audits themselves
 - b. Implementation of measures

If the business community is expected to pay, what incentives should they be given, or is having legislation/regulation in place thought to be sufficient motivation? If funding is to be provided, where should it be targeted to gain maximum impact?

We understand that the National Steering committee requires that the audits should be supported, rather than the implementation of measures. BRE will design a process that provides grants through a Contingent Support Mechanism (CSM) (to be explained in more detail later in the document).

3. Does the Government want to encourage voluntary audits as well as those required by legislation/ regulation? If so, will any incentives be offered to building owners/operators that wish to implement the results of voluntary audits?

We recommend that voluntary audits be encouraged, but we understand that the Government will not be able to support them through the CSM.

4. Is it expected that funding, if offered, should be recycled to fund future support? If so, on what timescale is the funding expected to return to the exchequer, since until it has, the Government will have to support the scheme.

We recommend that funding should be recycled through revolving loans administered by the CSM.

5. If funding is to be limited, how should it be prioritised? Options are on the basis of
- a. First come, first served
 - b. Largest absolute savings
 - c. Worst performers against benchmarks for building type
 - d. Need to provide exemplars in sectors with large contribution to economy or with a high profile
 - e. Shortest payback first
 - f. Medium payback first (on the basis that businesses should be able to fund short payback measures themselves)

We recommend that priority should be given to fully audit buildings that perform worst against typical for each building type. This will be established through the preliminary check process used by the CEB and EEMO to identify “designated consumers”.

Process for each audit

For each building to be audited, we envisage the following process:

- a. Buildings will only be compulsorily audited if they are designated consumers. Voluntary audits will be allowed, but there will be no support funding
- b. We strongly recommend that only independent accredited audit assessors should be allowed to undertake audits, to
 - i. Ensure competence at carrying out the audit
 - ii. Improve consistency
 - iii. Minimise fraud which could occur if the auditor was part of the organisation receiving CSM funding
- c. Once the designated consumer has been identified and contacted by the EEMO, contracts need to be set up between CSM and the designated consumer to
 - i. To carry out of the audit
 - ii. Implement operational improvements
 - iii. Implement asset improvements where the business case satisfies the building owner/operator
- d. Independent accredited audit assessor will contact the building owner and operator to
 - i. Explain the need for the audit

- ii. Request the collection of data (e.g. billing information) to which the owner and/or operator has access
 - iii. Arrange a visit to collect information about the building asset and quality of energy management
- e. Audit assessor visits the building and any other appropriate location to survey and collect data such as dimensions, constructions, services types and efficiencies, and metered energy consumption, and also to review potential for improvements
- f. Audit assessor sets up building models in the EAMS tool, for
 - i. Actual building including assessment of energy management quality
 - ii. Suggested improvements
 - g. Tool evaluates building, generates expected savings due to
 - i. Asset improvements
 - ii. Operational improvements
 - h. Auditor uses this information and independently gathered information on implementation costs to generate preliminary business case for building owner/operator to invest in improvement measures
 - i. Capture building details in a registry to start building up picture of stock
 - j. Revisit building one year after measures are implemented, to check whether measures have reduced energy consumption as expected, and review results.
 - k. Feed review into central records to inform future decisions.

Criteria for establishing designated consumers

Rather than expecting all audits to be carried out simultaneously when the legislation/regulation is enforced, it is recommended that they should be prompted by some other event. This would allow resources to be spread over time.

Possible legislative or regulatory reasons that would prompt the need for an energy audit might be:

- fixed date
- when a building permit is granted or renewed, particularly for
 - o extension
 - o refurbishment
 - o improving weather tightness
- condition of renewal of utility contracts
- associated with local taxation demands
- a preliminary check undertaken by CEB based on billing information compared with benchmarks

Prompt	Explanation	Comment
By fixed date	Annual or less frequently, possibly different dates for each building type or some other differentiator to	Reasonable clarity. Difficult to provide enough auditors. May be problems with maintaining compliance over several years, if results are similar year on year but no action is taken. Does

	spread the load through the year	not prioritise initial audit effort on poor performers.
Building permit sought	Make an audit of any pre-existing building part of permit grant/renewal process	Easy to capture buildings that are already in the regulatory process. Building owners/operators should be more disposed to undertaking remedial work as it could be aligned with work being done anyway.
Condition of utility contract renewal	Not having an audit would mean the contract would incur a surcharge on unit price (could be presented as a discount to those who conform)	“Discount” would be useful motivation, especially compounded with CSM funding and the reduced energy cost if measures are implemented. Link with negotiation on energy contracts would focus attention on energy performance. Does not prioritise initial audit effort on poor performers.
Associated with local taxation	Not having an audit would mean a surcharge on local taxation rate (could be presented as a discount to those who conform)	“Discount” would be useful motivation. Easy to capture all buildings. Does not prioritise initial audit effort on poor performers.
Preliminary check by CEB	Non domestic energy consumers provide building area and type to CEB, and then every bill would compare actual rolling annual consumption/sqm against a benchmark. Only those in a certain band e.g. 200%+ above benchmark would have to undertake the audit. (The band would be set by the Government so that only the worst performers are affected at first, but the limits could be progressively tightened over time so that more of the stock is captured as resources become available.)	Every consumer gets a preliminary check, which should help to motivate everybody towards improvement. Only the consumers that most need a full EAMS audit would have to pay for it. The Government control of the % above benchmark bands means that (a) eventually all buildings can be audited but (b) only as resources become available to undertake the audits and fund the improvements. However, it could be perceived as complicated and there is an administrative cost imposed on CEB. There could be scope for error/fraud if consumers distort the building area/type information they pass to CEB with the intention of getting CSM funding (but this could be minimised if part of the full audit includes confirming these details and/or the information is corroborated with local authority records).

We understand that the National Steering committee requires that the audits should be carried out on all “designated consumers”, i.e. those that satisfy certain criteria. BRE proposes that the “preliminary check by CEB” approach outlined above would set suitable criteria that could be adjusted over time to reconcile resources and speed of implementation aspired to by the Government. The precise procedure will be resolved between the National Steering committee, BRE and the CEB as implementers of the check during the EAMS implementation phase.

Appendix B – From desk study report - Accreditation and certification of audit assessors

6 Accreditation and certification of audit assessors

6.1 The need for accreditation and certification

In terms of the end user, whether the end user is the public, business or Government, there is the perception that the supplier should provide “what is detailed on the can”. The role of certification and accreditation is to ensure that “what it says on the can is actually in the can”.

The certification process checks that the supplier has processes and procedures in place to ensure the product they are delivering is:

- Fully and adequately defined ;
- Consistent with respect to its performance ;
- Has minimum and/or defined level(s) of performance.

A certification body is there to check that the supplier is providing the product to the stated specification, whilst the accreditation body ensures that the certification body has sufficient processes and procedures in place to carry out this task. Both bodies will have to comply with International, Continental and National standards in order to carry out these functions and normally the supplier will have to provide products to meet standards if they exist. If they do not exist a scheme document will have to be constructed in conjunction with relevant stakeholders.. The result will be the product is certified whilst the certification scheme is accredited.

6.2 Other certified audit schemes

Our research has shown that there are very few fully certified dedicated energy audit schemes world-wide and those that do exist do not provide a “good fit” in terms of being fully comprehensive of their requirements, i.e. they have the requirements of the audit, the audit procedures, the content of the audit, who is competent to carry out the audit, the monitoring of the quality of the audits etc. fully defined.

For example, the Energy Sustainability Unit (ESU) based at the National University of Singapore (NUS) has received a Government grant to undertake 4 programmes to develop the energy services sector in Singapore. One of these is to accredit Energy Services Companies (ESCOs) for the delivery of services which include specified levels of energy audits to a specific sector, one of which is buildings. The company, not the individual, is accredited and must have undertaken a minimum of nine similar audits and have a minimum of one named “Key qualified person (KQP)” to oversee, manage and carry out the audits. The KQP must be qualified as a Singapore Certified Energy Manager (SCEM), have a relevant professional qualification, 2 years post graduate experience in a certified or accredited scheme, a relevant engineering degree and completed 3 audits in the last three years.

This scheme is impressive in that it fully defines who is competent to do the work and lays out stringent requirements for the certifiable personnel. However, the description of the audit levels is generic and does not fully describe what the output should look like in terms of content and level of detail, including analysis techniques. There also appears to be a misunderstanding by the ESU of the differences between accreditation and certification.

India within its 2001 Energy Conservation Act has the provision to introduce energy auditors and the Bureau of Energy Efficiency (BEE) has statutory powers and functions under this legislation. These include maintaining a list of accredited auditors, qualifications for these auditors, the manner and time intervals in which audits shall be conducted, and preparing an educational curriculum for academia et al. They are currently developing a pilot scheme to support the implementation of this Act and have produced audit guidelines. These again suffer from being generic and too high level.

Within the European Union the need for building specific auditors seems to have been overridden by the need to support the Energy Performance of Buildings Directive (EPBD) legislative and regulatory requirements. Within these requirements accredited Energy Assessors are required to provide Energy Performance Certificates (EPCs) for buildings on completion, let or sale. This has led to the formulation of national standards and methodologies in order to implement these requirements. These are underpinned by national schemes run by certification bodies, which in turn are accredited by their national accreditation bodies, for example in the UK this would be the UK Accreditation Services (UKAS).

In the UK, these schemes set up to support the EPBD were pre-dated by the need for competent persons to support the submissions to building control of compliance to the building regulations for energy conservation – i.e. Part L for England and Wales; and Section 6 for Scotland. As a result the audit methodology and tools for the production of asset ratings were well advanced and with the introduction of EPCs were adapted and expanded in their scope and functionality to meet the additional requirements of the EPBD. Alongside these, new schemes were developed using similar methodologies and tools to produce operational rating and Display Energy Certificates (DECs).

Certification Bodies, such as BRE Global and CIBSE had, at the time of EPBD implementation, mature certification schemes already in place for Building Regulation energy assessors. With EPBD implementation the scope of these schemes was expanded to include the remit of the EPC assessors. These schemes are currently in the process of being expanded again to cover the new Energy Management Standard: ISO 16001.

6.3 Accreditation standards

In terms of an energy audit scheme our study has revealed:

- That there are currently no standards in place that fully define the processes and procedures required, although there are standards that define these generically. In some cases, these are underpinned by national best practice which lay out the operational details.
- In the European Union, the Energy Performance of Buildings Directive (EPBD) legislative and regulatory requirements for accredited Energy Assessors to provide Energy Performance Certificates (EPCs) has led to the formation of national standards and methodologies in order to meet these requirements. These are underpinned by national schemes run by certification bodies, which are turn have these schemes accredited by their national accreditation bodies.

In order to accredit such a scheme the accreditation body should comply with the following standard:

- ISO 17011 - Conformity assessment General requirements for accreditation bodies accrediting conformity assessment bodies - First Edition 2004; Corrected Version 2/15/2005.

ISO 17011 specifies general requirements for accreditation bodies assessing and accrediting conformity assessment bodies (CABs). It is also appropriate as a requirements document for the peer evaluation process for mutual recognition arrangements between accreditation bodies. Accreditation bodies operating in accordance with this International Standard do not have to offer accreditation to all types of CABs.

For the purposes of this International Standard, CABs are organizations providing the following conformity assessment services: testing, inspection, management system certification, personnel certification, and product certification.

The route that has been used in the UK to roll out the successful certification schemes to provide certified energy assessors in support of building regulation compliance checking, and production of EPCs and DECs is to accreditation standard EN 45011:1998 - General requirements for bodies operating product certification systems. BRE therefore recommends that EN 45011 should be used in Mauritius.

Other alternatives are to use:

- ISO 17020 - General Criteria for the Operation of Various Types of Bodies Performing Inspection. Or
- ISO 17024 - Conformity Assessment - General Requirements for Bodies Operating Certification of Persons

As the vehicle for the scheme they are not as good a fit as EN 45011. However, it has been decided by the National Steering Group (NSG), after consultation with Mauritas, to follow the ISO17024 route as this approach is the one that best fits the Mauritian context.

The extra requirements of ISO17024 are that this standard requires an entrance examination for the auditors as well as evidence of competency. It also requires a pro-active surveillance process to monitor the auditor's compliance. BRE will recommend a Quality Assurance process to meet this requirement and also recommends best practice which is to fully re-assess assessors every 3 years, and this could include a re-sit of the exam. The exam must be under the control of the certification body or their agents plus there must be a clear divide between the certification body and those organisations providing the training, i.e. you cannot train and examine the candidates.

This standard also requires the certification body to meet the following requirements:

- Have a scheme steering group in place, which consists of stakeholders from Government, Industry and the accreditation body, along with an expert from the field covered by the scheme.
- This steering group has to undertake a full review and evaluation of the scheme and its members every five years but best practice is to do this three years.
- The certification body will need an internationally recognised management standard such as ISO 9001 in place for this scheme.
- The certification body will need to appoint an appropriately qualified and trained Scheme manager.
- The certification body will need to appoint an appropriately qualified and trained Technical manager.

6.4 Certification and Accreditation bodies in Mauritius

Following our meetings with MAURITAS (the Government Accreditation body) and with the Mauritius Standards Bureau (MSB), in September, we recommend that:

- ☐ MAURITAS be accepted as the accreditation body for this scheme, in light of their experience of accrediting ISO 9001 and 14001 management schemes.
- ☐ MSB be the first certification body. They have experience of certifying ISO 9001 and 14001 management schemes amongst others, and keeping the process initially within one certification body gives an element of control when ironing out minor problems and setting standards. Later it can be rolled out to private certification bodies

At this point we recommend that the certification process should be as follows:

- ☐ The applicant to be an audit assessor must have minimum qualifications of an honours degree or equivalent in a relevant construction based subject plus membership of a professional body such as the Council of Registered Professional Engineers (CRPE) or the Mauritius Architects Association. During this application process the applicant should provide evidence of this and their experience in relevant skill sets – e.g. surveying, building services, energy modelling etc. (see Appendix C for details).
- ☐ The applicant would undergo a training program which covers the following competencies:

- o Using the Mauritius Building Energy Audit Tool (MBEAT) based on Simplified Building Energy Model (SBEM).
 - o Commercial building construction, zoning and surveying.
 - o Building Services.
- After a period of practice with the tool (we recommend at least a week's worth), the applicant then sits an exam. This exam should be set by a technical manager(s) who should be based in the certification body. The proposed technical manager would need to have the same qualifications and training as the applicants, and will need further training in the production, marking and quality assurance (QA) of the exam. We envisaged training the proposed technical managers directly after the first training programme and showing them how to produce the first exam. BRE will also support them by responding to queries on the marking of the first examination. BRE could produce, invigilate, mark and Q/A to exam but this would have to be costed separately.
 - On passing the exam the applicant would be registered with the certification body. We recommend that a national registry of auditors should also be kept by the EEMO.
 - The certification body would then QA the scheme by regular auditing (e.g. by checking a sample of energy audits), with a disciplinary procedure to deal with poor performance.
 - All energy audits would be passed through the certification body and then lodged on a national register held by the EEMO.

Since our initial meeting with Mauritas we have been in constant dialogue, which led to BRE proposing that the preferred route for certification of the Energy Audit Management Scheme (Mauritius) by an accredited certification body was EN45011. This is because this was the vehicle for the successful UK schemes. Mauritas are working towards complying with ISO 17011 in order to accredit certification bodies to this standard as they do not have the other accreditation standards in place to make certification of this scheme possible.

It was envisaged that ISO 17011 will be used as a vehicle for product certification under EN 45011 (or ISO Guide 65 equivalent). BRE would produce the scheme documentation for certification under EN 45011 and help the Mauritas as the Accreditation Body with a roadmap for the scheme to achieve product certification EN 45011 under ISO 17011.

Recent correspondence from Mauritas indicates that they do not have the ISO/IEC 17011 in place yet, but have started work and expect to complete the preparation work for it by October 2011. They will then be ready for pre-peer-evaluation and peer evaluation by the International Laboratory Accreditation Cooperation (ILAC) and International Accreditation Forum (IAF) in mid 2012. This project is being implemented with the financial assistance of Agence Française de Développement (AFD) and technical assistance of their French counterpart (COFRAC/AFNOR).

In addition they have not embarked on Product Certification for the simple reason that the only Certification Body in Mauritius offering the programme has not shown any interest yet in applying for this particular accreditation. In the light of the scheme proposals made by BRE they originally agreed that suggested approach by BRE should be carried forward, i.e. EN 45011 product certification under ISO 17011 operations. However, they also informed us that resources may be an issue and they will need further internal discussions before taking the final decision on any implementation.

The issues arising from this are:

- The EAMs project ends May 2011 and Mauritas will not be ready until Oct. 2011 to mid 2012;
- Even when Mauritas have obtained ISO 17011 they may not offer EN 45011 which is essential for the accrediting the certification body to run the scheme.

Further discussions and decisions of the NSG have shifted the focus to the use of ISO 17024 - Conformity Assessment, as the accreditation vehicle. However, the issues above still remain and there is a need for an interim solution.

Options to deal with these issues are:

- Run an uncertified scheme through the Mauritius Standards Bureau until Mauritas is ready. The scheme documentation will be ready by the middle of March and we estimate it will take a month for MSB to get certification systems/procedures in place. MSB would also need to form a scheme steering group, which would consist of stakeholders from Government, Industry and the accreditation body, along with an expert from the field covered by the scheme. Also MSB will need in place an internationally recognised management standard, such as ISO 9001, and to appoint appropriately qualified and trained Scheme and Technical managers. When Mauritas is in compliance with ISO 17024 they would then accredit the scheme and retrospectively allow MSB to certify the auditors. Any handholding and training of MSB staff during this process is not covered by our project specification and would have to be costed separately.
- BRE Global could help set-up MSB as a certification body to run the scheme until Mauritas is ready. Once MSB have the certification systems/procedures in place, we estimate that BRE Global would take a further month to certify the scheme. MSB will then run the scheme; set, run and mark the examinations; with the documentation of each candidate passed onto BRE global for final certification. Again, once Mauritas are in a position to accredit MSB the documentation etc. of each auditor could be passed back to MSB for certification under the auspices of Mauritas. This is not covered by our project specification and would have to be costed separately.

6.5 BRE's obligations under the existing contract

We think it would be best at this time to reiterate what BRE is expected to provide under the existing EAMs contract:

- A scheme framework will be developed to provide the procedural and management criteria for scheme operation; this will include development of the following procedures and documentation (please see Appendix D for details of the output):
 - o Scheme Document;
 - o Code of Conduct;
 - o Complaints Procedure;
 - o Appeals Procedure;
 - o Membership Agreement;
 - o Application form.
- Technical input for the scheme (including the production of the examination template materials – both papers and computer files), marking and process/quality control documentation and processes. We envisage that the proposed Mauritian certification body technical managers would need to have the same qualifications and training as the applicants. They would also need further training in the production, marking and quality assurance (QA) of the exam; this training would take place directly after the auditor training.
- Provision of the materials, roadmap and technical advice necessary for the accreditation of a future certification body in Mauritius by a recognised accreditation body. This would be achieved by provision of the following services:
 - o Advice on the structure of the accreditation standard and the types of documentation likely to be required.
 - o Advice on the governance structure required for a certification body.
 - o Advice on key issues such as competency, certification decisions, conflicts of interest and impartiality.

- o Advice on internal audit, corrective actions and management structure.
- o Review of top level documents the body prepares following the above advice and feedback on improvements – this will require top level documentation from the proposed certification body.
- o The roadmap would be a clause by clause guide to what they should do and prepare in order to comply with 17024. This will pick up and advise on some particular areas which are easily overlooked or where there are quite significant impacts on the service they provide. A couple of examples are:
 - ☐ governance and how to set up a governing body; and
 - ☐ requirements for dealing with candidates who may be handicapped or have other similar difficulties.

6.5.1 Additional tasks

To help set-up the certification body is an additional task to those agreed to in our bids – both original and revised. We have already discussed this issue with the steering group representatives through two teleconferences. As a result we provided the following quote for these additional services:

1. To help set up the certification body we would estimate that the cost would be: £17K including travel and subsistence for up to two trips to Mauritius. This would include:
 - Some on-site training
 - More in-depth advice on required documents
 - Checking operational documents and procedures

This quote is on the basis that BRE will guide and advise MSB but MSB will be responsible for the actual preparation and writing of procedures and quality documents.

An important point that may have been missed by previous emails and telephone calls is that in giving the above help and advice, the MSB should be in a good position to deliver other certification schemes should they wish to do so in the future. Other than specific scheme documents for individual schemes much of the other documentation for the certification body is generic. The quote above will concentrate on the energy schemes; if at a later date MSB want help extending their scope we could help for an additional contract.

2. To run the scheme until Mauritas is ready

The aim would be for BRE to initially conduct all the work with MSB staff observing and gradually hand over more and more of the work to MSB so that eventually BRE would only make the certification decision and issue the certificates whilst MSB do all the rest of the certification work. This will help MSB to become accredited in the own right.

Assuming BRE had conducted 1 above. The cost would include:

- On-site hand holding for the initial QA audits in conjunction with 1 above
- Certify energy audit assessors at £600 each. This is based on the candidates having passed the appropriate qualifications and having the appropriate experience and that the evidence is presented in consistent application packs for evaluation.
- BRE would help MSB staff to define the contents of the evidence packs required to be submitted by the candidates. BRE would assess each application in conjunction with MSB staff and make the appropriate recommendations and issue the certificates.
- Quality assurance of the initial batch of energy audit assessors £5000.
- Thereafter assuming MSB staff are fully trained and conducting the QA audits BRE would charge a fee based on the fee charged to assessors by MSB. This was originally quoted as 10% but as there is no indication of the fees MSB intend charging this would need to be negotiated to monitor and manage the certification QA audit process.

- BRE would conduct an on-site audit every 6 months to ensure everything is working well - £3000 per audit plus travel and subsistence. This could be extended to annually if everything was going well after the first two audits.

As explained in a previous email BRE is an accredited certification body for similar schemes however if MSB want BRE to specifically get the MSB scheme accredited by UKAS there would be at least a further fee of £10000

3. To prepare and mark the exam

The price is £600 per exam to prepare the papers and £125 per candidate to mark. This assumes that MSB print the papers, invigilation the day and send the papers to BRE. It also assumes a minimum of 10 candidates per exam.

6.6 Other certified audit schemes

The national steering committee has decided that Mauritius Institute of Training & Development (MITD) will be the future Training and Examining Body. Under the prescriptive clauses of ISO17024, the certification body (which acts as the examination body) must be split from the role of the training providers. Therefore the exam must be under the control of the certification body or their agents and there must be a clear divide between the certification body and those organisations providing the training, i.e. you cannot train and examine the candidates.

6.7 Recommendation for the accreditation and certification of the EAMs

- MAURITAS be accepted as the accreditation body for this scheme, subject to the issues raised above being resolved.
- ISO 17024 would be the Accreditation Standard, which would then be used as a vehicle for the scheme to achieve personal certification of auditors.
- BRE would support the accreditation of a future certification body in Mauritius by provision of a roadmap for the scheme to achieve accreditation for personal certification under ISO 17024.
- MSB would be the first certification body because keeping the process initially within one certification body gives an element of control when ironing out minor problems and setting standards.
- BRE would support MSB by the production of the EAMs scheme and examination documentation for certification under ISO 17024.
- EAMS would be run an uncertified scheme through the Mauritius Standards Bureau until Mauritas is ready. When Mauritas has the Accreditation standards in place (ISO 17024) they would then certify the scheme and retrospectively allow MSB to certify the auditors.

Appendix C – 15th NSC mtg

1. The 15th NSC meeting was held on Friday 7th Oct 2011 and the pending issues that required clarifications, were discussed. NSC has decided that BRE will have to submit a **1st draft** of the pending deliverables (such as EAMS documentation, CSM Report, piece of legislation, road map for accreditation, etc..) for necessary preliminary comments from the local stakeholders; these comments will then be taken on board by BRE to submit the final drafts of the pending deliverables.

NSC has requested BRE to submit a revised work plan for completing the remaining of the project at latest by the end of Dec 2011.

A. Referring to your progress report dated 23rd Sept 2011, the decisions taken by the Steering Group have been written in “dark green” :

- The target market will be 5000 buildings/sites.
 - 320 buildings/sites as per final list of designated consumers submitted by BRE.
 - An initial batch of 45 energy auditors have been trained on the use of MBEAT; we are expecting at least 30 of them to be qualified and certified to undertake the audits as from Mid-2012. The 45 are already working either as M&E Engineers or Architects and they will undertake all future audits only on a part-time basis.
- A 5 year period (not 10 years) to cover the targeted 5000 with a repeat audit every 5 years.
 - A 5 year period to cover the targeted 320 buildings and with successive cycles of audits at intervals of every 5 years. The audits will have to be completed within these 5 years and the audit report duly approved by the Certification Body and the EEMO within the same time frame.
- An audit for new buildings, 3 years after they are built.
 - For successive 5-year cycles of audits, only new buildings having an age of > 3 years will be considered for selection as designated buildings for the mandatory audits.
 - As explained earlier, age of these buildings will be as from the date of start of the CEB Contract, which we consider to be a very reasonable assumption.
- In the first year there will be 50 audits.
 - Yes.
 - These are the 50 audits that will have to be part-financed with the remaining project funds, as per the Project Document. NSC has opted for 70% part-financing of an audit cost with the project funds and the remaining 30% from other sources of funding. BRE has to identify possible other sources of funding to meet the remaining 30% of the cost for the 50 audits.
 - The final completion date for the main project will have to be extended from April 2012 up to end of December 2012; and, all these 50 audits must be undertaken before the completion of the project in December 2012.
- There is no link to the building regulations thresholds on floor area.
 - No link to thresholds on floor area.
- The CEB kWh/yr criteria will be used to identify the 5000 buildings/sites.

- Selection criteria will be the cumulative total annual kWh of electricity consumed for a base year as per the CEB database.
- Data for m² must be captured by each auditor during the audit for the necessary calculation of the Specific Energy Consumption for each building.
- Based on experience, BRE to suggest the required number of “biggest” customers from each sector/sub-sector or whatever desired category, such that we obtain a total of the 5000 customers.
 - Top 320 energy consumers (already done)
- CEB will then extract the annual consumption of those 5000 customers (including Name & Address of Owner, Date of start of CEB Contract, etc..) for a reference base year and will forward the list of 5000 designated customers to EEMO.
 - Top 320 energy consumers (already done)
- Data for m² of each building can be collected independently by the Certified Energy Auditor who will undertake the energy audit. The value for the specific energy consumption for each building will be provided in the energy audit report; and this will be the baseline for comparison with future energy audits.
 - Yes.
- There will be no distinction between small and large projects.
 - No distinction between small and large projects.
- The target customer will have to cover the cost of the audit upfront.
 - Yes.

(i) Contingent Support Mechanism

- Grants/Soft Loans/Tax Breaks for undertaking energy audits
 - As specified earlier, the CSM may be a soft loan that the designated consumer can contract from a reliable local or international bank.
 - A clearance will be required from EEMO for the necessary disbursement of the loans by the bank.
 - The KPMG Financial Advisor appointed by BRE will have to identify a suitable bank that can provide such a soft loan. The interest rate and other terms & conditions of the soft loan will have to be clearly defined by the Financial Advisor.
 - The loan will be provided upfront to meet the cost of the audit. Interests have to be paid at regular monthly intervals as from date of approval/disbursement of the loan. The driver for all this will be the future energy savings that can be made by the designated consumers upon implementation of part or all of the energy efficiency measures specified in the audit report.
- Grants/Soft Loans/Tax Breaks for implementing energy audit measures
 - At this point in time, we do not know whether or not the government will opt for a CSM for implementation of the audit measures. A needs analysis will have to be conducted and this is not included within the scope of BRE's Contract.

B. Additional funds have been acquired by the Ministry and it will now be possible for

us to proceed with the following supplementary project activities :

- (iv) Interim Certification of the initial batch of 45 trained Auditors
- (v) Implementation of the EAMS, including capacity building of MSB
- (vi) Accreditation of the Certification Body, including capacity building of MAURITAS

MEPU will appoint an International Certification Body already accredited to ISO 17024 and running a similar scheme, through a tendering process, for the implementation of the EAMS and for the interim certification of the auditors.

An International Accreditation Body will also be appointed for the Accreditation of the Certification Body and for the necessary capacity building of MAURITAS.

C. All additional activities related to the Building Control Bill Project (e.g., amended scheme, amended MBEAT, etc..) and set up of a National Registry will be implemented at a later stage, with the appointment of a suitable Consultant.

Appendix D – proposed CSM application form

[Enter Bank or scheme logo”](#)

Applicant reference code:
EAMS/ _____ /ddmmyyyy
This code is unique to this application and should be quoted in all correspondence.



APPLICATION FOR FUNDING TO IMPLEMENT THE ENERGY AUDIT MANAGEMENT SCHEME (EAMS).

This application is made to secure funding in the form of ?????? to pay for an energy audit carried out as part of the **Energy Audit Management scheme (EAMs)**.

Company details	
Company name	
Trading name (if different)	
Company address	
Company Registration name and number (please provide a copy – with the application)	
Type of business – PLC, Ltd, Partnership, Private, sole trader, etc.	
Have you ever had any receiving order made against you as a Debtor by the Bankruptcy Division of the Supreme Court?	Yes/No (circle which is applicable)
Have you ever had any individual voluntary arrangement with of for the benefit of your creditors?	Yes/No (circle which is applicable)

Company signatory	
Name	
Position	

Date of birth	
Contact details <div style="text-align: right;">Address</div> <div style="text-align: right;">E-mail address</div> <div style="text-align: right;">Business phone number</div> <div style="text-align: right;">Mobile phone number</div>	
Passport or national identity card number (please provide a copy – with the application)	
Have you ever had any receiving order made against you as a Debtor by the Bankruptcy Division of the Supreme Court?	Yes/No (circle which is applicable)
Have you ever had any individual voluntary arrangement with of for the benefit of your creditors?	Yes/No (circle which is applicable)
Signature to confirm: <ul style="list-style-type: none"> • That I am empowered to act on behalf of the company. • That the application complies with these Terms & Conditions in all respects. • That I certify that the information entered on this Application Form is true, accurate and complete. • That I give permission for all the information in this application can be made available to the EEMO and other Government Departments and Agencies. 	

Site Details	
Name	
Company address	
Site Contact details <div style="text-align: right;">Address</div> <div style="text-align: right;">E-mail address</div> <div style="text-align: right;">Business phone number</div> <div style="text-align: right;">Mobile phone number</div>	
Type of building (e.g. Industrial, office etc.)	

Age of building (months and years)	----- months and ----- years
Estimated floor area (m²)	
Main activity on-site	
CEB contract(s) references and account number(s)	
Meter reference (s)	
Annual energy usage (kWh)- broken down into fuel type	
Renewable energy production per annum (kWh) (if any)	

Auditor details	
Name	
Position	
Date of birth	
Contact details <div style="text-align: right;">Address</div> <div style="text-align: right;">E-mail address</div> <div style="text-align: right;">Business phone number</div> <div style="text-align: right;">Mobile phone number</div>	
Company name	
Trading name (if different)	
Company address	

Audit Scheme Registration name and number (please provide a copy – with the application) Name of scheme – e.g. Mauritius Energy Audit Certification Scheme Certification number of auditor Valid from Certificate last updated	
Certification body Contact details <div style="text-align: right;">Name</div> <div style="text-align: right;">Address</div> <div style="text-align: right;">E-mail address</div> <div style="text-align: right;">Business phone number</div> <div style="text-align: right;">Mobile phone number</div>	

Audit details	
Estimated cost of audit (MUR) (please provide a copy of the quote – with the application)	
Estimated Floor area (m2)	

Financial details (for credit check)	
Bank name	
Bank address	
Sort code	
Account Name	
Account number	

For official use only	
Financial institute - Application process part 1 – Initial data collection and credit checks	
Is the information or signature(s) provided complete and correct?	Yes/No (circle which is applicable)
Is the credit check satisfactory?	Yes/No (circle which is applicable)
I certify on behalf of _____ that the checks have been carried out and that the application can be passed on to the EEMO	Name Position Signature
EEMO - Application process part 2 – Initial checks and loan clearance	
Is the information provided correct?	Yes/No (circle which is applicable)
Are the auditor and CEB checks satisfactory?	Yes/No (circle which is applicable)
Is the estimated cost of the audit is within the budget of the scheme.	Yes/No (circle which is applicable)
I certify on behalf of the EEMO that the checks have been carried out and that the Financial Institution has clearance to inform the Designated Customer that the loan application has been approved.	Name Position Signature

**Appendix E – proposed CSM application form
for the release of funds**

“Enter Bank or scheme logo”

Applicant reference code:
EAMS/_____/ddmmyyyy
This code is unique to this application and should be quoted in all correspondence.

Ministry of Energy & Public Utilities



**APPLICATION FOR THE RELEASE OF FUNDS TO FINANCE THE
IMPLEMENTATION OF THE ENERGY AUDIT MANAGEMENT SCHEME
(EAMS).**

This application is made to release funds to pay for an energy audit carried out as part of the **Energy Audit Management scheme (EAMs)**.

**FOR SECTIONS 1 TO 5, PLEASE ONLY ENTER DETAILS IF THEY HAVE
CHANGED FROM YOUR INITIAL LOAN APPLICATION AND THEN SIGN
AT THE END OF SECTION 2.**

1. Company details	
Company name	
Trading name (if different)	
Company address	
Company Registration name and number (please provide a copy – with the application)	
Type of business – PLC, Ltd, Partnership, Private, sole trader, etc.	
Have you ever had any receiving order made against you as a Debtor by the Bankruptcy Division of the Supreme Court?	Yes/No (circle which is applicable)
Have you ever had any individual voluntary arrangement with of for the benefit of your creditors?	Yes/No (circle which is applicable)

2. Company signatory	
Name	
Position	
Date of birth	
Contact details <div style="text-align: right;">Address</div> <div style="text-align: right;">E-mail address</div> <div style="text-align: right;">Business phone number</div> <div style="text-align: right;">Mobile phone number</div>	
Passport or national identity card number (please provide a copy – with the application)	
Have you ever had any receiving order made against you as a Debtor by the Bankruptcy Division of the Supreme Court?	Yes/No (circle which is applicable)
Have you ever had any individual voluntary arrangement with of for the benefit of your creditors?	Yes/No (circle which is applicable)
Signature to confirm: <ul style="list-style-type: none"> • That I am empowered to act on behalf of the company. • That the application complies with these Terms & Conditions in all respects. • That I certify that the information entered on original loan Application Form is true, accurate and complete. • That I certify that the information entered on this Application Form is true, accurate and complete. • That I give permission for all the information in this application can be made available to the EEMO and other Government Departments and Agencies. 	Date:

3. Site Details	
Name	
Company address	
Site Contact details <div>Address</div> <div>E-mail address</div> <div>Business phone number</div> <div>Mobile phone number</div>	
Type of building (e.g. Industrial, office etc.)	
Age of building (months and years)	----- months and ----- years
Estimated floor area (m ²)	
Main activity on-site	
CEB contract(s) references and account number(s)	
Meter reference (s)	
Annual energy usage (kWh)- broken down into fuel type	
Renewable energy production per annum (kWh) (if any)	

4. Auditor details	
Name	
Position	
Date of birth	
Contact details	

<p>Address</p> <p>E-mail address</p> <p>Business phone number</p> <p>Mobile phone number</p>	
Company name	
Trading name (if different)	
Company address	
<p>Audit Scheme Registration name and number (please provide a copy – with the application)</p> <p>Name of scheme – e.g. Mauritius Energy Audit Certification Scheme</p> <p>Certification number of auditor</p> <p>Valid from</p> <p>Certificate last updated</p>	
<p>Certification body Contact details</p> <p>Name</p> <p>Address</p> <p>E-mail address</p> <p>Business phone number</p> <p>Mobile phone number</p>	

5. Financial details (for credit check)	
Bank name	
Bank address	

Sort code	
Account Name	
Account number	

The form from this point onwards the application form is requesting new information and must be completed in full.

6. Audit details	
Full cost of audit (MUR) (please provide a copy of the invoice – with the application)	
Measured Floor area (m ²)	

7. Financial details (where funds are to be paid into)	
Bank name	
Bank address	
Sort code	
Account Name	
Account number	

The financial institute will confirm the release of funds by letter. The date of this letter will be taken as the start of agreement and (period to be decided) from this date repayment will be made back by direct debit. The period of repayment will be (period to be decided) resulting in monthly repayments of ???MUR.

8. Financial details (for direct debit)	
Bank name	
Bank address	
Sort code	
Account Name	
Account number	
Signature to authorise the repayment of: ????MUR No. of payments Payment Date Start date Finish date To name of financial institution , account to be paid into, account details, and reference (should be Applicant reference code)	
	Date:

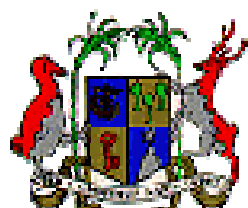
For official use only	
EMMO - Application process part 3 – Approval of release of funds	
Is the information provided correct?	Yes/No (circle which is applicable)
Are the auditor and audit checks satisfactory?	Yes/No (circle which is applicable)
Is the cost of the audit is within the budget of the scheme.	Yes/No (circle which is applicable)
I certify on behalf of the EEMO that the checks have been carried out and that the Financial Institution has clearance to release the funds to the Designated Customer.	Name Position Signature

Appendix F – proposed notification form

Applicant reference code:

EAMS/_____/ddmmyyyy

This code is unique to this application and should be quoted in all correspondence.



Republic of
Mauritius

EEMO
Ministry of Energy & Public Utilities

THE ENERGY AUDIT MANAGEMENT SCHEME (EAMS) DESIGNATED CUSTOMER NOTIFICATION FORM

This purpose of this form is to confirm your company and site details, plus to confirm you have instructed a certified energy auditor within the time frame specified by the **reference of regulations – 30 working days**.

PART A: COMPANY AND SITE DETAILS (THIS INFORMATION HAS BEEN INPUTTED BY THE EMMO)

Company details	
Company name	
Trading name (if different)	
Company address	
Site Details	
Name	
Company address	
Date of when CEB contract started	DD/MM/YYYY
CEB contract(s) references and account number(s)	

Meter reference (s)	
Annual energy usage (kWh)- broken down into fuel type	

PART B: CORRECTED INFORMATION

Please check that the information above in part A is correct, and if necessary provide any corrected information in the boxes below.

Company details	
Company name	
Trading name (if different)	
Company address	
Site Details	
Name	
Company address	
Date of when CEB contract started	DD/MM/YYYY
CEB contract(s) references and account number(s)	
Meter reference (s)	
Annual energy usage (kWh)- broken down into fuel type	

PART C: DETAILS OF THE ENERGY AUDITOR

Please input the details of the proposed Certified energy Auditor

Auditor details	
Name	
Position	
Date of birth	
Contact details <div>Address</div> <div>E-mail address</div> <div>Business phone number</div> <div>Mobile phone number</div>	
Company name	
Trading name (if different)	
Company address	
Audit Scheme Registration name and number (please provide a copy – with the application) <div>Name of scheme – e.g. Mauritius Energy Audit Certification Scheme</div> <div>Certification number of auditor</div> <div>Valid from</div> <div>Certificate last updated</div>	
Certification body Contact details <div>Name</div> <div>Address</div> <div>E-mail address</div> <div>Business phone number</div> <div>Mobile phone number</div>	
Proposed date of site Energy audit	DD/MM/YYYY

Company signatory	
Name	
Position	
Date of birth	
Contact details <div style="text-align: right;">Address</div> <div style="text-align: right;">E-mail address</div> <div style="text-align: right;">Business phone number</div> <div style="text-align: right;">Mobile phone number</div>	
Passport or national identity card number (please provide a copy – with the application)	
Signature to confirm: <ul style="list-style-type: none"> • That I am empowered to act on behalf of the company. • That the information entered on this Form is true, accurate and complete. • That I give permission for all the information in this form can be made available to the EEMO and other Government Departments and Agencies. 	

For official use only	
EMMO - Compliance process part 1 – Initial checks	
Is the information or signature(s) provided complete and correct?	Yes/No (circle which is applicable)
Date of receipt of form back from Designated Customer.	DD/MM/YYYY
I certify on behalf of the EEMO that the checks have been carried out.	Name Position Signature

Please send the completed form to: The Energy Efficiency Management Office, Ministry of Energy & Public Utilities, 8th Floor, C&R Court, 49 Labourdonnais St, Port Louis.

Appendix G – proposed compliance form

Applicant reference code:
EAMS/_____/ddmmyyyy
This code is unique to this application and should be quoted in all correspondence.



THE ENERGY AUDIT MANAGEMENT SCHEME (EAMS) DESIGNATED CUSTOMER COMPLIANCE FORM

This purpose of this form is to confirm that your company has had an EAMs carried out by a certified energy auditor within the time frame specified by the **reference of regulations – within one year of the original notification date.**

FOR SECTIONS 1 TO 3, PLEASE ONLY ENTER DETAILS IF THEY HAVE CHANGED FROM THOSE ENTERED IN THE ENERGY AUDIT MANAGEMENT SCHEME (EAMS) DESIGNATED CUSTOMER NOTIFICATION FORM.

1. Company details	
Company name	
Trading name (if different)	
Company address	
2. Site Details	
Name	
Company address	
Date of when CEB contract started	DD/MM/YYYY
CEB contract(s) references and account number(s)	

Meter reference (s)	
Annual energy usage (kWh)- broken down into fuel type	
3. Auditor details	
Name	
Position	
Date of birth	
<div> <div>Contact details</div> <div>Address</div> <div>E-mail address</div> <div>Business phone number</div> <div>Mobile phone number</div> </div>	
Company name	
Trading name (if different)	
Company address	
<div> <div>Audit Scheme Registration name and number (please provide a copy – with the application)</div> <div>Name of scheme – e.g. Mauritius Energy Audit Certification Scheme</div> <div>Certification number of auditor</div> <div>Valid from</div> <div>Certificate last updated</div> </div>	
<div> <div>Certification body Contact details</div> <div>Name</div> <div>Address</div> </div>	

<p style="text-align: center;">E-mail address</p> <p style="text-align: center;">Business phone number</p> <p style="text-align: center;">Mobile phone number</p>	
Proposed date of site Energy audit	DD/MM/YYYY

The form from this point onwards the application form is requesting new information and must be completed in full.

6. Audit details	
Actual date of site Energy audit	DD/MM/YYYY
Date when the Energy Audit was lodged with the Certification Body	DD/MM/YYYY
Measured Floor area (m²)	

Please provide a copy of the lodged EAMs audit report and associated documentation with this form.

Company signatory	
Name	
Position	
Date of birth	
Contact details <div style="text-align: right;">Address</div> <div style="text-align: right;">E-mail address</div> <div style="text-align: right;">Business phone number</div> <div style="text-align: right;">Mobile phone number</div>	
Passport or national identity card number (please provide a copy – with the application)	
Signature to confirm: <ul style="list-style-type: none"> • That I am empowered to act on behalf of the company. • That the information entered on this Form is true, accurate and complete. • That I give permission for all the 	

information in this form can be made available to the EEMO and other Government Departments and Agencies.	
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For official use only	
EMMO - Compliance process part 2 – Final checks	
Is the information or signature(s) provided complete and correct?	Yes/No (circle which is applicable)
Date of receipt of form back from Designated Customer.	DD/MM/YYYY
Are the auditor and audit checks satisfactory?	Yes/No (circle which is applicable)
I certify on behalf of the EEMO that the checks have been carried out.	Name Position Signature

Please send the completed form and audit documentation to: The Energy Efficiency Management Office, Ministry of Energy & Public Utilities, 8th Floor, C&R Court, 49 Labourdonnais St, Port Louis.