


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

| Serial Number (AEA- 0238) | | As on:- 04/11/2014 | |
|---|--|----------------------------------|---|
| A. | | | |
| 1 | Name of accredited energy auditor | Biyas B |  |
| 2 | Father's name | Baby I | |
| 3 | Date of certification as Energy Manager | 07/02/2013 | |
| 4 | Date of passing the examination in "Energy Performance Assessment for Equipment and Utility Systems" | 07/02/2013 | |
| 5 | Examination Registration Number of (i) Energy Manager (ii) "Energy Performance Assessment for Equipment and Utility Systems" | (i) EA-12557 (ii) EA-12557 | |
| 6 | Certificate Registration Number of (i) Energy Manager (ii) "Energy Performance Assessment for Equipment and Utility Systems" | 8297 | |
| 7 | Date of issue of accreditation certificate | | |
| B. Information in respect of trade name or firms' name | | | |
| 8 | Trade name / firms name under which energy audit is proposed to be conducted | Schneider Electric India Pvt Ltd | |
| 9 | Date of accreditation as accredited energy auditor | (to be filled by BEE) | |
| 10 | Type of firm/ private/ Government / NGO etc. | Private | |

| | | |
|----|---|---|
| 11 | Name of contact person along with designation, address, telephone, mobile and fax number along with STD codes and email address (All details compulsory) | Sridhar Shenoy, General Manager, 9 th Floor, Bearys Global Research Triangle, Gorvigere Village, Bidarahalli Hobli, Bangalore East Taluk, Whitefield Ashram Road, Bangalore 560 067, Karnataka Phone: +918045540843 Mobile: +919845482966 Fax: +91 8039102735 sridhar.shenoy@schneider-electric.com |
| 12 | Professional postal address with Pin Code of the accredited energy auditor | Biyas. B, Assistant Manager, 9 th Floor, Bearys Global Research Triangle, Gorvigere Village, Bidarahalli Hobli, Bangalore East Taluk, Whitefield Ashram Road, Bangalore 560 067, Karnataka Phone (R): 0476-2835966 Mobile: +91-9686451995 Fax: +91 8039102735 biyas.baby@schneider-electric.com |
| 13 | E-mail address | biyas.baby@schneider-electric.com |
| 14 | Telephone numbers . with STD Code (R) (O) Mobile no: | Phone (R): 0476-2835966 Mobile: +91-9686451995 |
| 15 | Year of establishment of the trade name / firms' name for undertaking the energy audit | 1995 |
| 16 | Year of commencement of energy audit of the firm | 2002 |
| 17 | Whether any certificate to support the excellence in the system has been obtained (ISO etc.) | Yes. 1: ISO Certificate: Certificate no: 195153-15-UK, valid from 22— 08-08 to 30-07-2014 2. OHSAS Certificate no: of-HK 10023-15, valid from 26- 07-11 to 30-07-2011 |

| | | |
|----|--|--|
| | | <p>3.ISO 9001: 2008 Certificate no: 195152-18-UK, valid from 22— 08-08 to 30-07-2014</p> |
| 18 | <p>No. of branch offices (List of complete addresses including heads of all branch offices with telephone, fax and email addresses)</p> | <p>Corporate Office: Delhi</p> <p>Schneider Electric India Pvt. Ltd. Professional Services 9 floor, DLF Building, 10, Tower C, DLF Cyber city, Phase II, Gurgaon, Haryana 122 002 Dr. Satish Kumar Energy Efficiency Ambassador Phone: ++91-124-3940-400 ext. 439 Fax: ++91-124-4222-036 Mobile: + +91-98180-75006 Email: satish.kumar@schneider-electric.com Site: www.schneider-electric.com</p> |
| | <p>Branch Office: Bangalore</p> <p>Schneider Electric India Pvt. Ltd. Professional Services #44P,Electronic City East Phase, Hosur Road, Bangalore 560 100 Vijayarengamani R Associate General Manager -Energy Efficiency Audits & Consulting Phone: +91 80 39102767 Fax: +91 80 39102735 Mobile: +91 9566656574 Email: vijayarengamani.ramalingam@schneider- electric.com Site: www.schneider-electric.com</p> <p>Branch Office: Bangalore</p> <p>Schneider Electric India Pvt. Ltd. Professional Services 4th Floor, Electra, Wing 'A' Exora Business parks, Marathahalli, Sarjapur Outer Ring Road, Bangalore - 560 103 Abraham Varughese General Manager, Professional Services Phone: 080 43333333 Fax: 080 43332323 Mobile: +91 98454 71135 Email: abraham.varughese@schneider- electric.com Site: www.schneider-electric.com</p> | <p>Branch Office: Kolkatta</p> <p>Schneider Electric India Pvt. Ltd. Professional Services Sugam Business Park ,4th & 5th Floors ,Plot-J6, Block-GP,Sector-V, Salt Lake city,Kolkata-700 091 Laxmidhar Sutar Associate General Manager- Energy Efficiency Audits & Consulting Phone: +913339404000 ext. 4131 Fax: +913330248686 Mobile: +919831556693 Email: laxmidhar.sutar@schneider-electric.com Site: www.schneider-electric.com</p> <p>Branch Office: Mumbai</p> <p>Schneider Electric India Pvt. Ltd. Professional Services Unit No.1141/42, Building no.11, 4th Floor, Solitaire Corporate Park, Andheri Kurla Road, Chakala, Andheri (E), Mumbai-400059, India Mangesh Mayekar Deputy Manager Phone: +91 22 3940 400 Toll Free: +18004250555 Fax: +91 22 3073 8800 Mobile: +9892068611 Email: mangesh.mayekar@schneider-electric.com Site: www.schneider-electric.com</p> |

| C | Details of Associated Energy Experts | |
|----------|--|---|
| 19 | Number of resource persons available | 16 |
| 20 | I. Number. of full-time energy auditors in position with work experience of all energy auditors associated with the firm | <p data-bbox="850 363 1458 436">1. Sivakumar RK, General Manager EM services</p> <p data-bbox="802 447 1463 520">Qualification: B.E in Electronics & Instrumentation</p> <p data-bbox="802 573 1442 1045">Experience: IBMS engineer with over 21 years of relevant experience including 11 yrs of overseas experience in Integrated Building Management Systems (IBMS), Controls & Automation with P&L responsibility. IEEE Membership (EMEA, Saudi Arabian & Indian Chapter) – Type (Research Scholar, Controls & Systems Chairperson – Reviewing Committee Person in Jordan University, External IT & Systems Consultant for Indian Embassy School, Saudi Arabia for 3 Years, Creative Education Support for Somaliland & Somalia districts thro’ a non UNICEF board.</p> <p data-bbox="802 1119 1463 1192">2. Abraham Varughese General Manager, PFC</p> <p data-bbox="802 1245 1463 1318">Qualification: B.Tech in Electrical Engineering, MBA, DIS, AMIE, MIPE</p> <p data-bbox="802 1371 1463 1591">Experience: 21 Years experience in Detailed Energy Audits, Safety Management and Energy Management etc. Carried out more than 500 Comprehensive Consultancy assignments in energy management in various industries in India and abroad</p> <p data-bbox="802 1623 1458 1780">Sectors: Textile, Sugar, Paper and Pulp, Steel, Pharmaceutical, Buildings, Automobile, Brewery, Food Processing, Thermal Power Plants, Chemical, Hotel, Hospital, Engineering</p> <p data-bbox="802 1812 1446 1885"><i>Certified Energy Auditor by Bureau of Energy Efficiency (BEE) India (EA 0079).</i></p> |

Accredited Energy Auditor AEA-0006

3. Mr. Vijayarengamani AGM, Global Energy Efficiency and Process Expert – Cement

Qualification: B Tech in Production Technology.

Experience: 18 years experience in Energy audit and in Cement industry. Carried out at about 120 comprehensive assignments in across various industries in different countries in India and abroad. 3 years experience in Cement Industry

Sectors : Cement, Steel, Aluminum, Refinery, Port, Textile, Buildings, Paper and Pulp, Chemical, Rayons, Pharmaceutical, Thermal Power Plants, Tyre, Mines, Automobile, Brewery, Beverages, Engineering, Hotels, Hospitals

*Certified Energy Auditor by Bureau of Energy Efficiency (BEE) India (EA 1079).
Accredited Energy Auditor AEA-0074*

4. Mr. Upendra Pratap Singh AGM, EM Services

Qualification: B E in Mechanical Engineering and M Tech in Energy Studies

Experience: 17 years experience in Energy audit and clean development mechanism in various industries. Carried out more than 250

5. Mr. Laxmidhar Sutar Sr. Manager, EM Services

Qualification: A M I E in Electrical Engineering

Experience: 14 Years experience in Energy audits and conducted more than 180 comprehensive assignments in Industrial and Commercial complexes in India and Abroad. 25 Power Plant audits .7 years experience in Studies and implementation in textile mills

Sectors: Jute Mills, Thermal Power Plants, Textile, Chemicals, Refractory, Cement, Sponge Iron, Buildings, Food Processing, IT, Railways, Cables, Automobile, Carbon, FMCG, Automobile, Engineering, Pulp and Paper, iron & steel

Certified Energy Auditor by Bureau of Energy Efficiency (BEE) India (EA 1853)

5. **Mr. Laxmidhar Sutar AGM, EM Services**

Qualification: A M I E in Electrical Engineering

Experience: 14 Years experience in Energy audits and conducted more than 180 comprehensive assignments in Industrial and Commercial complexes in India and Abroad. 25 Power Plant audits .7 years experience in Studies and implementation in textile mills

Sectors: Jute Mills, Thermal Power Plants, Textile, Chemicals, Refractory, Cement, Sponge Iron, Buildings, Food Processing, IT, Railways, Cables, Automobile, Carbon, FMCG, Automobile, Engineering, Pulp and Paper, iron & steel

Certified Energy Auditor by Bureau of Energy Efficiency (BEE) India (EA 1853)

6. **Mr. Baskaran G Manager, EM**

Services

Qualification: B. Tech in Mechanical Engineering; M Tech in Energy Technology

Experience: 6 Years experience in Energy audits and conducted about 60 comprehensive assignments in Industrial and Commercial complexes in India and abroad

Sectors: Refinery, Cement, Aluminum, Thermal Power Plants, Buildings, Municipalities, Engineering, Pharmaceuticals, Port, Carbon, IT, Rice Mills, Automobile, Food Processing, Brewery, FMCG, Chlor Alkali, Tea

Certified Energy Auditor by Bureau of Energy Efficiency (BEE) India (EA 7490)
Certified CMV Professional by EVO & AEEE
Accredited Energy Auditor-AEA 0079
Certified CEM, AEEE

7. Mr. Benet George Senior Manager, EM Services

Qualification: AMIE , MTech in Energetics

Experience: 6 years Industrial Experience and has conducted more than 60 comprehensive energy audits in India and abroad

Sectors:Hotel, Refinery, Textile, Buildings, Ports, Steel, Cement, Automobile, Pharmaceutical, Food Processing, IT, Power Plants, Mines, Aluminum, Municipality, Hotel, Chemicals, FMCG , Tea

Certified Energy Auditor by Bureau of Energy Efficiency (BEE) India (EA 6737)
Certified CMV Professional by EVO & AEEE
Certified PMP by PMI
Accredited Energy Auditor AEA 053
Certified CEM, AEE

8. Mr. Raghavendra Rao. L Sr. Manager,

EM Services

Qualification: **Diploma** In Electrical Engineering

Experience: 8 Years experience in condition monitoring, harmonic analysis, Power quality & Power audits etc. Specializing in harmonic analysis, design, installation and commissioning of harmonic filters Conducted more than 300 power quality studies, 25 datacenter Power audits & 30 thermal imaging studies and in India and abroad.

Sectors: Hotel, Textile, Buildings, Steel, Cement, Automobile, Pharmaceutical, Food Processing, IT, Power Plants, Hotel, Chemicals, FMCG , Naval ship, tobacco, Sugar, Ceramics, tyres, breweries, Dairy, foundry & forging, Glass, printing, plastics, Engineering

9. Srijit Mukherjee Manager – EM Services

Qualification: **B.E** in **Mechanical** Engineering. **PG certification** in energy management from IISWBM, Kolkata

Experience: 8 Years experience in Energy audits and conducted more than 110 comprehensive assignments in Industrial and Commercial complexes in India and Abroad. 1.5 years experience in energy efficient designing & execution of HVAC System in Commercial Buildings

Sectors: Hotel, Jute mill, Buildings, IT , Power plants, Food processing, Textiles, Tyre

Certified Energy Auditor by Bureau of Energy Efficiency (BEE) India EA8376

10. Mr.Mangesh Mayekar Dy. Manager, EM Services

Qualification: B.E in Electrical Engineering

Experience: 5 Year experience in Energy audits carried out 45 energy audits& 28 Power quality audits,6 year experience in industry, operation and maintenance of network, switch gear.

Sectors: Chlor Alkali, Refinery, Thermal Power Plants, Pharmaceuticals, Tyres, Port, Hotel, Indian Naval Ship, Beverages, Steel, Engineering, Automobile, Refinery, FMCG, Food Processing, Municipality, Railways, Battery

Certified Energy Auditor by Bureau of Energy Efficiency (BEE) India (EA 1526)
Accredited Energy Auditor- AEA 004

11. Mr. Mrinmoy Kayal Dy. Manager, EM Services

Qualification: PG Diploma in Energy Management

Experience: 5.5 Year experience in Energy audits, conducted 35 energy audits out of which 23 are in power plants

Sectors: Automobile, Tea, Buildings, IT, Thermal Power Plants, Ordinance, Aluminium, Textile,

Certified Energy Manager by Bureau of Energy Efficiency (BEE) India (EM 2238)

12. Mr. Biyas. B. Asst. manager – EM Services

Qualification: **M Tech in Energy management. B. Tech** in Mechanical Engineering 5.5 years experience in Energy Audits, conducted 60 Comprehensive energy audits in Industrial and Commercial complexes in India and abroad

Sectors: Buildings, Tyre, IT, Iron & Steel, Pharmaceuticals, Electronics, Textiles, Power plant, FMCG, foundry & Refractories,

*Certified Energy Auditor by Bureau of Energy Efficiency (BEE) India EA12557
Certified CEM, AEE*

13. Mr. Santanu Mondal Asst. Manager – EM Services

Qualification: **B. E** in **Electrical Engineering, PG Diploma** in Transmission & distribution

Experience: 5.5 Year experience in Energy Audits, conducted 60 Energy audits , out of which 25 are power plants & 15 Power quality audits, 1 year experience in Networks

Sectors: Thermal Power Plants, Food Processing, Tobacco, Iron & steel, Textiles, Municipality, Buildings, Pharmaceuticals, IT, Hospital, FMCG, Ship Builders, Bank, Telecom, Mines,

14. G. Baranitharan Sr. Engineer – EM Services

Qualification: **B.E.** in Electrical Engineering

Experience: .54 Years experience in energy audit and compressed air audits. Conducted 25 detailed energy audits and 120

compressed air audits

Sectors: Automobile, MUDSM, Foundry & refractory, Buildings, Pharmaceuticals, IT , Hospital, FMCG, electronics,Engineering

Certified Energy Auditor by Bureau of Energy Efficiency (BEE) India EA11847

15 **Mrs. Bindu V Thomas Dy. Manager, EM Services**

Qualification: **B Tech** in **Electrical** Engineering

Experience: 5.5 Years experience in report writing and report quality check, developing templates for data collection & report writing, condition Monitoring

Sectors: Cement, Building, Tyre, Refinery, Water &Waste water, Pharmaceuticals, Power plant, Engineering, Chlor Alkali, Data centre

16 **Manish Thakare Sr. Engineer – EM Services**

Qualification: **B. E** in **Electrical Engineering**

Experience: : 3 Years experience in Energy audits and conducted about 22 comprehensive energy audits,15 power quality assignments in Industrial and Commercial complexes in India, other than 16 DSM Projects by BEE and 40 electrical safety audits in retail outlets

Sectors: Retail, Steel, Chemicals, Buildings, Gas Manufacturing, Chlor Alkali, Ceramics, Battery, Beverages, Hotels

Certified Energy Auditor by Bureau of Energy

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| | | <i>Efficiency (BEE) India EA15836</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | II. No. of part-time energy auditors in position during the current year / previous year associated with the energy auditor / energy auditor's firms. | Not Applicable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | Sectors in which the energy auditor/ energy audit firm has conducted energy audits since inception | <table border="0"> <tr><td>1</td><td>Bank</td><td>5</td></tr> <tr><td>2</td><td>Education</td><td>2</td></tr> <tr><td>3</td><td>Hospital</td><td>3</td></tr> <tr><td>4</td><td>Hotel</td><td>35</td></tr> <tr><td>5</td><td>Pharmaceuticals</td><td>22</td></tr> <tr><td>6</td><td>Medical products</td><td>6</td></tr> <tr><td>7</td><td>Office</td><td>39</td></tr> <tr><td>8</td><td>Residential</td><td>2</td></tr> <tr><td>9</td><td>Retail</td><td>4</td></tr> <tr><td>10</td><td>Other bulidings</td><td>6</td></tr> <tr><td>11</td><td>Township</td><td>17</td></tr> <tr><td>12</td><td>BFSI</td><td>0</td></tr> <tr><td>13</td><td>BPO</td><td>2</td></tr> <tr><td>14</td><td>DataCentres</td><td>4</td></tr> <tr><td>15</td><td>ITES</td><td>13</td></tr> <tr><td>16</td><td>Telecom</td><td>16</td></tr> <tr><td>17</td><td>Automotive</td><td>20</td></tr> <tr><td>18</td><td>Chemicals</td><td>11</td></tr> <tr><td>19</td><td>Chlor Alkali</td><td>4</td></tr> <tr><td>20</td><td>Detonators</td><td>1</td></tr> <tr><td>21</td><td>Fertilizers</td><td>2</td></tr> <tr><td>22</td><td>Insecticides</td><td>1</td></tr> <tr><td>23</td><td>Lubricants</td><td>1</td></tr> <tr><td>24</td><td>Paints</td><td>1</td></tr> <tr><td>25</td><td>Polyurethene foam</td><td>1</td></tr> <tr><td>26</td><td>Engineering</td><td>114</td></tr> <tr><td>27</td><td>Food_and_Bev</td><td>92</td></tr> <tr><td>28</td><td>Aluminium</td><td>1</td></tr> <tr><td>29</td><td>Carbon black</td><td>1</td></tr> <tr><td>30</td><td>Cement</td><td>32</td></tr> <tr><td>31</td><td>Copper</td><td>2</td></tr> <tr><td>32</td><td>Diamond</td><td>2</td></tr> <tr><td>33</td><td>Foundry</td><td>1</td></tr> <tr><td>34</td><td>Graphite</td><td>1</td></tr> </table> | 1 | Bank | 5 | 2 | Education | 2 | 3 | Hospital | 3 | 4 | Hotel | 35 | 5 | Pharmaceuticals | 22 | 6 | Medical products | 6 | 7 | Office | 39 | 8 | Residential | 2 | 9 | Retail | 4 | 10 | Other bulidings | 6 | 11 | Township | 17 | 12 | BFSI | 0 | 13 | BPO | 2 | 14 | DataCentres | 4 | 15 | ITES | 13 | 16 | Telecom | 16 | 17 | Automotive | 20 | 18 | Chemicals | 11 | 19 | Chlor Alkali | 4 | 20 | Detonators | 1 | 21 | Fertilizers | 2 | 22 | Insecticides | 1 | 23 | Lubricants | 1 | 24 | Paints | 1 | 25 | Polyurethene foam | 1 | 26 | Engineering | 114 | 27 | Food_and_Bev | 92 | 28 | Aluminium | 1 | 29 | Carbon black | 1 | 30 | Cement | 32 | 31 | Copper | 2 | 32 | Diamond | 2 | 33 | Foundry | 1 | 34 | Graphite | 1 |
| 1 | Bank | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Education | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Hospital | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Hotel | 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Pharmaceuticals | 22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Medical products | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Office | 39 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Residential | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Retail | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Other bulidings | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Township | 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | BFSI | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | BPO | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | DataCentres | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | ITES | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Telecom | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | Automotive | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | Chemicals | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Chlor Alkali | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Detonators | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | Fertilizers | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | Insecticides | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | Lubricants | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | Paints | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | Polyurethene foam | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | Engineering | 114 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | Food_and_Bev | 92 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | Aluminium | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | Carbon black | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Cement | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | Copper | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | Diamond | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | Foundry | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | Graphite | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| | | 35 Glass 4 36 Iron & Steel 37 37 Mining 3 38 Othersmmm 2 39 Refractory 3 40 Paper 1 41 Gypsum Board 6 42 Rayon 1 43 Biomass CPP 1 44 CPP 9 45 CPP- steel & Power 2 46 Thermal PP 68 47 Combined cycle PP 4 48 Textile 36 49 WWW 6 50 Industrial gases 1 51 PVC 1 52 Rubber 2 53 Sugar 1 54 Tyre Chord 1 55 ups 1 56 Electrical_Uilities 1 57 Highways 7 58 Oil_and_Gas 7 59 Ports_Shipyards 7 60 Port 6 61 Railways 11 total 693 |
| 22 | Subject wise expertise | <ul style="list-style-type: none"> • Efficiency evaluation (by direct & indirect method) for furnaces, kilns, boilers and complete system analysis including its auxiliaries to identify energy conservation measures • Boilers : Conduct heat balance to identify various losses, steam distribution & end user study <p>Two stage blow down heat recovery system (flash recovery & sensible heat recovery) with respect to boiler water & blow down TDS.</p> <ul style="list-style-type: none"> • Thermal system solutions: Fuel substitution for thermic fluid heaters and package |

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| | | <p>boilers, replacement of electric water heaters with solar/F.O fired hot water generator, recirculation of hot condensate in package boilers, topping turbine in place of pressure reducing valve, relocation of temperature sensor in electric heat treatment furnace to reduce cycle time.</p> <ul style="list-style-type: none">• Waste Heat Recovery System: Propose measures to optimize fuel consumption from measurement and analysis of flow and temperature. HRSG from waste flue gas from process industries, WHR to preheat the feed water & combustion air to improve the boiler performance, heat of compression type driers in compressed air system based on dew point requirement.• Furnace & Kilns: Detail Performance evaluation of the fans, air & heat balance, and identification of energy conservation opportunities.• Pumping Systems: Detail performance evaluation of fluid pumping systems, benchmarking, identification of Energy Conservation opportunities, Tech economical evaluation of energy efficiency improvement projects in pumping: for commercial & industrial establishment• Technical & Financial feasibility reports preparation (bankable projects) to facilitate finance for the implementation of Energy Conservation Measures.• Cooling Tower: Evaluation of temperature profiles to optimize L/G Ratio and to recommend techno economic solutions to improve effectiveness• Air Compressors: Receiver pressure and discharge pressure reduction, VFD for compressor motor, replacement of existing compressor with new energy efficient compressor, pipe size modification, suction port size modification, leak test and pump up test to calculate compressor performance.• HVAC: Building heat load estimation, chiller specific energy consumption & operating |
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| | | <p>pattern of the chillers and identifying energy conservation measures to reduce the chilled water plant energy consumption.</p> <ul style="list-style-type: none"> • Fans and Blowers: Calculating efficiency by measuring flow and pressure, speed reduction, VFD Blade angle change to optimize flow, optimizing number of fans. • DG: Evaluate SEGR • Lighting System – Day level light control with photo sensor based PLC, Lighting circuit rearrangement for better system efficiency, voltage control for energy efficiency, LED light applications • Total No of Projects: Energy Audit: 65 |
| (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 | Nil |
| (b) | Energy audit thermal utility system (list sectors) | 1)Thermal Power Plant, 2) Co-gen Power Plant 3) Cement Plant, 6) Textile 9) Pharmaceuticals 10) FMCG & 11) Food Processing.10) Tyre |
| (c) | Energy audit electrical utility system (list sectors) | 1)Thermal Power Plant, 2) Co-gen Power Plant 3) Cement Plant, 4) Textile5) Pharmaceuticals 6) FMCG7) Food Processing 8) Buildings (IT, Retail, & Banks) 9)Tyre |
| 23 | Instruments available | |
| | (a) Electrical (list the name of the instruments) | 1 Krykard Power Load Manger, ALM -35 5 2 Hioki PW 3198 1 3 Cryonics EP – 1 Dranetz 1 4 Meco TRMS 3510PHW 4 5 Krykard Power Load Manger, ALM -32 1 6 Krykard Power Load Manger, ALM -10 6 |

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| | (b) Thermal (list the name of the instruments) | 1. Ultrasonic flow meter -4 2. Anemometer (Testo, Prova, Lutron) -14 3. Infrared Thermometer (Metravi, test, Extev, Raytek, Fluke) 8 4. Temperature data loggers(4 / 8 Channel) Testo, Centre, Madgetech 15 5. Psling Psychrometers 6 6. RH logger (Testo, Equinox) 5 7. Flue Gas Analyzer Testo, Kanemay -3 8. Pressure meter (Testo, Comark) 8 9. Pressure Gauges(analog/ digital) 4 10. Tachometer (Lutron, Testo) 4 11. Lux Meter (Metravi, TES, Lutron, Testo)) 15 12. Infrared Thermal Imaging Camera 3 13. PH & TDS CD, Hanna, TDS) 10 14. IAQ Logger 2 15. Multiple parameter loggers HOBO 6 | |
| 24 | Details of training programme/ seminars/ workshops conducted during the last 3 years in the field of energy efficiency / energy audit | NA | |
| (i) | | | |
| (ii) | | | |
| (iii) | | | |

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| D | Remarks(if any) |
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(Note: Responsibility of the authenticity of the above information rests with the concerned energy auditor/energy auditing agency.)