
The Hong Kong Voluntary Energy Efficiency Labelling Scheme for

Electric Rice-Cookers

January 2010

Energy Efficiency  **EMSD**

Electrical and Mechanical Services Department

3 Kai Shing Street, Kowloon, Hong Kong

Homepage: <http://www.emsd.gov.hk>

CONTENTS

Section	Title	Page
1.	Purpose	1
2.	Background	1
3.	Scope	2
4.	Definitions	3
5.	Appliance Classification	5
6.	Technical Standards	5
7.	Test Methodology & Standards	6
8.	Energy Label	8
9.	Testing Facilities, Laboratories and Accreditation Bodies	9
10.	Registration and Participation.....	11
11.	Legal Provisions.....	14
12.	Compliance Monitoring and Inspection.....	15
13.	Complaints and Appeal.....	17
14.	Maintenance of Scheme	18
15.	Future Development	18

Annexes

- 1 Energy Label Format
- 2 Proforma Letter of Invitation
- 3 Proforma Letter of Application
- 4 Information to be submitted to Energy Efficiency Office
- 5 Proforma Letter of Acceptance
- 6 Proforma Letter of Rejection
- 7 Flow Chart for Registration
- 8 Test Guidelines

Tables

- 1 Minimum Allowable Heat Efficiency for Electric Rice-Cookers 6

1. Purpose

This set of document is intended to give a general description on the Hong Kong Voluntary Energy Efficiency Labelling Scheme for Electric Rice-Cookers.

2. Background

The Nature of Energy Efficiency Labelling Scheme

- 2.1 The Energy Efficiency Labelling Scheme (EELS) is an energy conservation initiative that the Government of the Hong Kong Special Administrative Region (HKSAR) has adopted. Under the scheme, some common types of appliances will incorporate an energy label that serves to inform consumers of the product's energy consumption and efficiency. Consumers should then be able to take those factors into account and make their purchasing decision.

Objectives of Energy Efficiency Labelling Scheme

- 2.2 The concept of EELS has been developed and implemented in several forms and in different stages of development. In some countries, it is a compulsory requirement for certain kinds of appliances to be provided with an energy label. The labelling requirements may apply to equipment such as household refrigerators / freezers, washing machines, room coolers, clothes dryers, electronic ballast, etc. The EELS generally aims to achieve the following:
- greater public awareness of energy conservation and environmental improvement needs;
 - provision of readily available, pre-purchase information on energy consumption and efficiency data, where applicable, to enable ordinary consumers to select more energy efficient products;
 - stimulation to the manufacturers/market for phasing out less energy efficient models; and
 - actual energy savings and environmental improvements.

- 2.3 Hong Kong also aims at achieving the above objectives and the Hong Kong Voluntary EELS now covers eighteen types of household appliances and office equipment. Ten types of which are electrical appliances and seven types of office equipment. There is also one type of gas appliance for domestic gas instantaneous water heaters. The scope of EELS has also been extended to cover petrol passenger cars.

3. Scope

- 3.1 The scheme will only apply to the manufacturers and importers (local agents, retailers and the related parties) who have participated in the voluntary scheme.
- 3.2 The scheme commenced on 28 December 2001. The revision of the scheme has been implemented from January 2010 and will expire on 31 December 2012 when re-registration is necessary..
- 3.3 The scope of application covers all new registered appliances imported to or manufactured in Hong Kong with effect from the date that is declared by the participant but does not cover second-hand products, products already in existing use, under trans-shipment or manufactured for export, etc.
- 3.4 The scheme will be operated as a 'Recognition Type' labelling system. All appliances will be recognised and registered provided that they can meet certain energy efficiency and performance requirements as stipulated in the scheme.
- 3.5 The provisions of this scheme shall apply to electrically operated rice-cookers of the maximum cooking capacity not exceeding 3.6 litres and a rated power consumption not exceeding 2 kW.

4. Definitions

Unless otherwise specified, the following definitions shall apply throughout this document:

<i>appliance body</i>	means the generic name of the outer case, lid and inner pot.
<i>Authority</i>	means the Electrical & Mechanical Services Department, the Government of the Hong Kong Special Administrative Region (HKSAR).
<i>direct heating system</i>	means a system of cooking rice that the rice and water are placed in an inner pot and directly heated.
<i>Director</i>	means the Director of Electrical & Mechanical Services Department, the Government of the Hong Kong Special Administrative Region.
<i>Government</i>	means the Government of the Hong Kong Special Administrative Region.
<i>heat efficiency (%)</i>	means the ratio of the heat received in the cooker at a given time to the power input to the cooker.
<i>indirect heating system</i>	means a system of cooking rice that the rice and water are placed in an inner pot, water of a certain quantity is placed between the inner pot and outer pot, and the inner pot is indirectly heated.
<i>inner pot</i>	means a removable container in which rice and water are placed.
<i>inspecting officer</i>	means the officer authorized by the Director to carry out inspection on appliances.
<i>label</i>	means the energy label as described in Section 8 of this document.

<i>maximum rice-cooking capacity</i>	means the maximum capacity of rice that can be cooked by a rice-cooker or a rice-cooker/warmer in one operation (litre).
<i>outer case</i>	means the part of an appliance excluding the lid and inner pot.
<i>participant</i>	means the manufacturers, importers or the retailers of appliance participating in the scheme.
<i>rated frequency</i>	means the frequency marked on the nameplate or declared as such by the manufacturer or responsible distributor for the rice-cooker.
<i>rated voltage</i>	means the voltage marked on the cooker.
<i>rated wattage</i>	means the wattage marked on the cooker.
<i>Recognized laboratory</i>	means a laboratory that complies with the requirements as stated in Section 9 of this document and is acceptable to the Authority for carrying out tests and issuing test reports on electric rice-cookers.
<i>rice-cooker</i>	means an appliance used to cook rice automatically by utilizing electric heat. Rice-cookers which have the function to keep the rice warm for a short period are included.
<i>rice-cooker warmer</i>	means a rice-cooker which has a function to keep the boiled rice warm by means of a heating emitting element or by means of a heating unit and the warming temperature is controlled by an electric/electronic component or circuit.
<i>scheme</i>	means the Hong Kong Voluntary Energy Efficiency Labelling Scheme for Electric Rice-Cookers.

5. Appliance Classification

5.1 Electric Rice-Cookers are classified into the following two types according to their functions :

(a) Rice-cooker

An appliance used to cook rice automatically by utilizing electric heat. Rice-cooker which has the function to keep the rice warm for a short period is classified into this category.

(b) Rice-cooker/warmer

An rice-cooker which has a function to keep the boiled rice warm by means of a heating emitting element or by means of a heating unit and the warming temperature is controlled by an electric/electronic component or circuit

6. Technical Standards

Specific Energy Efficiency Requirements

6.1 For any rice-cooker and rice-cooker/warmer as specified in Section 5.1, the heat efficiency should be equal to or greater than the corresponding minimum allowable value as indicated in Table 1 :

Table 1: Minimum Allowable Heat Efficiency for Electric Rice-cookers

Rated Wattage (P)	W	Minimum Allowable Heat Efficiency (η) %
$P \leq 400$ W		84
400 W < $P \leq 600$ W		85
600 W < $P \leq 800$ W		86
800 W < $P \leq 1000$ W		87
1000 W < $P \leq 2000$ W		88

- 6.2 The aforesaid electric rice-cookers heat efficiency refers to values measured in accordance with the test methods as specified in this document.

Other Performance Requirements

- 6.3 In addition to the specific energy efficiency requirements, all types of rice-cookers are also needed to meet the following performance requirements:
- (a) all materials and workmanship shall comply with the Electrical Products (Safety) Regulation of the HKSAR and appropriate IEC Safety Standards;
 - (b) the rice-cooking performance requirements ; **and**
 - (c) the rice-warming temperature requirements.

7. Test Methodology & Standards

General

- 7.1 All test standards and specifications specified in this document are only related to checking compliance with the energy efficiency and general performance requirements. It is not the intention of this document to detail out the test standards and requirements for checking compliance with the Electrical Products (Safety) Regulation of the HKSAR. The participant should conduct appropriate tests, where necessary, in addition to those specified in this document in order to obtain Certificates of Safety Compliance for his appliances.

Compliance with Safety Requirements

- 7.2 The testing standards for checking compliance with the safety requirements are based on the following international standards. For detailed requirements and procedural descriptions one should refer to the respective standards.
- (a) IEC 60335-1, Household and similar electrical appliances – Safety – Part 1: General requirements; **and**
 - (b) IEC 60335-2-15, Particular requirements for appliances for heating liquids.
- 7.3 To the extent that definitions in the IEC standards do not conflict with the definitions of this document, the definitions in the aforesaid standards shall be included.

Measurement of Heat Efficiency

- 7.4 The heat efficiency (joule/watt-hour * 100%) is the major criterion that determines whether a rice-cooker can meet the specific energy efficiency requirement. Therefore, it is important that a common base is used to validate the information submitted by manufacturers from different countries for their appliances.
- 7.5 The testing requirements for measurement of heat efficiency are based on the following technical specification. For detailed requirements and procedural descriptions one should refer to the respective specification or the Section II of Annex 8 of this document.
- (a) CCEC/T11-2006, Technical Specifications for Energy Conservation Product Certification for Household Automatic Rice Cooker.

Rice-cooker's heat efficiency shall be determined by computing the ratio of the measured heat output and the electrical energy input for the rice-cooker under the specified test conditions. The resulting quotient shall be rounded off to the nearest 0.1 %.

Measurement of Rice-warming Temperature

- 7.6 For all types of electric rice-cookers, the rice-warming temperature at the test conditions shall be measured in accordance with the requirements of Clause 3.6 of Test Standard QB/T3899-1999 (please refer to the Section III of Annex 8 of this document).

Rice-cooking Performance Test

- 7.7 For all types of electric rice-cookers, rice-cooking and boil-over tests at the test conditions shall be measured in accordance with Clause 8.8 of Test Standard JIS C9212-1993 – Electric Rice-Cookers and Electric Rice-Warmers (please refer to Section III of Annex 8 of this document).

8. Energy Label

General

- 8.1 Energy labels are classified into the following two types:
- (a) verification label; **and**
 - (b) information label.
- 8.2 A verification label indicates the appliance meets the minimum energy performance standards as required by the scheme. It is a compulsory requirement for participant to affix this label to his registered appliances.
- 8.3 An information label contains information to guide the general public to contact the Authority regarding enquires about the scheme. The affixation of this label to registered appliances is optional.

Label Location

- 8.4 The labels should be self-adhesive and affixed to the appliance at a prominent location. The participant should ensure that the verification label appears on every registered appliance on display or sale and should be easily visible.

Colour Scheme & Dimensions

- 8.5 The labels as shown in Annex 1 should be printed on white-coloured self-adhesive sheet material. It should be printed in English and in Chinese. The participant should obtain soft copies of the labels for printing from Energy Efficiency Office, Electrical and Mechanical Services Department to ensure the colour scheme and dimensions are correct.

Paper Quality

- 8.6 The paper used for the label should be durable and possess good wear and tear characteristics. It should stick tightly on the appliance.

9. Testing Facilities, Laboratories and Accreditation Bodies

- 9.1 The testing is carried out either by independent test institutes or by the manufacturers or importers themselves at their own test facilities. The Authority will accept the results and certificates issued by the test laboratory which fulfills one of the following criteria as specified in Clause 9.2, 9.3 or 9.4.
- 9.2 The laboratory is accredited by the Hong Kong Accreditation Service (HKAS) for the relevant test under the Hong Kong Laboratory Accreditation Scheme (HOKLAS) or a scheme with which HKAS has concluded a mutual recognition agreement[#]; and the results are issued in a test report or certificate bearing the accreditation mark.
- 9.3 The Authority will also consider the following arrangements:
- (a) Self-certification by original manufacturers that the operations of their in-house laboratories satisfies the requirements of ISO/IEC 17025 ; and

[#] *HKAS has concluded mutual recognition arrangements with **fifty-eight** overseas accreditation bodies for testing laboratory accreditation, namely, **UKAS** of the United Kingdom, **NATA** of Australia, **A2LA**, **NVLAP**, **IAS** and **L-A-B** of the United States, **IANZ** of New Zealand, **RvA** of Netherlands, **SAC** of Singapore, **BMwa** of Austria, **BELAC** of Belgium, **DANAK** of Denmark, **FINAS** of Finland, **COFRAC** of France, **DAP**, **DACH** and **TAG** of Germany, **INAB** of Ireland, **ACCREDIA** of Italy; **NA** of Norway,, **ENAC** of Spain, **SWEDAC** of Sweden, **SAS** of Switzerland, **CNAS** of People's Republic of China, **TAF** of (Taiwan,China), **CAI** of Czech Republic, **INMETRO** of Brazil, **IAJapan**, **JAB** and **VLAC** of Japan, **KOLAS** of Korea, **SANAS** of South Africa, **SCC** of Canada, **NABL** of India, **BoA** of Viet Nam, **LA** of Lithuania, **SNAS** of Slovakia, **KAN** of Indonesia, **ISRAC** of Israel, **DSM** of Malaysia, **ema** of Mexico, **PNAC** of Pakistan, **PAO** of Philippines, **NSC-ONAC**, **DSS** and **DMSc** of Thailand, **TUNAC** of Tunisia, **TURKAK** of Turkey, **OAA** of Argentina, **ONARC** of Cuba, **NLAB** of Egypt, **EAK** of Estonia, **ESYD** of Greece, **LATAK** of Latvia, **PCA** of Poland, **SA** of Slovenia, etc. The list of mutual recognition arrangement partners may change from time to time and the up-to-date list is available from the HKAS website of www.info.gov.hk/itc/hkas. Partners to these arrangements recognise the accreditations granted by one another as equivalent.*

- (b) The manufacturers currently operating according to a recognized international quality system (such as ISO 9001); and
- (c) The manufacturer's in-house laboratories had been successful in carrying out tests on electric rice-cookers and where these tests had been evaluated and certified by internationally recognised third party certification organisations.

9.4 The test results are issued by a laboratory which is accredited by HKAS under HOKLAS (or a scheme with which HKAS has concluded a mutual recognition agreement) for laboratory testing of electrical and mechanical appliances other than the testing based on the technical standards stipulated in this scheme, and the laboratory can demonstrate their capability of carrying out tests on electric rice-cookers on the technical standards (i.e. CCEC/T11-2006, QB/T3899-1999 and JIS C9212-1993)

Laboratory Accreditation

9.5 The Government takes cognizance of the need to ensure acceptable and compatible quality standards of testing laboratories, and considers that they need to be accredited by some independent bodies.

9.6 The criteria of accreditation should be based on ISO/IEC 17025 and accreditation bodies should operate in accordance with ISO/IEC 17011.

9.7 The Authority will recognize accreditation granted by the HOKLAS and by overseas accreditation bodies which have concluded mutual recognition arrangements with HKAS for accreditation of testing laboratories. The Authority will consider accreditation granted by other bodies on a case-by-case basis.

Energy Efficiency Verification Service

9.8 An increasing number of countries now accept, as proof of product conformance, energy efficiency verification services provided by third-party organisation that has been accredited as a certification organisation. In accordance with this trend, the Authority will consider seriously test results that have been evaluated and verified against the energy performance standards of the scheme by reputable third-party certification organisations.

10. Registration and Participation

Registration Procedures

- 10.1 All manufacturers, importers and the other parties involved in the appliance distribution network are welcomed and encouraged to participate in the scheme. For some known manufacturers and importers, invitation letters will be issued to them. However, any party may submit their applications for registration no matter whether they are invited or not.
- 10.2 The proforma letter of invitation is shown in Annex 2.
- 10.3 Applicant should submit formal application to

*Chief Engineer /Energy Efficiency A
Energy Efficiency Office
Electrical & Mechanical Services Department
3 Kai Shing Street, Kowloon
Hong Kong*

by means of an application letter through mail, facsimile or electronic mail. In order to ensure effective implementation of the scheme, the applicant must be committed to fully comply with the duties, responsibilities and obligations set out in this scheme. The proforma letter of application as shown in Annex 3 details the aforesaid obligations and should be used for application. To facilitate the application process, the application form can be downloaded from EMSD website.

Information/Documents to be Submitted for Registration

- 10.4 Each make and model of an appliance participating in the scheme should be provided with a test report issued by a recognized laboratory. The test report should contain energy efficiency test and performance test results.
- 10.5 Details of the general and technical information to be submitted together with the application are listed as follows:

- (a) information on the company such as name, address, telephone number, fax, e-mail address, contact person, importer, distributor, etc.;
- (b) products to apply for participating in the scheme such as names of products, types, brand names, models, countries of origin, etc.;
- (c) parties that will be responsible for making and fixing the energy labels;
- (d) commencement date to affix energy labels on appliance;
- (e) documentary proof that the appliance(s) comply with
 - (i) IEC 60335-1, Household and similar electrical appliances – Safety – Part 1 : General requirements; **and**
 - (ii) IEC 60335-2-15, Particular requirements for appliances for heating liquids and/or the Electrical Products (Safety) Regulation of the HKSAR, where applicable.; and
- (f) Detailed test reports shall be provided at least the following relevant technical data for the appliances:
 - power input for the normal rice-cooking mode;
 - energy consumption during the normal rice-cooking mode ;
 - heat efficiency of the rice-cooker, including the detailed calculation ;
 - rice-warming temperature ; and
 - results of rice-cooking performance tests.

10.6 Company's name and chop should be stamped on all the documents provided. All photocopy test reports submitted to the Authority shall be certified true copy by appropriate organization.

Acceptance of Registration

10.7 On receipt of the application, the Authority will process the application and verify whether the appliance meets the energy efficiency and performance requirements based on the submitted data. The accuracy of the submitted data, their inconsistencies and non-compliance will be dealt with in accordance with Section 12.

10.8 If the application is accepted, the participant will be notified of the result within 17 working days upon receipt of all necessary information requested. The participants will

then be allowed to affix the energy label onto the 'registered' appliance. Both manufacturer and importer of the registered appliance should ensure that the energy labels are correctly printed and affixed on the appliance in accordance with the requirements of Section 8. The proforma letter of acceptance is shown in Annex 5.

10.9 If the application is rejected, the notification letter as shown in Annex 6 will also be given within 17 working days upon receipt of all necessary information requested.

10.10 The flow chart for registration is shown in Annex 7.

Participant's Duties, Responsibilities and Obligations

10.11 The participant is obliged to:

- (a) submit application and information including test results in accordance with format and procedures set out in Section 10.4 & 10.5;
- (b) conduct tests via recognized laboratories and to comply with the specified test methodology and classification scheme;
- (c) produce and affix energy labels at his own costs;
- (d) fully inform other sales agents in his distribution network once the particular make and model of an appliance is registered;
- (e) allow random/ad-hoc inspection to be conducted by persons authorized by the Authority on registered appliance at his premises;
- (f) conduct re-test(s) at his own costs at some recognized laboratories, if non-compliance is found on his appliance. The result of re-test(s) shall reach the Authority within the prescribed period of time specified by the Authority;
- (g) inform the Authority of any change in the technical information and data that were previously submitted to the Authority together with the application letter;
- (h) accept the fact that if appliance fails to perform in accordance with the requirements as given in Sections 5, 6 and 7 and this cannot be readily rectified, the Authority may order it be de-registered from the scheme; and
- (i) remove all labels from appliances which had been de-registered within three months.

10.12 The details of the registered appliances will be kept in a register maintained by the Authority. The registration records will be regularly uploaded and maintained in the EMSD internet for public and interested parties for access and information.

Termination

10.13 Under circumstances of poor performance, such as

- (a) (repeated) failure to fulfill obligations set out under Section 10.11; **or**
- (b) in any other case where the Director is of the opinion that registration of an appliance is contrary to the public interest

the Authority may de-register a registered appliance with immediate effect by giving the participant notice in writing. Once an appliance is de-registered, no one is allowed to fix an energy label on it. However, participant will normally be given a grace period of three months to remove all labels from the de-registered appliances.

De-registration may occur even when there is no legal action taken under either the Trade Description Ordinance or the Copyright Ordinance.

10.14 Participant who decides to discontinue participating in the scheme or to withdraw any registered model from the registered appliances list shall give at least three months' advance notice to the Authority.

11. Legal Provisions

11.1 This scheme is a voluntary scheme. However, a participant who abuses the scheme by giving false information may contravene provisions of the Trade Description Ordinance.

11.2 No one could take advantage of the scheme by using the label on his appliances without authorization of the Authority as that may constitute an infringement of copyright under the Copyright Ordinance.

12. Compliance Monitoring and Inspection

Purpose

- 12.1 To uphold credibility of the scheme and to maintain continuous confidence of the consumers, compliance check on energy labels on those appliances participating in the scheme are needed. Also, to avoid the unsatisfactory situation that the non-participating parties taking advantage of the scheme by using unauthorized labels, suitable form of inspection on those unregistered appliances will also be required.

Scope

- 12.2 The scope of inspection includes sample checking and testing the following items:
- (a) whether energy label is positioned as required in Section 8;
 - (b) whether energy label being displayed is of correct format in accordance with Section 8;
 - (c) whether unregistered appliances display unauthorized energy labels;
 - (d) whether the registered appliance complies with the energy efficiency and performance requirements; and
 - (e) whether the data submitted by the participants are correct by random re-testing.
- 12.3 The participants will be requested to take immediate remedial action and report the follow-up action taken if non-compliance is found on their appliances.
- 12.4 If a registered appliance is found not meeting the requirements specified in accordance with the technical standards stipulated in Section 6 during random testing, the Authority may request the participant to conduct separate performance tests at his own costs, in accordance with the test methodology as stated in Section 7 in one of the test laboratories agreed by the Authority. If non-compliance is confirmed and no remedial action is to be taken by the applicant, the Authority may order it be de-registered from the scheme. Failure to remove energy labels from the de-registered appliances after the Director has withheld his authorization for using such labels may contravene the relevant ordinances.

Inspecting Officers

- 12.5 The Authority will authorize inspecting officers to carry out appliances compliance monitoring and inspection. The officers will carry proper identification cards that will be produced on request during their inspection operations. However, the officer will not inform the participants in advance of their intended inspection operation.
- 12.6 It is the participants' duty to allow the inspecting officers to gain access to their premises to carry out inspection.

Mode of Inspection

- 12.7 Inspections will be carried out on registered appliances under the scheme on random basis. Based on the record of the registration, random inspection programmes will be developed.
- 12.8 In addition to the random inspections, the inspecting officers will carry out ad-hoc inspections in response to complaints. The items to be inspected in such a case will depend upon the nature of complaint and may include all types of inspection as stated in Section 12.2.
- 12.9 Inspections will normally be carried out at the retail outlets and appliances showrooms. Where necessary, inspection will also be done at warehouses.
- 12.10 The inspection results will be properly recorded for future analysis as well as on evaluation of the effectiveness of the scheme.

13. Complaints and Appeal

- 13.1 The Authority will be responsible for dealing with complaints from participant and other parties against matters related to the scheme.

Complaints Handling Procedure

- 13.2 The Director shall ensure that complaints are properly recorded and handled without undue delay.
- 13.3 The Authority shall carry out preliminary investigation on complaints and reply to the complainants within a reasonable time. For complaints that require site inspection and laboratory test, the complainant shall be notified through an interim reply.
- 13.4 The Authority shall inform the complainant of the results or decisions made on the complaint.

Appeal Procedure

- 13.5 A participant who is aggrieved by a decision or action taken by the Authority may appeal to the Director in writing stating the reason for the appeal.
- 13.6 The Director may decide to suspend the decision or action given by the Authority from the day on which the appeal is made until such appeal is disposed of, withdrawn or abandoned unless such suspension would, in the opinion of the Director, be contrary to public interest.
- 13.7 The Director may by notice to the appellant require that appellant to attend before him or his representative and provide documents and give evidence relevant to the appeal.
- 13.8 The Director shall notify the appellant of his decision and reasons for it. The decision will be final and binding.

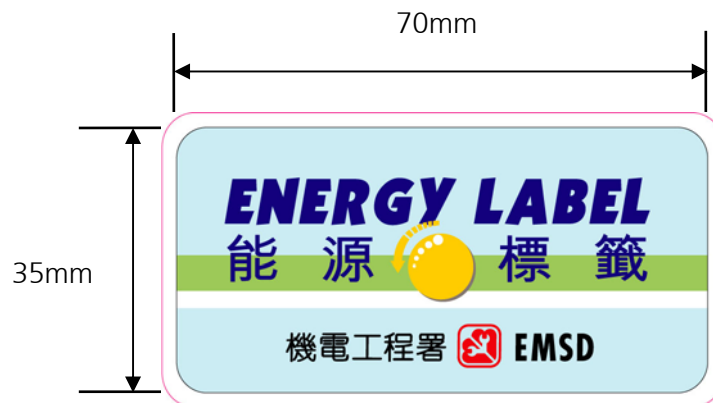
14. Maintenance of Scheme

- 14.1 To ensure that the scheme can continue to operate effectively and efficiently after its introduction, a proper system of maintenance is needed.
- 14.2 The maintenance system consists essentially of:
- (a) continuous updating of the lists of participants in the scheme as follows:
 - (i) registered appliances with details such as registration number, date of registration or de-registration if it occurs, energy efficiency data, performance data, make, model and other related information ; **and**
 - (ii) registered importers, manufacturers, local agents etc. in the distribution network with details such as address, date of registration or de-registration if it occurs, etc.
 - (b) periodic review of the test standards, procedures for application registration and compliance monitoring, etc. to bring them in line with the latest needs of the manufacturers, importers and retailers, etc.
 - (c) continuous evaluation of the effectiveness of the scheme and assessment of what changes are necessary.

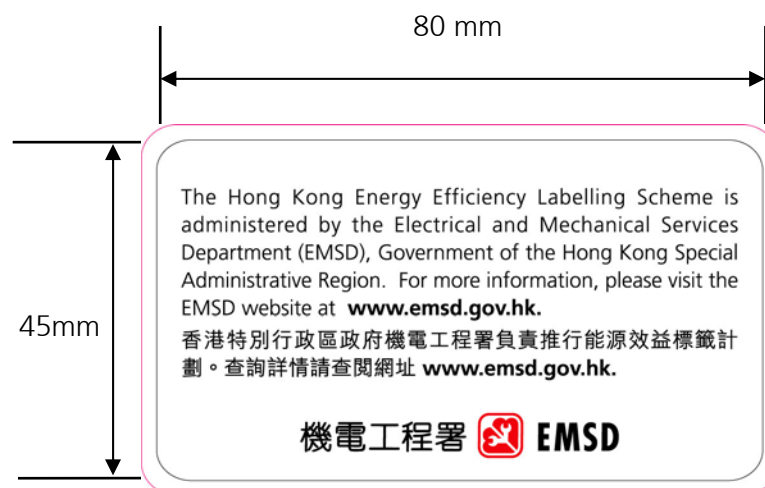
15. Future Development

- 15.1 It is hoped that following the implementation of the scheme, the market will phase out appliances of low efficiency and public awareness of using energy efficient products will be much improved.
- 15.2 As part of the Government's ongoing efforts to promote the efficient use and conservation of energy, it is opportune to introduce a mandatory EELS by the inclusion of energy consuming products in phases. In the initial phase, refrigerators, room coolers and compact fluorescent lamps will be considered. The public consultation for the mandatory EELS has been completed in end October 2005.

Energy Label Format



Verification Label



Information Label

Soft copies of these labels can be obtained from Energy Efficiency Office, Electrical and Mechanical Services Department.

Proforma Letter of Invitation

Our ref. EEO/LB/21
Your ref.

Tel.
Fax.

Date

[Name and Address of
Manufacturers/Importers/Agents]

Dear Sir/Madam,

Invitation of application for registration to participate in Voluntary Energy Efficiency Labelling Scheme for Electric Rice-Cookers

Having gone through the necessary consultations and duly considered the views from various concerned parties, the government has decided to introduce a voluntary energy efficiency labelling scheme for electric rice-cookers to Hong Kong with effect from (_____). The details of the scheme^① have been finalized and I enclose herewith a copy of the scheme document for your reference.

Being one of the major electric rice-cooker manufacturers / importers / agents^② in Hong Kong, you are invited to participate in the scheme so as to take part in promoting public awareness in energy conservation and environmental improvement to Hong Kong. If you are interested to participate in the scheme, please apply in accordance with the proforma letter of application (Annex 3 of the scheme document) and submit details including technical information in accordance with Annex 4 of the scheme document to the Chief Engineer / Energy Efficiency A at the following address.

Energy Efficiency Office
Electrical & Mechanical Services Department
3 Kai Shing Street, Kowloon
Hong Kong

Should you need further clarification or information, you are most welcome to contact the undersigned or Mr. _____ on telephone number _____.

Yours faithfully,

for Director of Electrical & Mechanical Services

—

(Note : ^① 'scheme' means 'The Voluntary Energy Efficiency Labelling Scheme for Electric Rice-Cookers'

^② *delete as appropriate*)

Proforma Letter of Application

Your ref. EEO/LB/21
Our ref.

Tel.

Date

Chief Engineer/Energy Efficiency A
Electrical & Mechanical Services Department
3 Kai Shing Street, Kowloon
Hong Kong

Dear Sir/Madam,

Application for registration to participate in Voluntary Energy Efficiency Labelling Scheme for Electric Rice-Cookers

Our company is the (manufacturer/importer/agent*) of _____ in Hong Kong. We support the introduction of the labelling scheme to Hong Kong and would like to be one of the participants in the scheme to promote energy efficiency.

I understand fully the obligations and duties stated in the scheme and will comply with all relevant requirements, in particular those specified below:

- i) conduct tests via recognized laboratories and to comply with the specified test standards;
- ii) produce and affix specified Energy Labels at my own costs;
- iii) allow random/ad-hoc inspection to be conducted by persons authorized by the issuing Authority on registered appliance at my premises;
- iv) conduct re-test(s) at my own costs at some recognized laboratories, if the results of inspection suggest inaccurate energy label information being displayed. The result of re-test(s) shall reach the Authority within the prescribed period time specified by the Authority;
- v) inform the Authority of any change in the technical information and data that were previously submitted to the Authority together with the application letter; and
- vi) accept the fact that if appliance fails to perform in accordance with the required energy efficiency standards and performance as given in Section 6 of the scheme document and this cannot be readily rectified, the Authority may order it be de-registered from the scheme.

The details of information of those appliances that we intend to register with the Authority are shown in the attached document and are submitted herewith for your vetting.

I should be grateful if you would approve my application accordingly in due course.

Yours faithfully,

(Manufacturer/Importer/Agent 's Name and Company Chop)

* *delete as appropriate*

Information to be submitted to Energy Efficiency Office

1. Information on the company:
Name, address, telephone and fax nos., E-mail Address, contact person, importer, distributor, etc.
2. Product to apply for participating in the scheme:
Name of products, types, make, model references, countries of origin, etc.
3. Parties responsible for making and fixing the Energy Labels.
4. Commencement date to affix Energy Labels on appliance.
5. Detailed test reports providing at least the following relevant technical data for the appliances:
 - (a) power input during the normal rice-cooking mode;
 - (b) energy consumption for the normal rice-cooking mode;
 - (c) heat efficiency of the rice-cooker;
 - (d) rice-warming temperature;
 - (e) results of rice-cooking performance tests.
6. Documentary proof that the appliance(s) comply with the Electrical Products (Safety) Regulation of the Hong Kong Special Administrative Region.

*Note: Company's name and chop should be stamped on the all documents provided.
All test reports submitted to the office should be certified true copy by appropriate organization.*

Proforma Letter of Acceptance

Your ref.
Our ref. EEO/LB/21

Tel:
Fax:

Date

[
Manufacturers/Importers/Agents

]

Dear Sir/Madam,

Acceptance of application for registration to participate in Voluntary Energy Efficiency Labelling Scheme for Electric Rice-Cookers

With reference to your letter of ref. _____ dated _____, I am pleased to inform you that your application to participate in the captioned scheme has been accepted.

I enclose herewith the registration certificates of appliances registered. The registered appliances are as follows:

<u>Brand/Make/Model</u>	<u>Registration No.</u>	<u>Effective date</u>
(_____)	(_____)	(_____)

You are allowed to affix a specified Energy Label onto each and every appliance packaging registered under the scheme. The contents of the Energy Label should be based on the information that you have provided in the your application ref. _____ and dated _____.

Should you have any queries regarding the scheme, please contact this office.

Yours faithfully,

for Director of Electrical & Mechanical Services

Proforma Letter of Rejection

Your ref.
Our ref. EEO/LB/21

Tel.
Fax.

Date

[
Manufacturers/Importers/Agents

]

Dear Sir/Madam,

Rejection of application for registration to participate in Voluntary Energy Efficiency Labelling Scheme for Electric Rice-Cookers

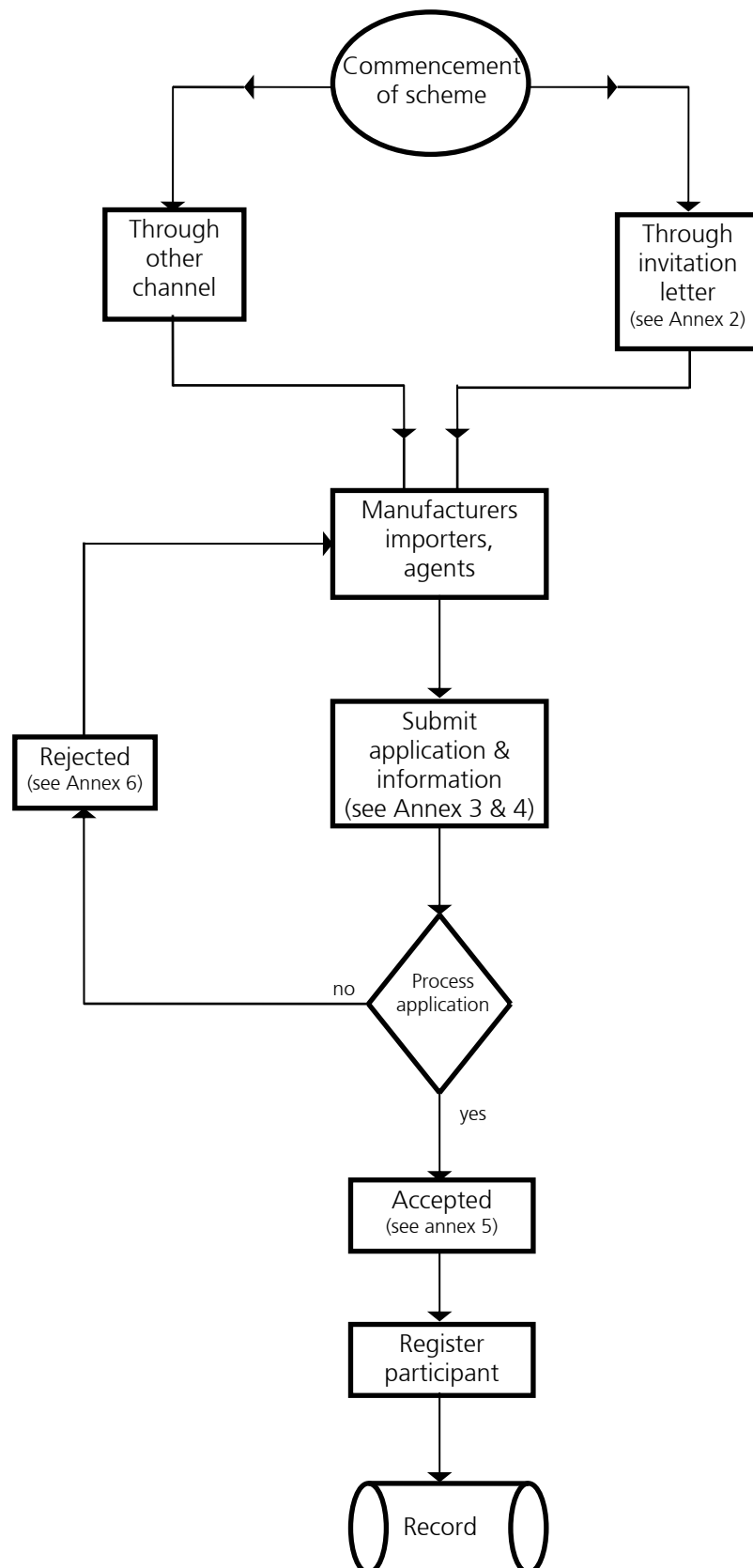
With reference to your letter of application ref. _____ dated _____,
I regret to inform you that your application for registration to participate in the scheme has not
been accepted for the following reasons:

1. _____ etc.

You are most welcome to submit new application again in future, when you have the necessary
documents / information to support your application.

Yours faithfully,

for Director of Electrical & Mechanical Services

Flow Chart for Registration

Test Guidelines

for Electric Rice-Cookers :

Condensed test requirements in relation to the

CCEC/T11-2006 technical specification QB/T3899 - 1999 standard & JIS C 9212 - 1993 standard

- Note -

This annex serves to act as brief and quick reference to allow the reader to grasp - in the context of energy labelling test requirements - the essence of the Chinese & Japanese technical standards. It focuses on the measurement of energy consumption and other related performance aspects. The reader should be able to obtain from the text a good appreciation of the test requirements. On the other hand, the original Standard & Technical Specification are much more comprehensive and detailed and contain exact definitions. Due to condensed size and translation, this document cannot replace the original Standard & Technical Specification nor is there any intention to do so. In case of doubt, the original Standard & Technical Specification should always be consulted.

The first section of this document gives an outline of the test conditions. The measurement of heat efficiency and other performance tests are described in the second and third sections respectively.

Test Guideline for Electric Rice-Cookers

Section I – General Conditions for Measurements

1. The measurement of heat efficiency and energy consumption shall be carried out under the specified test room conditions and the test procedures as specified by the following procedure, while achieving the required performance and figures.
2. Test conditions for the tests described below shall comply with the following requirements:-
 - a) The relative humidity shall be kept in the range from 45% to 75% ;
 - b) The appliance shall be tested at the atmospheric pressure within the range from 86 to 106 kPa ;
 - c) The ambient temperature shall be controlled to $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and the test room will not be affected by wind and heat radiation ; and
 - d) The appliance shall be tested at the voltage of 220 ± 2.2 Volts and the rated frequency shall be at 50 ± 0.5 Hz.
 - e) Before the heat efficiency test, the temperature difference among the inner pot, heating element, outer pot and the ambient temperature shall be within 5K or the electric rice-cooker itself has been stopped operation for more than 6 hours.
3. Test Instrumentation
 - a) The volt-meter, watt-meter and energy measuring meter shall have an accuracy of 1% ;
 - b) The digital thermometer shall be readable to 0.1°C and the diameter of the thermocouple shall not greater than 0.3 mm ;
 - c) The mercury type measuring thermometer shall be readable to 0.5°C . The diameter of the mercury-glass blub shall be 5 ± 0.5 mm and its length is 20 ± 1 mm;
 - d) The weight-balance shall be readable to 5 grammes and be accurate to within $\pm 0.1\%$;
 - e) The time-clock shall be accurate to within ± 2 s/h

Section II -- Measurement of Heat Efficiency and Energy Consumption

4. Measurement of Heat Efficiency (Ref. : CCEC/T11-2006)

Before the test, the temperature of water (T_1) to be tested shall be equal to the ambient temperature. Water is then pouring into the inner pot equal to 80% of its rated volume. The rated volume of the inner pot shall be determined in accordance with Clause 3.4 of QB/T3899-99. The mass of water (G_1) is determined using weight balance method. The thermocouple shall be arranged to pass through the lid of the rice-cooker and such arrangement should not affect the normal rice-cooking operation. The measuring point of the thermocouple shall be arranged to fix onto the bottom of the inner pot within 10mm from its center. The rice-cooker shall be tested at the rated voltage of 220 ± 2.2 Volts and at the frequency of 50 ± 0.5 Hz using the normal rice-cooking mode. The measurement of power and energy consumption are carried out when the cooker is in operation. When the temperature of water is raised up to 95°C , then disconnect the power supply and record the energy consumption (E) at this moment. Because of heat capacity of the heating element and the time lagging effects, the temperature of water will continue to rise up after the power disconnection. Observe the temperature of water to a point where it starts to drop, record the maximum temperature of water (T_2).

Heat efficiency (η) at ambient temperature shall be calculated using the following equation :

$$\eta = 1.16 \frac{G_1(T_2 - T_1) \times 100\%}{E} + \frac{CG_2(T_2 - T_1) \times 100\%}{3.6E} \dots\dots\dots (1)$$

Where η -- heat efficiency, %, to the nearest 0.1%.

G_1 -- mass of water before test, kg ;

T_1 -- temperature of water before test, $^\circ\text{C}$;

T_2 -- maximum temperature of water after the test, $^\circ\text{C}$;

C -- specific heat capacity of the material of the inner pot, kJ/kg.K

G_2 -- mass of the inner pot, kg ;

E -- energy consumption, Wh.

5. The Power Consumption of the Rice-Cooking Operation (Ref. : CCEC/T11-2006)

The power consumption of the rice-cooking operation shall be measured during the heat efficiency test as described above. The value of the actual power (W) measured in the energy efficiency test shall not exceed 105% or be less than 90% of the rated power figures marked on the nameplate.

Section III – Measurement of Performance (Ref. : QB/T3899 – 99 & JIS C9212-1993)

6. Rice-Warming Temperature Test (Ref. : Clause 3.6 of QB/T3899-99 Standard)

Water is pouring into the inner pot of the cooker equal to 50% of its rated volume. White-rice is then added to the inner pot. The ratio of the rice to the water in terms of weight shall be equal to 1 : 2 . Two mercury type thermometers are placed in the inner pot within 50 mm from its centre as illustrated in Figure 1*. The thermometer C_1 will be in contact with the bottom of the inner pot while C_2 will have a distance of 5 mm away from the bottom. Conduct the test under the rated voltage.

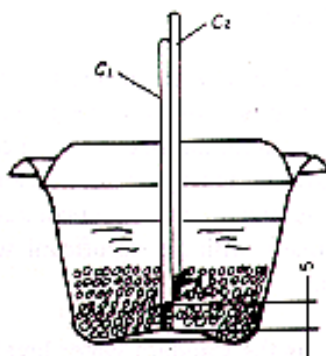


Figure 1

** In case the setup would damage the functional parts of the rice cooker (such as control circuits or sensors in the cover), the thermometers may be replaced by thermocouples.*

When the cooking circuit is cut out by the automatic switch & excessive temperature preventive devices, measure the temperature reading in C_2 .

For the rice-cooker warmed by a heating element with electric/electronics temperature control such as thermostat, measure the temperature of C_2 during the fifth, sixth and seventh warming circuit cut-in and cut-out period. The arithmetic mean of the three cut-in C_2 readings shall be the lower warming temperature and the arithmetic mean of the three cut-out C_2 readings shall be the upper warming temperatures. The lower and upper rice-warming temperature shall be kept in the range from 60 to 80 °C.

For the rice-cooker warmed by a supplementary heating unit without electric/ electronics temperature control, measure the C_2 temperature reading within 5 second after the cooking circuit has been switched over to the warming circuit for 4 hours by the automatic switch. The difference in between the rice-warming temperature and the ambient temperature is ΔT which is represented by the following equation :

$$\Delta T = T_c - T_x \dots\dots\dots (2)$$

Where ΔT –temperature difference between the rice-warming temperature and the ambient temperature, C ;

T_c --temperature reading of thermometer C_2 , C;

T_x -- ambient temperature, C.

The temperature difference ΔT shall be in the range from 45 to 55 °C.

7. Rice –Cooking Performance Test (Ref. : Clause 8.8 of JIS C9212-1993 Standard)

(a) Rice-Cooking Test

White rice which has been washed and soaked in water of 20°C for 30 minutes is used. The rice is cooked at the rated voltage at each of the standard water level ⁽¹⁾ for the maximum rice-cooking capacity and the minimum rice-cooking capacity marked on the inner pot. After cooking, it should show that there is no raw rice grains remained uncooked. Furthermore, the rice should be uniformly cooked, with no significant scorched rice or uneven spots in it and not paste-like.

n.b. ⁽¹⁾ – This is the standard water level which is the intermediate water level between the levels for hard and soft finish in cases where there are indications of the hardness and softness of the cooked rice.

(b) Boil-over Test

White rice which has been washed and soaked for 30 minutes is cooked under the rated voltage, at the water level marked on the inner pot for the minimum rice-cooking capacity and for soft finish (in case where there are no indications for soft finish water level, the standard water level is used). After cooking, it should show that there is no boiling liquid dripping onto the base. Besides there should not be any interference to electricity caused by the infiltration of the liquid into electrical parts such as switches, etc.