

Energy Management Centre - Kerala (Department of Power, Govt of Kerala)

CERTIFICATE OF EMPANELMENT

This is to certify that **M/s.** Athul Energy Consultants Pvt Ltd (4/2, Capital Legend Building, Korapath Lane, Round North, Thrissur - 680020) is empanelled as Energy Audit firm in Energy Management Centre Kerala to conduct mandatory energy audit as per Government of Kerala G.O (Rt) No.2/2011/PD dated 01.01.2011.

Empanelment No: EMCEEA-0811F- 4

Soons/Area	Building	Industry -Electrical	Industry Thermal
Scope/Area	Yes	Yes	Yes

This empanelment is valid up to 31/01/2027

Issuing Date: 06/04/2024

Place: Thiruvananthapuram

Director,

Energy Management Centre - Kerala

	Info	rmation of firm			
1.	Name & address of the firm	ATHUL ENERGY CONSULTANTS PRIVATE LIMITED 4/2, Capital Legend Building, Korappath Lane, Round North Thrissur, Kerala - 680020			
	Office(with STD)				
	Mobile	+91 735611199/0-6			
	Fax number				
2.	Website (if any)	www.athulenergy.com			
3.	Email address i n f o @ a	t h u l e n e r g y . c o m			
4.	Name ,Designation and address of Contact person	SANTHOSH. A Managing Director			
		Athul Energy Consultants Pvt. Ltd. 4/2, Capital Legend Building, Korappath Lane, Round North Thrissur, Kerala- 680020			
5.	Office(with STD)				
	Residence(with STD)	9746194984			
	Mobile	+91 7356111990			
6.	Email s a n t h o s h a a a	t h u l e n e r g y . c o m			
7.	Year of establishment	2011			
8.	Year of commencement of energy audit by the firm.	2011			
9.	No. of branch offices (List of complete addresses including heads of all branch offices with telephone, fax and email addresses)	NIL			

	Details of Associated Energy Expe	rts and Audits Conducted by <u>firm</u>		
1.	Number of resource persons available	07		
2.	Number of full-time energy auditors in position, with work experience of all energy auditors associated with the firm	03		
3.	No. of part-time energy auditors in position during the current year / previous year associated with the firm.	02		
4.	Sectors in which the energy audit firm has conducted energy audits since inception and number of audits in each sector	 Buildings – 45 Tea – 7 Rubber – 5 Food Processing – 4 Dairy – 14 Textile – 5 Iron steel & Aluminum – 22 Chemical – 08 Engineering – 42 Tyre & tyre Related company – 3 Printing – 15 Hospitals – 12 Mines – 22 Ayurveda – 4 Power Quality Study-5 Hotels – 4 Electrical Safety Audit – 241 LT Audits – 40 		
5.	Energy audit process system (list sectors) - If no energy audit has been carried out of the process system and parameters, please list nil.			
6.	Energy audit of thermal utility system (list sectors)	Coir and Jute. Bread, Rubber Retreading. Tea, Chemical, Hot printing, Ayurveda medicines. Diary etc		
7.	Energy audit of electrical utility system (list sectors)	Coir and Jute, Bread, Rubber Retreading, Spice, Corporate Offices, Hotels, Hospitals, Data centres, Banks, Mattresses, Flour mill., Printing, Electronic components, Crushers, Steel, Asbestoses, , Etc.		

8.	Instruments available	(a) Electrical (list the name of the instruments)	3
		(b) Thermal (list the name of the instruments)	10.Fluke, mini 62 Infra-red thermometer 11.Flue gas analyzer Testo 330L 12.Vane flow meter, Metravi 13.Thermal Imager FlirE50

		*Bio data of Ce	rtified Energy Auditor	
1	Name of e	nergy auditor	Santhosh. A	
2.	Qualifications.		B. Tech (Mechanical)	
3.	Experience. (use additional sheet if required)		25 Years in industry and conducted more than 70 energy audits	
4.	Residence(with STD)	+91 9746194984	mil Com As I was
5.	Mobile		+91 7356111990	7.
6	Email address	santhosh@athulenergy.c	om	
7	Manager o specify) by	tification as Energy r Energy Auditor (pl Bureau of Energy BEE) (if not appeared	4 th September 2008	
8	8 Date of passing the examination in "Energy Performance Assessment for Equipment and Utility Systems"		11 th February 2010	
9	of (i) Energy N (ii) "Energy Assessmen Utility Syste (In case of	Performance It for Equipment and It sems" Certified Energy It asse write CEA	EA-7597	
10	of (i) Energy N (ii) "Energy	Performance It for Equipment and	For Energy Manager 3105 For Energy Performance 5098	
11	auditor. If so:		Yes AEA 0275 02/11/2017	
	Remarks(if any) Additional Qualifications after B. Tech PG Diploma in Energy Management (Hyderabad Central University) Diploma in Energy Engineering MBA (Energy Management) External Faculty (PCRA)			

Biodata of Accredited Energy Auditor:

SANTHOSH A

(Accredited Energy Auditor)

Qualification : B. Tech (Mechanical)

Experience : 20 years

Date of Certification

11/02/2010

as Energy Auditor/AEA

Registration Number of AEA-0275

Accredited Energy Auditor/AEA EA - 7597

Mobile : +91 7356111990

E-Mail : santhosh@athulenergy.com

PROFESSIONAL EXPERIENCE

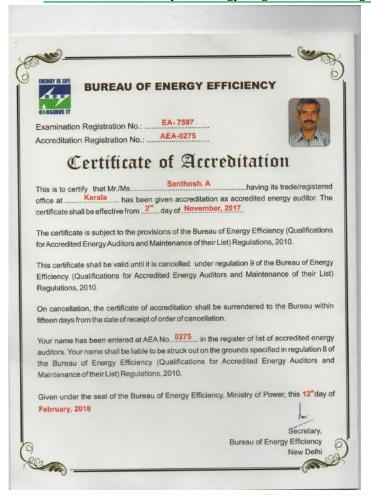
➤ 20 years' Transnational experience in hard core chemical & Process industries at core executive level as a mechanical engineer.

- Executed & managed critically important industrial operations in high risk environments.
- Possess a solid Engineering instinct with a perfect amalgamation of mass management in multiple area interlinked operations.
- ➤ Well exposed to the realities and vivid engineering problems barring the barrier of individual states.
- Associated with the industrial corporate of India viz. Hindustan lever, Tata, Birla, Jyothi laboratories etc.
- ► Have vivid exposure and seasoned training in the following areas.
 - Soap and Detergent Industry.
 - Petrochemicals.
 - Pharma Ingredients.
 - Agro Chemicals.
 - Spice extracts and food packaging.
 - Toxic and Hazardous chemical products.
 - Dye Intermediates
 - Drug & pharmaceutical industry
 - Solvent Extractions.

PREVIOUS EMPLOYERS & ASSOCIATES

- ❖ Tata vasishti Detergents Ltd, Chiplune, Maharashtra, India.
- Hindustan Lever Ltd, Chiplune, Maharashtra, India.
- * Kesar Petrochemicals Ltd, Chiplune, Maharashtra, India.
- Sriman Organic Chemical Industries Ltd, Tharapur, Maharashtra, India.
- ❖ Zenith Chemicals Ltd (A Unit of Yash Birla Group), Tharapur, Maharashtra, India.
- ❖ Jyothi Laboratories Ltd, Indore, Madhya Pradesh.

- Gujarat Agro Chemicals Ltd, Ankaleshwar, Gujarat, India.
- ❖ Aarathi Drugs Ltd, Ankaleshwar, Gujarat, India.
- ❖ Kancor Ingredients Ltd, Angamaly, Kerala, India.
- ❖ Energy Conservation Society, (An NGO working in the Energy –Environmental sector).
- Treasurer of Society of Energy Engineers & Managers.





*Bio data of Certified Energy Auditor					
1	Name of er	nergy auditor	K. K. Babu		
2.	Qualifications.		B. sc. Engineering (Electrical)		
3.	Experience if required)	. (use additional sheet	34 Years		
4.	Residence(with STD)	0485-2207204		
5.	Mobile		+91 9447987935		
6	Email address	babukilinal@gmail.com			
7	Manager of specify) by	ification as Energy r Energy Auditor (pl Bureau of Energy BEE) (if not appeared	18 th November 2005		
8	in "Energy F	sing the examination Performance t for Equipment and ems"			
9	of		EA-2422		
	Assessmen Utility Syste (In case of	Performance t for Equipment and ms" Certified Energy ase write CEA			
10	(i) Energy M (ii) "Energy	Performance t for Equipment and	f For Energy Manager - 0657 For Energy Performance -2231		
11	auditor. If so: Date	EEE accredited Energy of accreditation editation No.	No		
	Additional	F Qualifications after B. Tec	Remarks(if any)		
	Having Advanced Diploma in Management from IGNOU				

K. K. BABU

(Certified Energy Auditor)

Qualification : B.Sc. Engineering (Electrical)

Experience : 34 years

Date of Certification

as Energy Auditor : 30/04/2006

Registration Number of Energy Auditor : EA-2422

Mobile : +91 9447987935 Residence : 0485-2207204

E-Mail : bmassociates1949@gmail.com

babukilinal@gmail.com

PROFESSIONAL EXPERIENCE

Retired as Dy. Chief Engineer from Kerala State Electricity Board(KSEB) in 2004. Entered in service as Asst. Engineer and completed 30 years of Service (1974 – 2004).

Responsibilities held:

- 1. Electrical Design, Planning and Estimation:
 - > Design, Planning and Estimation of various Electrical Installations (LT & HT)
 - Design, Construction, Operation and Maintenance
 - ➤ Undertaken Design, Construction, Operation and Maintenance of various Distribution Systems (LT & HT), Transmission Lines and Substations (EHT), and Generating Stations.
- 2. System Operation and Load Despatching:
 - ➤ Involved in functions like Grid Management, Load Generation Balance and Water Management which were highly challenging under ABT regime.
- 3. Human resource management:
 - Always tried to motivate the supporting Engineers & Technicians and enhanced their service skills and competencies.
- 4. Major Achievements:
 - ➤ Directly involved in the construction and commissioning of 3 Nos. EHT Substations and 2 Nos. EHT Transmission Lines.
 - As Dy. Chief Engineer in charge of Grid Management, led a team of dedicated Engineers and Technicians to successfully implement Availability Based Tariff (ABT) in KSEB.

AS AN ENERGY CONSULTANT

- Bcubenergy Systems, Cochin. (Energy Management Consultants)
 Senior Consultant, Jan 2007 Oct 2009
- Connect It, Palarivattom, Kochi. (Electrical Consultants)
 Chief Consultant, Feb 2007 Oct 2009
- ❖ BM Associates, Kochi, Kerala. (Electrical & Energy Management Consultants) Chief Consultant, 2009-11.

Regn. No. EA-2422



No. 2231

National Productivity Council

(National Certifying Agency)

PROVISIONAL CERTIFICATE

Ваби К.К.

has passed the National Certification Examination for Energy Auditors in 2006, conducted on behalf of the Bureau of Energy Efficiency, Ministry of Power, Government of India.

He/She is qualified as Certified Encryy Manager as well as Certified Encryy Auditor.

He | She shall be entitled to practice as Energy Auditor under the Energy Conservation Act 2001, subject to the fulfillment of qualifications for the Accredited Energy Auditor and issue of certificate of Accreditation by the Bureau of Energy Efficiency under the said Act.

This certificate is valid till the issuance of an official certificate by the Bureau of Energy Efficiency.

Place : Chennal, India

Date: 30" April 2007

Controller of Examination

*Bio data of Certified Energy Auditor					
1	Name of energy auditor	Ashok K M P			
2.	Qualifications.	B. Tech Electrical ME Energy engineering			
3.	Experience. (use additional sheet if required)	05 Years			
4.	Residence(with STD)	8547800305			
5.	Mobile	7356111991			
6	Email ashok@athulenergy.com address				
7	Date of certification as Energy Manager or Energy Auditor (pl specify) by Bureau of Energy Efficiency (BEE) (if not appeared list as nil	10 th March 2017			
8	Date of passing the examination in "Energy Performance Assessment for Equipment and Utility Systems"	NIL			
9	Examination Registration Number of	EA-25612			
	(i) Energy Manager				
	(ii) "Energy Performance Assessment for Equipment and Utility Systems" (In case of Certified Energy Auditor, please write CEA Registration No.)				
10	Certificate Registration Number of	For Energy Manager - 8078			
	(i) Energy Manager				
	(ii) "Energy Performance Assessment for Equipment and Utility Systems"				
11	Are you a BEE accredited Energy auditor. If so: Date of accreditation Accreditation No.	No			
	Remarks(if any)				
	 Additional Qualifications after B. Tech Griha Certified Professional ETAP certified holder MNRE certified Solar professional CE&QIP Grid Connected Solar PV System (IIT Bombay) Design & installation of Solar PV off grid & on grid (NIWE) 				

ASHOK K. M. P. (Certified Energy Manager)

Educational Qualification : B. Tech (Electrical)

M tech (Energy engineering)

Experience : 5 Years

Date of Certification

as Energy Manager : 10/03/2017

Registration Number of Energy Manager

: EA - 25612

Mobile : +91 7356111991

E-Mail : ashok@athulenergy.com

EXECUTIVE SUMMARY

- Possess extensive experience in Energy Auditing, Energy Conservation Training, supervising and managing energy efficiency programs and policy planning initiatives;
- Has closely worked with many energy experts, government agencies and civil groups to promote energy conservation objectives;
- Has the ability to provide leadership to new and innovative initiatives.
- An energy manager trained in the various electrical & mechanical design and certified personal.
- Has widely participated in the energy conservation activities even during the academics' period.
- Was state representative from the college in the NSS tech cell and student coordinator for various Social groups such as Nature club & Debate club.
- Passionately worked in the Malabar cements Ltd, a cement factory in Kerala, for 2 years
 and had exposed to electrical and mechanical systems, by doing the wholesome project
 on the Renovation and maintenance of Bag filter of the company.
- Started working in the Athul Energy in the latter part of 2012 as project engineer later on become one of the Directors of the company.
- Since then, he leads in more than 100 energy and safety audits and identified improvement opportunities for many Industries.
- Carried out many case studies especially focused on the Power quality issues on various industries and Distribution sectors.
- Since then he is actively participated in various NGO in the Energy conservation fields such as SEEM, GRIHA, ECS etc.

Core Accomplishments in the Field of Energy and Environment

- Certified Energy Manager, Certified by Bureau of Energy Efficiency, under Department of Power, Govt. of India (EA - 25612)
- ***** ETAP certified holder.
- **❖** GRIHA certified professional (2017-19)
- **Teaching faculty for Energy Conservation society's budding engineers program.**

Leadership Capability Chart

Association/ Organization	Responsibility/ Posts Held
SEEM	Member
ECS	Member & faculty



Company registration certificate:

1. CIN



GOVERNMENT OF INDIA MINISTRY OF CORPORATE AFFAIRS

Central Registration Centre

Certificate of Incorporation

[Pursuant to sub-section (2) of section 7 of the Companies Act, 2013 and rule 8 the Companies (Incorporation) Rules, 2014]

I hereby certify that ATHUL ENERGY CONSULTANTS PRIVATE LIMITED is incorporated on this Twenty seventh day of September Two thousand sixleen under the Companies Act, 2013 and that the company is limited by shares.

The CIN of the company is U74999KL2016PTC046898.

Given under my hand at Manesar this Twenty seventh day of September Two thousand sixteen .

MANGAL RAM MEENA Deputy Registrar of Companies

Central Registration Centre

For and on behalf of the Jurisdictional Registrar of Companies

Mailing Address as per record available in Registrar of Companies office:

ATHUL ENERGY CONSULTANTS PRIVATE LIMITED

KEERAMKULANGARA WARRIAM, KORAPPATHU LANE, THRISSUR, Thrissur, Kerala, India, 880020



2. MSME



Measuring instrument list of Athul Energy Consultants Pvt Ltd, Kerala

S	Ma	Model	Measures	Components/m	Specification
l	ke			easuring probes	
n					
0	DOM	IED OHAL	ITW ANALYCED		
1	Kry	ALM	ITY ANALYSER • Voltage, Current, Frequency	Ampflex CT - 4	0 - 10000A CAT IV with
•	kar d	35	 KW, KVA, KVAr, Distorted kVAr PF, Cosø, Tanø 4 Quadrant Energy: Wh, VAh, VArh, Dh (Distortion Energy) Short-term Flicker, FHL, CF, 	nos	+/- 0.5% CT Accuracy
			 K-Factor THDf, THDr on V, U & I Harmonics up to 50 order V & I Transients Complies with IEC 61000-4-30 measurement standard under Class B 		
				Voltage probes - 5 nos	2 - 2000V CAT IV
				MN 93A clamp CT - 4 nos	0-100 A CAT IV with +/- 0.5% CT Accuracy
				PAC 93 AC/DC clamp CT - 3 nos	1000A ac & 1000A dc with +/- 0.5% CT Accuracy
2	Kry kar d	ALM 30	 Voltage, Current, Frequency KW, KVA, KVAr, PF, Cosø, Tanø 4 Quadrant Energy: Wh, VAh, VArh, Short-term Flicker, FHL, CF, K-Factor THDf, THDr on V, U & I Harmonics up to 50 order Complies with IEC 61000-4-30 measurement standard under Class B 	Ampflex CT - 4 nos	0 - 10000A CAT IV with +/- 0.5% CT Accuracy
				Voltage probes - 5 nos	2 - 2000V CAT IV
				MN 93A clamp CT - 4 nos	0-100 A CAT IV with +/- 0.5% CT Accuracy
3	FL UK E	1730	 Voltage, Current, Frequency KW, KVA, KVAr, PF, Cosø, Tanø 4 Quadrant Energy: Wh, VAh, VArh THDf, THDr on V, U & I 	iFlex3000-24 flexible CT - 4 nos	0-3000 A with +/- 1% CT Accuracy
			Harmonics up to 50 order	Voltage probes - 4 nos	0-1000V with +/- 0.2% Accuracy
4	ME CO	power guard - 09	 Single phase analyser Range - 0-20 A with accuracy level of class 1 	. 1100	The state of the s
5	Kry kar d	F407	Three phase clamp on power analyserTrue inrush current upto		AC-DC current measurement up to 1000A with +/- 1%

	1			
		 1500A AC-DC power measurements PF, DPF measurement THDv & THDi measurement with individual harmonics up to 25th order. 		accuracy AC-DC voltage measurement upto 1000V with +/- 1% accuracy.
Ma ke	Model	Measures	Components/m easuring probes	Specification
TEM	PERATUR	E/CLIMATE ANALYSER		
TE ST O	480	Temperature (°C, °F, difference-°C, difference-°F)	IAQ probe (0632 1543) - 1 no	CO2 - 0 to 10000 ppm Humidity - 0 to 100% RH Temperature - 0 to 50 degC
		 Humidity (%RH, td°C, td°F, wet bulb °C, wet bulb °F, g/m3, g/ft3, g/kg, g/lb, kJ/kg, BTU/lb, ppm, Vol% 	Pitot tube (0635 2045) - 1 no	Flow velocity1 to 100 m/s operating temperature - 0 to 600 degC
		• Flow velocity (m/s, ft/m)	Hot wire probe with telescope (0635 1543) - 1 no	Temp -20 to 70 degC with +/-0.5 deg C accuracy, Humidity 0 to 100% RH with +/- 1.8% accuracy, Velocity 0 to 20 m/s with +/- 0.03 m/s
		 Pressure (Pa, hPa, mbar, kPa, bar, psi, inH2O, inHg, mmH2O, Torr 	K probe - immersion (0602 5693) - 2 nos	Measuring range: -200 to +1300 °C with accuracy class 1
		• CO2 (ppm, Vol%)		
		 Memory capacity For approx. 10000 measurement protocols 		
FLI R	E50	to 650 deg C		
		0		
Flu ke	62max	 Infrared thermometer temperature (°C, °F) Range30 to 500 degC 		
FLIIF	E GAS ANA	ALYSER		
Tes to	330	 Differential pressure -200 to 200 hPa, Absolute Pressure +600 to +1150 hPa, Flue gas O₂ - 0 to 25 Vol.%, Flue gas CO (with H₂-compensation) - 0 to 10000 ppm,. Temperature40 to +1200 °C, 	Probe (0554 9763) - 1 no	Tmax - 500 degC, Probe length - 300mm
		Flue gas loss (calculated) Flue gas loss (calculated)	Probe (0554 8764) - 1 no	Tmax - 1000 degC, Probe length - 300mm
		(calculated)		
		Flue gas degree of effectivity, Eta		
		Storage max - 200 logs		
	TEM TE ST O	TEMPERATUR TE 480 ST 0 FLI R E50 Flu 62max ke FLUE GAS ANA Tes 330	AC-DC power measurements PF, DPF measurement THDv & THDi measurement with individual harmonics up to 25th order. Ma ke Model Measures Measures TEMPERATURE/CLIMATE ANALYSER TE 480 Temperature (°C, °F, difference-°C, difference-°C, difference-°C, difference-°F) I Humidity (%RH, td°C, td°F, wet bulb °C, wet bulb °C, wet bulb °C, wet bulb °F, g/m3, g/ft3, g/kg, g/lb, k]/kg, BTU/lb, ppm, Vol% I Pressure (Pa, hPa, mbar, kPa, bar, psi, inH2O, inHg, mmH2O, Torr CO2 (ppm, Vol%) Memory capacity For approx. 10000 measurement protocols FLI E50 to 650 deg C Digital camera with 3.1MP resolution Flu 62max Infrared thermometer temperature (°C, °F) Range30 to 500 deg C FLUE GAS ANALYSER Tes 330 bifferential pressure -200 to 200 hPa, Absolute Pressure +600 to +1150 hPa, Flue gas O2 - 0 to 25 Vol.%, Flue gas O2 - 0 to 200 hPa, Absolute Pressure +600 to +1150 hPa, Flue gas O2 - 0 to 25 Vol.%, Flue gas O2 - 0 to 25 Vol.	AC-DC power measurements PF, DPF measurement THDv & ThD measurement with individual harmonics up to 25th order. Ma

S l n o	Ma ke	Model	Measures	Components/m easuring probes	Specification
	LUX	METER			
9	Am pro be	LM100	Range - 0 to 2 lakhs LUX		
	TACI R	номете			
1 0	Me tra vi	NCTM1 00	• range - 2 to 99,999 rpm with accuracy of +/- 0.05%		
			sampling time - 0.5 sec		
	INSULATION TESTER		 TESTER		
1	ME CO	DIT 99C	500 V, 200Mohm, Digital insulation tester		

I hereby state that information furnished above is true and correct to the best of my knowledge.

Place: Thrissur

Date: 25-04-2018

Santhosh A Managing Director