# FORM IV
(Refer regulation 7(2))
Bureau of Energy Efficiency
REGISTER CONTAINING NAMES OF OFFICES AND FIRMS OF ACCREDITED ENERGY AUDITORS

Serial Number:-  (AEA - 0099)  

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1</td>
<td>Name of accredited energy auditor</td>
<td>Shanavaz.K.M</td>
</tr>
<tr>
<td>2</td>
<td>Father's name</td>
<td>Muhammed</td>
</tr>
<tr>
<td>3</td>
<td>Date of certification as Energy Manager (Energy Auditor)</td>
<td>18th February, 2008</td>
</tr>
<tr>
<td>4</td>
<td>Date of passing the examination in “Energy Performance Assessment for Equipment and Utility Systems”</td>
<td>18th November, 2007</td>
</tr>
<tr>
<td>5</td>
<td>Examination Registration Number of (i) Energy Manager (ii) “Energy Performance Assessment for Equipment and Utility Systems”</td>
<td>EA-3384</td>
</tr>
<tr>
<td>7</td>
<td>Date of issue of accreditation certificate</td>
<td>(to be filled by BEE)</td>
</tr>
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<thead>
<tr>
<th></th>
<th>Information in respect of trade name or firms’ name</th>
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<tbody>
<tr>
<td>8</td>
<td>Trade name / firms name under which energy audit is proposed to be conducted</td>
</tr>
<tr>
<td>9</td>
<td>Date of accreditation as accredited energy auditor</td>
</tr>
<tr>
<td>10</td>
<td>Type of firm/ private/ Government / NGO etc.</td>
</tr>
<tr>
<td></td>
<td>Description</td>
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<td>---</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 11 | Name of contact person along with designation, address, telephone, mobile and fax number along with STD codes and email address (All details compulsory) | **Sivakumar.G, Director**  
Kerala State Productivity Council (KSPC)  
Productivity House, P.B No: 08, H.M.T Road, Kalamassery, Cochin - 683 104, Kerala, India.  
Phone: + 91 484 2555526, 2555367, 2532107  
FAX: + 91 484 2532107,  
e-mail: kspc@asianetindia.com |
| 12 | Professional postal address with Pin Code of the accredited energy auditor | Kerala State Productivity Council (KSPC)  
Productivity House, P.B No: 08, H.M.T Road, Kalamassery, Cochin - 683 104, Kerala, India. |
| 13 | E-mail address                                                             | kmshananavaz@gmail.com                                                   |
| 14 | Telephone numbers . with STD Code (R) (O) Mobile no:                        | 91-485 2548578  
91-484 2555526, 2555367  
91-9447816767 |
| 15 | Year of establishment of the trade name / firms' name for undertaking the energy audit | 1959 |
| 16 | Year of commencement of energy audit of the firm                            | 1993 |
| 17 | Whether any certificate to support the excellence in the system has been obtained (ISO etc.) | Empanelled Energy Audit firm with PCRA, Chennai  
Empanelled Energy Audit firm with Energy Management Centre – Kerala, (SDA, BEE) (www.keralaenergy.gov.in) |
| 18 | No. of branch offices (List of complete addresses including heads of all branch offices with telephone, fax and email addresses) | Nil |
|   | C Details of Associated Energy Experts                                       |                                                                         |
| 19 | Number of resource persons available                                         | 11                                                                     |
| 20 | I. Number. of full-time energy auditors in position with work experience of all energy auditors associated with the firm | CEA -2 Other Auditors - 5 |

1. **JOSE A.P - Joint Director, KSPC**
   - Graduated in Industrial and Production Engineering from M.S. Ramaiah Institute of Technology, Banagalore University in 1987.
   - Joined Kerala State Productivity Council, Kalamassery as **Engineer Trainee** in 1988.
   - Appointed as **Industrial Engineer** in Kerala State Productivity Council in 1990.
   - Underwent 6 months course on “Energy Management Consultation and Training (EMCAT)” at Dr.Ambedkar Institute of Productivity, NPC, Chennai in 1992.
   - Promoted as **Joint Director** in 2007 and continuing in that position.
   - **Professional experience** over 20 years includes Industrial Engineering and Energy Management projects with Kerala State Productivity Council.
   - Conducted more than 150 **Energy Audit assignments (Both Electrical & Thermal)** in various industries in Kerala, which includes Chemical, Engineering, Metallurgical, Cement, Tea, Minerals and Mineral processing, Food and Food Processing, Printing etc. and Commercial and Office buildings.
   - Carried out more than 60 **Industrial Engineering Consultancy assignments** of various magnitudes.

2. **Sumesh M V, Consultant, KSPC**
   - Sumesh.M.V educated at College of Engineering Trivandrum (B Tech Mechanical Stream - Industrial Engineering).
   - Over 4 years of experience in Industrial Engineering Studies and Energy Audits in various Industries in and around Kerala.
   - Currently he is Consultant of Kerala State Productivity Council since 2006.

3. **Sriram A, Consultant, KSPC**
   - Sriram A educated at College of Engineering Kidangoor (B Tech Electrical and Electronics Engineering)
   - About 3 years of experience, having done/ part of about 40 Energy Audit Studies done in various types of Industries which include Food Processing, Forging, Tyre, Timber, Process Industries and Commercial Buildings.
• Currently he is Consultant of Kerala State Productivity Council since 2008.

4. **Anish Antony, Consultant, KSPC**

• Anish Antony educated at Adi Sankara Institute of Dcience & Technology, Kalady (B Tech Mechanical Engineering) and Anna University (PG Diploma in Electrical Energy management & Energy Audit)

• Over 3.5 Years experience in Electrical field (Operation and maintenance) and energy audit

5. **Arjun K.N, Consultant, KSPC**

• Arjun.K.N educated at TOC H College of engineering, Kochi (BTech Electrical & Electronics Engineering)

• Over 2 years experience which includes as trainee engineer at Apollo Tyres Kalamassery. Now working as consultant at Kerala State Productivity Council and got experience in Energy Audits in various Industries in and around Kerala.

6. **Jubin K Varghese**

• Jubin K Varghese graduated from TOC H College of engineering, Kochi in Electrical & Electronics Engineering branch in 2011.

• He joined KSPC as consultant in January 2012 in Energy division and now participating in energy audits doing in various Industries in and around Kerala.

<table>
<thead>
<tr>
<th>II. No. of part-time energy auditors in position during the current year / previous year associated with the energy auditor / energy auditor’s firms.</th>
<th>CEA - 4</th>
</tr>
</thead>
</table>

**Mr. A SANTHOSH (EA-7597)**

- B.Tech (Mechanical)
- PG Diploma in Energy Management (Hyderabad Central University)
- Diploma in Energy Engineering.
- MBA - Energy Management (Undergoing)
- Mob: 09746194984

**PROFESSIONAL EXPERIENCE**

- Managing Director, Athul Engineering Systems and Energy Consultants, B2/A BEVEE Complex, C.P Ummer Road, Ernakulam, Kerala Pincode: 682305
- 20 years Transnational experience in hard core chemical & Process industries at core executive level.
- Executed & managed critically important industrial operations in high risk environments.

**Engineering Exposure areas**

**UTILITIES**

- Fire tube & Water tube Boilers (FO Fired, Coal, CNG, Agro waste, HVAC & Refrigeration
(Vapour Compression & Vapour absorption), Air Compressors (Reciprocating & Screw type), Large capacity cooling towers & Systems, Ice Plants & Brine units, Nitrogen Generators, Air drier systems, Captive Power Generators (DGs CNG Engines & steam Turbines, Raw water treatment (Softener and DM Plants)

STANDARDS & QUALITY ASSURANCE AREA EXPOSURE


ENERGY AUDITS


No.2

Mr. MOHANDAS T.V. (EA – 1968)
Sree Bhavan, Vettekkara (P.O), Katambazhipuram., Palakkad (Dist.)
Kerala, India PIN: 678633,

Educational Qualifications:

DIPLOMA in Mech. Engg.
B.Tech. in Mech: Engg.

Details of Experience:

- Southern Railway, Palghat Division as DIESEL ASSISTANT - Assisting the Diesel Locomotive Driver in operation & en-route maintenance.
- Directorate of Technical Education, (Govt: Engg. & Polytechnic Colleges) WORK SHOP INSTRUCTOR IN MECHANICAL ENGG
- SPERINTENDENT/PRINCIPAL OF TECHNICAL HIGH SCHOOL Teaching as well as Administration
- LECTURER IN MECHANICAL ENGG. Directorate of Technical Education, (Govt: Engg. & Polytechnic Colleges)

Other Relevant Experiences/ Achievements

- Conducted Energy Audit covering major areas such as Pumps, Refrigeration & A/C equipments.
- Guest Faculty Member of various Institutions like Energy Management Center, Thiruvananthapuram, Kerala State productivity council, Kalamassery, Curriculum development center, Various Engineering colleges & Polytechnics, ANERT,
- About 7 years of experience in Conducting more than 25 Trainings to: a. Energy Professionals of various Industries, b. Staff of Polytechnics of Kerala, & Tamilnadu states especially in the area of Energy conservation c. Students of various Engineering Colleges / Polytechnic Colleges
No.3

K.K.GEORGE (EA-3731)
33, GIRINAGAR, Kadavanthara, Cochin – 682 020. E-mail: engineerkkgeorge@gmail.com, Mobile: 9846017635

- Diploma in Electrical Engineering – 1952 from University of Travancore.
- Grad. I.E (Graduate in Electrical Engineering) – 1963 from The Institution of Engineers (India), Calcutta.
- Completed M.Tech (Industrial Electronics) from Cochin University 1984.
- Certified Energy Auditor – May 2008 with the Reg. No. EA-3731 from the Bureau of Energy Efficiency, Govt. of India.
- Was employed with IN DAL (Indian Aluminium Company Limited), Alwaye. Retired in 1991 as Chief Engineer, Indian Aluminium Company Limited.
- As Project Engineer, did the Erection, Testing and Commissioning of a 30 MVA, 110 kV Sub-Station & 68000Amps Silicon Rectifier Station and related 11 kV Substation and Ancillaries for INDal in 1963 - 64.
- Presently: Secretary, Kerala State High Tension and Extra High Tension Industrial Electricity Consumers’ Association, Kalamassery – 683 104.
- Age 78 years. Married, and have a son and a daughter (both married).
- Expert in Electrical system audit covering Electric Motors, Lighting System, DG Sets and Transformers

No.4

K.Madhusoodanan (EA-1741 )
Chief Engineer - Projects
TCC Ltd, Udyogamandal P.O
Kochi , India

Educational Qualifications

- 2004 Certified Energy Auditor (EA-1741) of Bureau of Energy Efficiency, New Delhi
- 1995 M Tech in Process Control, University of Calicut, Kerala
- 1992 Certificate in Personnel Computer Techniques and Application, IHRD, Kochi, Kerala
- 1987 AMIE in Mechanical Engg, The Institution of Engineers India, New Delhi
1983 BSc Engg, in Chemical Engg. First class with Hons., University of Cochin, Kerala

Career Enhancement

- 27 Years in the field of Chemical and Mechanical Engineering in Chlor-Alkali Industry, Cold Rolling steel plants and in the field of Energy Management and Conservation.

Major Career Achievements

- Successfully conceptualized and executed import substitution/alternate sourcing of spares which had resulted in substantial cost savings
- Successfully implemented process Modification/ retrofit projects/ Energy efficiency EE resulting in annual saving of Rs 1 crore annually.
- Indirectly responsible for energy saving to the tune of Rs 6 crores annually through recommendations in Energy Auditing in about 20 Firms.
- Published articles in journals/dailies
- Organised about 15 National/state /regional seminars and workshops.
- Carried out energy audits in about 20 installations.
- Resource person for many Seminars and workshops on Energy management and Audit.
- Guided more than 25 Undergraduate and post graduate projects/Thesis work
- Edited a resource compendium for Industrial Energy Managers
- Editor of quarterly magazine ‘energyη manager’
- Expert in Thermal system (boiler, furnace, WHR, DPR preparation etc.,)

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<tr>
<th>21</th>
<th>Sectors in which the energy auditor has conducted energy audits since inception</th>
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<tbody>
<tr>
<td></td>
<td>Commercial Buildings</td>
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<tr>
<td></td>
<td>Tea</td>
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<tr>
<td></td>
<td>Cement</td>
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<tr>
<td></td>
<td>Rubber</td>
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<td>Food Processing</td>
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<td></td>
<td>Dairy</td>
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<td></td>
<td>Engineering</td>
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<td></td>
<td>Chemical</td>
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<tr>
<td></td>
<td>Textile</td>
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<tr>
<td></td>
<td>Iron &amp; steel</td>
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<td></td>
<td>Aluminium</td>
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<td>Tyre</td>
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<td>Pharma</td>
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<td>Breweries</td>
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<td>Coir</td>
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<td></td>
<td>Printing</td>
</tr>
<tr>
<td></td>
<td>Entertainment (Water theme park)</td>
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<tr>
<th>22</th>
<th>Subject wise expertise</th>
</tr>
</thead>
</table>
(a) Energy audit process system (list sectors) - If no energy audit has been carried out of the process system and parameters, please list nil. Bureau of Energy Efficiency will be calling for detailed information in case agency has listed its energy audit expertise in the process systems

- Tea
- Rubber
- Food Processing
- Dairy
- Iron & Steel
- Cement
- Minerals
- Textile
- Tyre
- Pharma
- Coir
- Galantine

(b) Energy audit thermal utility system (list sectors)

- Boilers
- Steam System
- Industrial Furnaces
- Insulation And Refractories
- Waste Heat Recovery Systems
- Solar Water Heating/Drying
- Biogas

(c) Energy audit electrical utility system (list sectors)

- Electric Motors
- Compressed Air System
- Air Conditioning & Refrigeration System
- Fans & Blowers
- Pumps And Pumping System
- Cooling Towers
- Lighting System
- DG Sets
- Transformers

23 Instruments available

(a) Electrical (list the name of the instruments)

- Three phase Power & Harmonics Analyser (Krykard - ALM30)
- Digital Power Recorder (MULTI - MPR600S)
- Clamp – On Power meter- Meco 4500
- Lux Meter – Peaktech 5025

(b) Thermal (list the name of the instruments)

- Combustion Analyser - KM 900/ Kane May
- Infra Red Thermometer - MTX8/Metravi
- Digital Temperature Indicator - Multi/Metravi
- Dry & Wet Bulb Thermometer - Dimple
- Digital Anemometer - AVM04/Metravi

24 (i) Details of training programme/ seminars/ workshops conducted during the last 3 years in the field of energy efficiency / energy audit
<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Programme Title</th>
<th>Date</th>
<th>Venue</th>
</tr>
</thead>
<tbody>
<tr>
<td>(ii)</td>
<td>Energy Conservation &amp; Management</td>
<td>18-19 May, 2009</td>
<td>Indian Rare Earths Ltd. Chavara, Kollam</td>
</tr>
<tr>
<td>(iii)</td>
<td>Maintenance of Electrical Equipment and Machines</td>
<td>4-5 Aug.2010</td>
<td>Productivity House, Kalamassery, Kochi</td>
</tr>
<tr>
<td>(iv)</td>
<td>Reducing Energy Cost</td>
<td>6-7 Oct.2009</td>
<td>Productivity House, Kalamassery, Kochi</td>
</tr>
<tr>
<td>(v)</td>
<td>Electrical Energy Conservation</td>
<td>26th Nov.2009</td>
<td>Indian Rare Earths Ltd. Chavara, Kollam</td>
</tr>
<tr>
<td>(vi)</td>
<td>Electrical Energy Conservation</td>
<td>25th Mar.2010</td>
<td>Indian Rare Earths Ltd. Chavara, Kollam</td>
</tr>
<tr>
<td>(ix)</td>
<td>Energy Conservation</td>
<td>14th Dec.2010</td>
<td>Cochin International Airport Ltd, Kochi</td>
</tr>
<tr>
<td>(x)</td>
<td>Energy Conservation</td>
<td>27-28 Jan.2011</td>
<td>Indian Rare Earths Ltd. Chavara, Kollam</td>
</tr>
<tr>
<td>(xi)</td>
<td>Electrical Energy Conservation</td>
<td>13th Sep 2011</td>
<td>Productivity House, Kalamassery Kochi</td>
</tr>
<tr>
<td>(xii)</td>
<td>Energy Conservation Awareness Programme (Half day)</td>
<td>14th Dec 2011</td>
<td>Cochin Shipyard Limited, Kochi</td>
</tr>
</tbody>
</table>

**Remarks (if any)**

(Note: Responsibility of the authenticity of the above information rests with the concerned energy auditor/energy auditing agency.)