


## CURRICULUM VITAE (CV)

		
<b>Name of Expert:</b>	Sankaranarayanan Thirugnana Sambandan	
<b>Date of Birth:</b>	02/03/1958	
<b>Country of Citizenship/Residence</b>	India	

**Education:**{List college/university or other specialized education, giving names of educational institutions, dates attended, degree(s)/diploma(s) obtained}

University	Degree/ Discipline	Year of Passing
Ambedka Institute of Productivity (AIP) National Productivity Council's Training Institute Chennai	Post Graduate professional training in Energy Management	1987
University of Chennai	BE (Electrical & Electronics)	1984

### Other Trainings/License if Any

- BEE certified Energy Auditor - 689 - EA 1576
- BEE accredited Energy Auditor – AEA 0107
- 5 day course on ISO 50001 by SGS.
- Completed training programme on M & V protocol
- Completed Training programme on Food safety
- Four weeks special training on Power Plant Operation and Maintenance at Power Engineers Training Society (PETS), Neyveli, Chennai.
- Energy Management training course (with special reference to new and energy efficient technologies) at Tokyo, Japan organised by Asian Productivity Organisation (1995).
- Attended workshop on Productivity Improvement in Foundry at Tehran (2002).
- Implementing EC Act – SDA program – Yokahoma, Japan. 2010
- Study mission - Energy Efficiency in MSME sectors- Taiwan 2017

### Work Experience:

SINo	Name of the Organisation	Period
1.	Pankaja Mills Coimbatore	1977-79
2	Textool Ltd	1979-1985
3	National Productivity council -Chennai / Hyderabad	1985-1987 (PG Course in Energy Management)
4	National Productivity Council – Mumbai	1987-2018
5	Consultant-Energy management/ Audit/ Training	2018- On going

**Employment record relevant to the assignment:**

Period	Employing organization and your title/position. Contact information for references	Country	Summary of activities performed relevant to the Assignment
1987- 2018	National Productivity Council, New Delhi <b>Title:</b> Regional Director <b>References:</b> Dr. Arundathi Chattapodya, Regional Director, NPC Mumbai	India	<ul style="list-style-type: none"> <li>• Functioning as a Chief Consultant and Trainer in Productivity Improvement Areas. Preliminary survey, proposal preparation, Presentation, Negotiations with clients, directing and executing Industrial Engineering, Energy Management consultancy and training assignments. Overall office administration of RD Mumbai.</li> <li>• Resource person for National Assignments/International Assignments taken up by NPC Head Office New Delhi.</li> <li>• Monitoring Implementation of Lean Manufacturing activities</li> <li>• Technical audit of Repair &amp; Maintenance of MSEB Thermal Power Station and Transmission &amp; Distribution Circles</li> </ul>
1979-85	Text Tool Co.Ltd., Coimbatore Title: Technical assistant, Electrical Projects & Maintenance Department  <b>References:</b> Mr. D. Chandra Mohan Design Consultant 9994417610	India	<ul style="list-style-type: none"> <li>• Preparation of estimation</li> <li>• Project Execution, Testing and commissioning</li> <li>• Erection and Commissioning of Induction Melting furnace and DG set</li> <li>• Completion of electrical inspection as per Indian Electricity Act</li> <li>• Planning and execution of preventive maintenance</li> <li>• Execution of break down maintenance</li> <li>• Operation &amp; maintenance of electrical systems and DG sets</li> <li>• Organising and executing mandatory electrical inspection</li> </ul>

1977-79	Pankaja Mills Title: Electrical Supervisor <b>References:</b> General Manager UNIT of NTC Pankaja Mills Coimbatore	<ul style="list-style-type: none"> <li>• Execution of break down maintenance</li> <li>• Operation &amp; maintenance of electrical systems and DG sets</li> <li>• Co coordinating in mandatory electrical inspection.</li> </ul>
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### Activities from 2018- 2022

#### 1. BEE Refresher Course:

Faculty for 15 Programs- Organised by Green Tree

#### 2.Preparatory Training Programme for Energy Managers and Auditors:

- PTC Programme: Reliance Industries- Jamnagar- 2 programmes
- PTC Programme : Bhart Oman Refineries Satna
- Faculty for On Line PTC Program – 6 Batches - Conducted ByEnsave Academy
- Guest Faculty for NPC PTC Programmes -2
- Guest Faculty for IRREN Nashik Programme for Railway Engineers. - For NPC Mumbai

#### 3.On Line Training Programme on Energy efficiency and Energy Audit

- On Line Programmes on Energy Management, Energy Audit, Electrical/ Thermal system - 10 Programme
- Guest Lecture for AICTE Program- 2 Nos- Electrical Energy Savings in Utilities.
- ON Line Programme – IIT Kharagpur- Conducting Energy Audit

#### 4.SDA Energy Activities and Training Programmes:

- MEDA Energy Audit/ Municipal DSM- On Line Programmes- 7
- MEDA State EC Award Activities
- EMC – Kerala: 2 On Line Programmes - Limits of Electricity Savings
- EMC- Kerala : Review of Energy Audit Reports 15 Numbers

#### 5.Capacity Building Programmes / International Assignments:

## **Bangladesh:**

- TOT Programme for Bangladesh Engineers- AIP Chennai
- Energy Audit Manual Review – Prepared for TOT programmes for Bangladesh. - For AIP Chennai
- Indian Technical & Economic Cooperation Programme (ITEC) of Ministry of External affairs, Govt. of India titled "Energy Efficiency Practitioners Course in Industrial Utilities" -**Guest Faculty**

## **Bhutan:**

- Preparation Energy Efficiency Code of Practice for Industrial Equipment's For Department of Renewable Energy  
Ministry of Economic Affairs, Thimphu, Bhutan- In association with WISE Pune
- Review of 39 Energy Audit report of Bhutan Industries.
- 6- On Line Training Programmes on Code of Practice and Energy Conservation in Plant utilities- For Bhutan Plant Engineers Institute of Sustainable Communities- Training Programme- 7 Numbers

## **6. Institute of Sustainable Communities:**

- Guiding ISC Team for Energy Audit of MSME sectors-
- Field Guidance, Capacity Building of EA and EM
- Report review and Management discussion -45 MSME Industries covered.
- Preparation of Training Modules- Electrical/ Thermal Systems
- On Line training Programme for textile Sector – 5 Programmes

## **7.PAT Activities:**

- Tata Power – Chembur M&V Audit
- Surya Lakshmi Cotton – Check verification Audit
- Mahendra Sanyo: Khopoli Steel Plant Energy Audit
- San Vijay Steel : , Nagpur – Energy Audit

## **8. Water Audit :**

- Review of Water Audit reports of NPC Mumbai- 25 Numbers

## **9. Net Water Positive Audit:**

- Vedanta Cairn Group On Shore Oil and Gas Fields- Mangla Processing Terminal -Merva

## **10. Review of Energy Audit Reports of Energy Management Centre - Kerala**

- Reviewed 35 Energy Audit reports covering Buildings/ Engineering and Process Industries

**Work Experience/ Energy Audits related to Automobile Industries and Heavy Engineering Industries:**

- Energy Audit at Maruthi Udyog Ltd Gurgaon Plant
- Energy Audit Mahendra & Mahendra Ltd, Kandivili, Nashik and Igatpuri Plants
- VIP Industries Ltd – Nashik – Injection Moulding and assembly Unit
- Gaberial Industries Ltd.- Shock Absorber Manufacturer
- Perfect Circle Victor Ltd, Nashik- Piston rings Manufacturer
- Lean manufacturing Implantation Audit- 44 Clusters in Maharashtra
- Lean manufacturing Implantation Audit 8 Clusters of Mahendra and Mahendra Suppliers
- Mahendra CIE Forging Plant- Crank shaft Manufacturer
- Energy efficient motors implementation – Pre and Post Savings assessment in Mahendra and Mahendra Multi Drilling Machines.
  
- SKF Bearing Ltd, Pune
- Railway POH Shops- Lower Parel, Bhusawal, Nashik
- Jindal Steel works Vasind
- Steel and cast-iron Foundries
- Ordnance Factory Ambernath
- ISMT Baramati- Steel tube Manufacturer's

1	<b>Name of assignment or project</b>	Development of Code of Practice for Energy Efficiency for Industrial Equipment's – For Bhutan
	<b>Main project features:</b>	Preparing COP for Industrial equipment's with design and operating efficiencies and also Energy saving Potential Development of Information Dissemination material Review of 39 BhutanIndustrial Audit reports
	<b>Date &amp; Duration(months)</b>	March 2020- June 21. (Duration extended Due to COVID 19 Issues)
	<b>Location</b>	India/ Bhutan
	<b>Client</b>	WISE – Pune and Department of Renewable Energy – DRE , Bhutan
	<b>Position held:</b>	Chief Advisor
	<b>Activities Carried Out</b>	COP and Dissemination material developed for Industrial Equipment's such as Motors, Fans, Compressors, Pumps, HVAC, Boilers, Furnaces and Industrial Lighting Guiding the team of Engineers of WISE for the content of Each COP, Review and correction of COP WEBINOR DISCUSSION of all COP with

		Engineers of Bhutan and DRE officials.
2	Name of assignment or project	Preparatory Training Course – ONLINE WEBINAR Programme for Energy Manager and Auditors Appearing for BEE Examination
	Main project features:	Instructional Programme for BEE - Four Books
	Date & Duration(months)	<b>3 Months- 3 Batches. Webinar Programme ( 85 Participants covered) July 2020-September 2020</b>
	Location	Dombivii
	Client	Ensava Consultancy and Training Pvt Ltd CHENNAI
	Position held:	Principal Trainer
	Activities Carried Out	<ul style="list-style-type: none"> <li>Conducting Training Programme for Industry participants and Consultants</li> </ul> Covered all the 4 BEE Books with necessary cases in each chapter and created a highly interactive Training Programme
3	Name of assignment or project	WEBINAR TRAINING PROGRAMMES
	Main project features:	Instructional training Programmes with case Studies on Energy Audit and Efficiency Improvements
	Date & Duration(months)	June 2020- On Going
	Location	Dombivili
	Client	NPC – Mumbai, Chennai, Kanpur, Gandhinagar, Bhubaneswar  Energy Efficiency Training for textile Sector- 4 Programmes for Institute of Sustainable Communities  Training of Trainers Programme for textile sector- ISC/NPC HQ  Conducting Successful Energy Audit- IIT Roorkee  Understating Limitation of Electrical Energy Audit- EMC Kerala  Energy manager/ Auditor Meet DC Programme – Iron and Steel Sector - Bhubaneswar
	Position held:	Chief Trainer
	Activities Carried Out	Instructional training Programmes with case Studies on Energy Audit and Efficiency Improvements

4	Name of assignment or project	Judging Committee Member for 14 <sup>th</sup> and 15 <sup>th</sup> State EC Award –Maharashtra - ON Going Judging Committee Member for earlier 6 State Awards
	Main project features:	Review and assessment of Energy activities in Participating Industries
	Date & Duration(months)	3 Months
	Location	Pune/ Dombivili
	Client	Maharashtra Energy Development Agency, PUNE
	Position held:	Judging Committee Member
	Activities Carried Out	Presentation discussion review of ENCON schemes and assessment of Participating units
5	Name of assignment or project	Energy efficiency Project Identification and Implementation Follow-up for MSME ..
	Main project features:	Energy Audit, Identification of ENCON Projects, Discussion and Implementation Follow-up.
	Date & Duration(months)	June 2018 –Dec 2021
	Location	Maharashtra, India
	Client	Organisation of Sustainable Communities
	Position held:	Chief Consultant
	Activities Carried Out	<ul style="list-style-type: none"> <li>• Opening meeting With Client and Energy Auditor</li> <li>• Plant visit, Identification of ENCON Projects</li> <li>• Review of Audit Reports</li> <li>• Final Appraisal to Management</li> <li>• Implementation follow up meeting and Guiding management for implementation of identified Projects.</li> <li>• Till Date 43 MSME Units- (Machine Shop , Foundry, Rubber, Supply Chain Partners of Mahindra &amp; Mahindra Ltd.) were covered..</li> </ul>
6	Name of assignment or project	Lean manufacturing Implementation In MSME sectors- Cluster Approach- Overall Project Monitoring in Maharashtra.
	Date & Duration(months)	June 2014 to March 2018
	Location	Maharashtra
	Client	MSME, Government of India, New Delhi
	Position held:	Project Head

	<b>Activities Carried Out</b>	<ul style="list-style-type: none"> <li>• Review of LEAN Projects selected for Individual MSME</li> <li>• Conducting Stage wise Audits- 5 Audits for Each cluster.</li> <li>• Review of Implementation progress</li> <li>• Over all Monitoring of 52 Clusters –Covering 400 MSME Units</li> </ul>
7	<b>Name of assignment or project</b>	ADB –Energy efficiency Project in Bangladesh
	<b>Date &amp; Duration(months)</b>	60 Days 2012-2013
	<b>Location</b>	Bangladesh
	<b>Client</b>	Tetra Tech
	<b>Main project features:</b>	Energy Audit and identification of Energy Efficiency projects in Textile and leather Sectors
	<b>Position held:</b>	International Technical expert – Textile sector
	<b>Activities Carried Out:</b>	<ul style="list-style-type: none"> <li>• Appraising Local Experts (Bangladesh Energy Consultants)</li> <li>• Visiting Selected Industries in Textile and leather sectors</li> <li>• Guiding Local consultants to conduct Energy Audits</li> <li>• Review of Energy Audit Reports</li> </ul>
8	<b>Name of assignment or project</b>	Energy Efficiency Training Programme for Industry sectors in SriLanka
	<b>Date &amp; Duration(months)</b>	2006 – 10 days
	<b>Location</b>	SriLanka
	<b>Client</b>	UNEP- ROAP Project, Bangkok
	<b>Position held:</b>	Principal Trainer
	<b>Activities Carried Out</b>	<ul style="list-style-type: none"> <li>• Conducting Training Programme for Industry participants</li> <li>• Training programme on Electrical Energy savings In Plant utilities with case studies</li> </ul>
	<b>Name of assignment or project</b>	Energy Efficiency Training Programme for Industry sectors in Tehran
	<b>Date &amp; Duration(months)</b>	2006 – 5 Days
	<b>Location</b>	Tehran, Iran



9	Client	IPHRD- Tehran
	Position held:	Principal Trainer
	Activities Carried Out	<ul style="list-style-type: none"> <li>• Conducting Training Programme for Industry participants</li> <li>• Training programme on Electrical Energy savings In Plant utilities with case studies</li> </ul>
10	Name of assignment or project	Energy Efficiency Training Programme for Industry sectors in Tehran
	Date & Duration(months)	2005 – 5 Days
	Location	Tehran, Iran
	Client	IPHRD- Tehran
	Position held:	Principal Trainer
	Activities Carried Out	<ul style="list-style-type: none"> <li>• Conducting Training Programme for Industry participants</li> <li>• Training programme on Electrical Energy savings In Plant utilities with case studies</li> </ul>
11	Name of assignment or project	Cleaner Production and Energy efficiency
	Date & Duration(months)	15 days 2003
	Location	Mongolia
	Client	UNEP
	Position held:	CPEE Expert
	Activities Carried Out	<ul style="list-style-type: none"> <li>• Guiding Local Energy Expert and Industry team on Cleaner Production and Energy Efficiency</li> <li>• Identification of ENCON Projects</li> <li>• Report preparation and follow up</li> </ul>
12	Name of assignment or project	Cleaner Production and Energy efficiency
	Date & Duration(months)	10 days 2003
	Location	Mongolia
	Client	UNEP
	Position held:	CPEE Expert
	Activities Carried Out	<ul style="list-style-type: none"> <li>• Guiding Local Energy Expert and Industry team on Cleaner Production and Energy Efficiency</li> <li>• Identification of ENCON Projects</li> <li>• Report preparation and follow up</li> </ul>
	Name of assignment or project	Cleaner Production and Energy efficiency

13	Date & Duration(months)	10 days 2004
	Location	Srilanka
	Client	UNIDO
	Position held:	CPEE Expert
	Activities Carried Out	<ul style="list-style-type: none"> <li>Guiding Local Energy Expert and Industry team on Cleaner Production and Energy Efficiency</li> <li>Visitto Brass melting Units andRice Mills</li> <li>Identification of ENCON Projects</li> <li>Report preparation and follow up</li> </ul>
	Name of assignment or project	Energy Audit assignments in Metal Industries
14	Date & Duration(months)	1987- 2014
	Location	Maharashtra & All India
	Client	<p>Ordnance factory Ambernath- Brass melting and Metal Forming</p> <p>Indian Smelting and Meltingpvt Ltd- Bhandup</p> <p>Sudarshan Aluminium - Nashik</p> <p>Indian Aluminium - Kalwa, Taloja</p> <p>JSW – vasind</p> <p>Kirloskar Brothers – Foundry Units – 3 nos</p> <p>Steel melting and casting : 12 Nos</p> <p>Sponge lorn Units- 2 nos</p>
	Position held:	Senior and Chief Consultant
	Activities Carried Out	<ul style="list-style-type: none"> <li>Opening Meeting With Clients</li> <li>Data collection</li> <li>Field measurements, and trials</li> <li>Preparation of Energy audit reports</li> <li>Techno economic Analysis</li> <li>Perot presentation and Discussion with management</li> </ul>
	Activities Carried Out	<ul style="list-style-type: none"> <li>Review of Cogeneration Project Report</li> <li>Inspection of all Major power Plant equipment's</li> <li>Performance Monitoring for 72 Hours</li> <li>Consolidated Report preparation on plant equipment's , Performance and Power Export.</li> </ul>
15	Name of assignment or project	<p>Performance assessment of Bio mass Power Plants- Technical Appraisal</p> <p>Energy Audit of Gas Turbine Power Plants t</p>
	Date & Duration(months)	<p>2008-2014—More than 60 Bio mass Power Plants performance assessment Completed</p> <p>GSEG CPP 156 MW</p> <p>Cairn Energy On Shore Plat From</p> <p>Deepak Nitrate Ltd CPP</p>

		<b>Samtel Ltd – Captive Gas turbine Plant</b>
	<b>Location</b>	<b>Maharashtra and All India</b>
	<b>Client</b>	<b>MNRE</b>
	<b>Position held:</b>	Consultant
	<b>Activities Carried Out</b>	<ul style="list-style-type: none"> <li>• Review of Bio Mass power Project Report</li> <li>• Inspection of all Major power Plant equipment's</li> <li>• Performance Monitoring for 72 Hours</li> <li>• Consolidated Report preparation on plant equipment's , Performance and Power Export.</li> </ul>
16	<b>Name of assignment or project</b>	Technical Audit of Power Transmission and Distribution Circles
	<b>Date &amp; Duration(months)</b>	6 Months- 2000
	<b>Location</b>	Maharashtra
	<b>Client</b>	Maharashtra State Electricity Board/ MERC
	<b>Position held:</b>	Chief consultant
	<b>Activities Carried Out</b>	<ul style="list-style-type: none"> <li>• Review of existing Maintenance Practices and Expenditure</li> <li>• Performance comparators of Different Circles</li> <li>• Identification of Areas for improvement and Cost reduction</li> </ul>
17	<b>Name of assignment or project</b>	Technical Audit of Thermal Power Stations
	<b>Date &amp; Duration(months)</b>	6 Months- 2000
	<b>Location</b>	Maharashtra
	<b>Client</b>	Maharashtra State Electricity Board/MERC
	<b>Position held:</b>	Chief consultant
	<b>Activities Carried Out</b>	<ul style="list-style-type: none"> <li>• Review of existing Maintenance Practices and Expenditure</li> <li>• Performance comparators of Different Circles</li> <li>• Identification of Areas for improvement and Cost reduction</li> </ul>
	<b>Name of assignment or project</b>	Accelerated Power Development and reforms Programme
	<b>Date &amp; Duration(months)</b>	2 years 2000-2002
	<b>Location</b>	Kolkatta, Assam
	<b>Client</b>	Power finance corporation/Department of power,

18		Government of India
	Position held:	Advisor Cum consultant
	Activities Carried Out	<ul style="list-style-type: none"> <li>• Review of present T &amp;D Loss</li> <li>• Identification of Projects for Improving Distribution system and to reduce loss</li> <li>• Preparation of DPR</li> <li>• Participation in tender Discussions</li> <li>• Implementation follow up</li> </ul>
19	Name of assignment or project	Strategic plan for Implementing Energy Conservation Act in Maharashtra including DSM Potential
	Date & Duration(months)	3 months -2004
	Location	Maharashtra
	Client	Maharashtra Energy development Agency
	Position held:	Senior Consultant
	Activities Carried Out	<ul style="list-style-type: none"> <li>• Preparation of EC act implementation Plan Document</li> <li>• Role of MEDA and Various programmes to be addressed for EC act Implementation including MEDA structure.</li> <li>• Estimation of DSM Potential for 1000 MW</li> <li>• Identification of DSM Projects, estimated investment and No of beneficiaries to be covered for various DSM Options</li> </ul>
20	Name of assignment or project	Strategic plan for Implementing Energy Conservation Act in Kerala including DSM Potential
	Year	3 months -2006
	Location	Maharashtra/ Kerala
	Client	Energy management Centre - Kerala
	Position held:	Senior Consultant
	Activities Carried Out	<ul style="list-style-type: none"> <li>• Preparation of EC act implementation Plan Document</li> <li>• Role of EMC and Various programmes to be addressed for EC act Implementation including MEDA structure.</li> <li>• Estimation of DSM Potential</li> <li>• Identification of DSM Projects, estimated investment and No of beneficiaries to be covered for various DSM Options</li> </ul>
	Name of assignment or project	Energy conservation Policy Document

21	Date & Duration(months)	3 Months
	Location	Mumbai/ Kerala
	Client	Energy Management centre – Trivandrum - Kerala
	Position held:	Senior consultant
	Activities Carried Out	Preparation Of EC Policy document Identification of roles for EMC/ Government Support / EC fund
22	Name of assignment or project	Energy Audit assignments in various sectors – More than 150 Audits
	Date & Duration(months)	1987- 2014
	Location	Maharashtra & All India
	Client	Various Corporate and Government organisation Thermal Power Plants, Ports, Railways, Mines, Cement. Tectile, Pulp & Paper, ChloroAlkali, Iorn and Steel , Foundry Automobile, Havy Engineering , Construction , Edible Oil Industries, Water Works , Petroleum product Pipe line , light Engineering, galvanising Plants, Sponge iorn Plants , LPG Bottling Plants , Oil Terminals , 5 Star Hotels, Malls etc.
	Position held:	Senior and Chief Consultant
Activities Carried Out	<ul style="list-style-type: none"> <li>• Opening Meeting With Clients</li> <li>• Data collection</li> <li>• Field measurements, and trials</li> <li>• Preparation of Energy audit reports</li> <li>• Techno economic Analysis</li> <li>• Perot presentation and Discussion with management</li> </ul>	
23	Name of assignment or project	Energy Conservation Training programme in Plant utilities. In house Programmes- More than 50 Programmes
	Date & Duration(months)	1987-2014
	Location	Maharashtra and All India
	Client	<i>Indian Railways, Indian Oil Coporation, Ordnance factory, Security printing &amp;Minting, HPCL, RCF</i>
	Position held:	Principal faculty
Activities Carried Out	Conducted Training Programme on electrical Energy savings and Energy efficiency in Plant utilities	
	Name of assignment or project	Preparatory Training Programme for Energy mangers and Auditors
	Date & Duration(months)	5 Days Each programme

24	Location	All India
	Client	Indian Railways, Ordnance factory, NPC Self run Programmes
	Position held:	Chief Trainer
	Activities Carried Out	<ul style="list-style-type: none"> <li>• Power point presentation of Different modules</li> <li>• Case Study Discussion</li> </ul>

25	Name of assignment or project	Refresher training Programme for certified Energy mangers and Auitors
	Year	2018-19
	Location	Mumbai
	Client	Green tree
	Main project features:	Conducted refresher Coursetraining 5 modules Covered
	Position held:	Principal faculty
	Activities Carried Out	Training session with Industry Experience and with case studies and participant involvement

26	Name of assignment or project	Verified Energy savings report For various Energy programmes of BEE
	Main project features:	Review of all Estimated savings projected for Different BEE Programmes
	Date & Duration(months)	2 months 2008-2009-2010 3 years
	Location	Mumbai/ Delhi
	Client	Bureau of Energy Efficency
	Position held:	Senior Consultant
	Activities Carried Out	<ul style="list-style-type: none"> <li>• Review of all savings Estimation for various BEE programmes</li> <li>• Preparation of consolidated report with MW savings and MU savings</li> </ul>

27	Name of assignment or project	Kirloskar Brothers Ltd group of industries EC Award evaluation
	Main project features:	Review of EC activities implemented by all 5 Kirloskar Brothers ltd
	Date & Duration(months)	7 days - 1997- 1998 – 2 years
	Location	Kirloskar wadi,Dewas, Shirol
	Client	Kirloskor Brothers Ltd
	Position held:	Chief consultant
	Activities Carried Out	<ul style="list-style-type: none"> <li>• Visit to all plants</li> <li>• Discussion with plant technical team on Energy</li> </ul>

		savings Projects Implemented <ul style="list-style-type: none"> <li>• Review of Energy savings calculations</li> <li>• Ranking of all participating Units</li> <li>• Preparation of report and presentation to TOP management</li> </ul>
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28	<b>Name of assignment or project</b>	Petroleum Pipe Line Product Energy Audit
	<b>Main project features:</b>	Identification of energy savings Opportunities in Petroleum Product Pipe line Transfer
	<b>Date &amp; Duration(months)</b>	2 months 1998
	<b>Location</b>	Mumbai- Pune Pipe line Products Koyali – Ahmadabad Pipe Line Products
	<b>Client</b>	HPCL and IOC
	<b>Position held:</b>	Senior Consultant
	<b>Activities Carried Out</b>	<ul style="list-style-type: none"> <li>• Data Collection</li> <li>• Field Measurements</li> <li>• Encon Project identification , Techno Economic Analysis</li> <li>• Report preparation and Presentation</li> </ul>

29	<b>Name of assignment or project</b>	State level Energy conservation Plan – for 5 years
	<b>Main project features:</b>	Identification of Energy Conservation Programmes and budget estimate and Energy savings Potential for the State
	<b>Date &amp; Duration(months)</b>	2 months - 2007 , 2009
	<b>Location</b>	Maharashtra / Goa
	<b>Client</b>	BEE
	<b>Position held:</b>	Senior Consultant
	<b>Activities Carried Out</b>	<ul style="list-style-type: none"> <li>• Energy usage Analysis of various Public utilities</li> <li>• Identification of Energy savings Schemes for End users</li> <li>• Budget estimates or various activities</li> <li>• Estimation o Energy savings Potential for the State</li> </ul>

	<b>Name of assignment or project</b>	Energy Audit
	<b>Main project features:</b>	Energy Audit and Identification of Energy SAVINGS Projects
	<b>Date &amp; Duration(months)</b>	3 Months- 2001 3 Months - 2005
	<b>Location</b>	VAIZAG, MUMBAI

30	<b>Client</b>	VIZAG PORT TRUST MUMBAI PORT TURST
	<b>Position held:</b>	Senior Consultant
	<b>Activities Carried Out</b>	<ul style="list-style-type: none"> <li>• Data Collection</li> <li>• Field Measurements</li> <li>• Encon Project identification, Techno Economic Analysis</li> <li>• Report preparation and Presentation</li> </ul>

31	<b>Name of assignment or project</b>	Energy Audit
	<b>Main project features:</b>	Energy Audit and Identification of Energy SAVINGS Projects
	<b>Date &amp; Duration(months)</b>	3 Months- 2007
	<b>Location</b>	Hazira, Surat
	<b>Client</b>	Cairn Energy Off Shore Project
	<b>Position held:</b>	Senior Consultant
	<b>Activities Carried Out</b>	<ul style="list-style-type: none"> <li>• Data Collection</li> <li>• Field Measurements</li> <li>• Encon Project identification, Techno Economic Analysis</li> <li>• Report preparation and Presentation</li> </ul>

32	<b>Name of assignment or project</b>	Energy Audit
	<b>Main project features:</b>	Energy Audit and Identification of Energy SAVINGS Projects
	<b>Date &amp; Duration(months)</b>	3 Months- 2007
	<b>Location</b>	Hazira, Manuguru
	<b>Client</b>	Heavy Water Plants
	<b>Position held:</b>	Senior Consultant
	<b>Activities Carried Out</b>	<ul style="list-style-type: none"> <li>• Data Collection</li> <li>• Field Measurements</li> <li>• Encon Project identification, Techno Economic Analysis</li> <li>• Report preparation and Presentation</li> </ul>

	<b>Name of assignment or project</b>	Preparation and Review of Energy Audit manuals and BEE Guide Books
		BEE Guide Books Preparation for Energy mangers & Auditors 2010, 2015 4th Edition

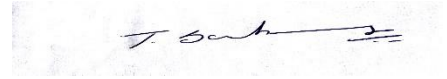


33		BEE Refresher Course Material Review 2017
		Energy Audit Manual Review prepared for MEDA 1995-96
		Curriculum Book 3 Preparation and Review - Energy Efficiency in Electrical Technical Equipment's in for Bangladesh - CTCN UNEP Project by NPC AIP Chennai. 2018
		Energy Audit manual A Practitioner Guide Book Review prepared for EMC 2016-17
	<b>Client</b>	BEE/ MEDA/EMC/AIP
	<b>Position held:</b>	Chief Consultant
	<b>Activities Carried Out</b>	<ul style="list-style-type: none"> <li>• Course content material collection</li> <li>• Highlighting field activities for energy audit</li> <li>• Critical Review and final Documentation</li> </ul>

**Language Skills (indicate only languages in which you can work):** English, Hindi, Marathi, Tamil, and Malayalam

**Expert's contact information:** (e-mail: kongusankar@rediffmail.com, Phone: 9423984975)

Name of Expert: T. Sankaranarayanan



Date: 29/03/2023

Signature