



Yadav Measurements Pvt. Ltd

Announces
20th

Electricity Metering School

A USAID & MoP DRUM Training Program

DISTRIBUTION REFORM, UPGRADES AND MANAGEMENT

RECOGNISED & APPROVED By
Power Finance Corporation Ltd.
(A Govt. of India Undertaking)

Register before
20th Aug. 2009 (Course 1)
1st Sep. 2009 (Course 2)
&
Save Rs: 1000/-
OR
US\$ 50



Course 1: Electricity metering technologies and systems: 8th Sep. to 12th Sep., 2009

Course 2: Electricity metering technologies

Advanced applications and systems :

14th Sep. to 18th Sep., 2009

Venue : YMPL, Udaipur, Rajasthan, INDIA



Power Finance Corporation Ltd.
(A Govt. of India Undertaking)

Introduction

Over the last decade, the electricity metering applications have seen a sea change due to technological reasons and most utilities are installing a large number of static meters. Metering today is not just restricted to revenue collection but is concerned with revenue protection, tariff structuring, load planning, demand management, reduction in T&D losses etc. State-of-the-art metering combined with computer application, information and communication technology is now providing solutions to the various problems being faced by electricity utilities.

It is imperative for utility engineers to understand the new static meters, standards applicable, testing, its application and metering system approach to derive best benefits out of these and compliance to various regulations issued by central & state regulators.

Even the National Training policy for the Power Sector issued by Ministry of Power, Govt. of India has emphasised on focus on hands on learning to inculcate the necessary Knowledge and skills and recommended networking with training institutions.

Yadav Measurements with a vast experience in the field of electrical measurements, calibration and training of power sector professionals has been conducting a course; Electricity Metering School quarterly. Based on the feedbacks received from participants of previous metering schools, we have incorporated several changes to make this course more effective.

Objectives

This course provides a high level overview of electricity metering for electricity utility engineers, and consists of two modules, one week each. The objective is to expose attendees to electricity metering and enable them to make better electricity metering based decisions through an enhanced understanding of the subject, applications and limitations.

The course begins with a general overview of electricity metering and continues with advanced topics in electricity metering such as static energy meter technologies, prepayment metering, automated meter reading etc. The course covers extensive hands on practical training on various topics covered and demonstration of various calibration and tests on meters. Upon completion of this course, participants will have a thorough understanding of metering related topics & regulatory requirements

Who should attend ?

This course is specifically designed for utility engineers and managers working in the areas of specifying, purchasing, testing, operation, vigilance and enforcement. This will also be useful to consultants, OEMs and system integrators.

How will I benefit ?

This course will help participants understand -

- Static metering technologies and software features
- Various standards requirements for meters, meter testing, certification and approvals.
- Learn good installation practices, prevention of tamper and frauds, use effectively the data for billing estimation and various tamper recording.
- Instrument transformers, their usage and errors and its impact on metering.
- Harmonics, power quality and metering, specialist metering application, concepts of prepayment metering and remote metering.
- Metering system software requirements and benefits.
- Concepts of reliability

so as to make them aware of basics of metering and advancement in metering technologies.

Course Contents

Electricity metering technologies and systems: EMT&S (8th Sep. to 12th Sep., 2009)

1. **Introduction** : A.C. Circuits, Principles of Power and Energy Measurement in 3 wire and 4 wire circuits, Active and Reactive Energy Metering.
2. **Four Quadrant Metering** : Active and Reactive power flow and metering in 4 quadrants.
3. **Static Metering Technologies** : Introduction to various technologies, Technology choices.
4. **Energy Meter S/W Features** : Energy meter -Basic and Derived function, Energy registers, Demand and Rising demand, MD register, Billing and history registers, Avg. monthly p. f., Load surveys, Other electrical parameters i.e. harmonics, angle between phases etc., Tamper detection capabilities of electronic meters., Tamper detection & Commonly logged tampers, Energy meter-Configurability support, Energy meter s/w security
5. **Energy Meter Standards** : Overview of applicable Standards and type testing.
6. **Regulatory Requirements** : Introduction to Indian Electricity Act 03 as applicable to generation, transmission and distribution, Role of CEA., Central and state Regulators and their various codes., Aspects of consumer protection., Rights and Duties of consumer., Investigation and enforcement., Offences and Penalties, Abetment of thefts., Special courts and legal procedures., Appeals and dispute resolution.
7. **Calibration, Testing and Good Laboratory Practice** : Basic Metrology (Accuracy, precision, measurement uncertainty, repeatability, traceability); Applied Metrology (Application of Concepts to a Meter Testing Lab), Good Laboratory Practices.
8. **Meter Test Systems** : Requirement of electricity Meter Test System and standards applicable; Types of Meter Test Systems.
9. **Revenue Protection** : Verification of theft, Various revenue protection measures.
10. **Installation Practices & Field Testing** : Planning a Meter Installation, 1 Phase & 3 Phase Energy Meter Installation, Meter Enclosures & Tamper Proof Box Specifications, Cabling & Reliability of Connections, Sealing Practice.
11. **Instrument Transformers** : Basics of Instrument Transformers, Errors in Instrument Transformers, Selection and Application of Instrument Transformers, Testing of CT/PT.

Electricity metering technologies

Advanced applications and systems.

EMT-AAS (14th Sep. to 18th Sep., 2009)

1. **Metering Application and Power Quality**
2. **Remote Metering Technologies** : Different types of remote metering technologies, Selection of appropriate technology; Deployment, Key issues.
3. **Specialist Metering Applications** : Prepayment Metering, Summation Metering, Metering Traction Loads, Distribution Transformer Metering.
4. **Metering Information Integration** : Managing Metering Information, Managing Data from Intelligent Meters.
5. **Quality & Meter In-circuit Reliability** : Basic Reliability Concepts, Defining In-circuit Life for Meters, Factors influencing Reliability, Running a Reliability Program.

Laboratory Classes : Extensive hands on work on specially design test set-ups

Calibration and Testing Laboratory
Revenue Protection
Meter Installation Practice
Harmonics & RMR
Specialist Metering Application
Meter Information & Integration System

Faculty

Contributors to the course includes widely experienced senior industry professionals from manufacturers and service providers. Mr. G.K. Panchal, and Mr. Shuvendu Patnaik, (Datagen Power Systems Pvt. Ltd.): Mr. N.K. Bhati, Mr. B.M. Vyas, Mr. Abhijat Dube, Mr. K. S. Kelapure, Umesh Soni (Yadav Measurements): Mr. Surendra Jhalora and Mr. Shafik Ahmed (Secure Meters Ltd.), Mr. Rajesh Nimare (PRI Ltd., U.K.)



N.K. Bhati is a Graduate in Electronics & Communication Engineering from MBM Engg. College, University of Jodhpur in 1977. He is Gold medalist from his university. Presently working as Managing Director, YMPL. He has over 26 years experience in product development R&D, Production, Quality system in electronic industrial products and computer systems. He was involved in metering

related product development and manufacturing and applications for last 15 years. He has been leading YMPL team in setting up laboratory, quality systems, accreditations etc. from inception of lab. His present other interests and activities are in Manufacturing Processes & Static meter testing systems and automation.



B.M. Vyas received Bachelor of Engineering Degree in 1990 from M.S. University, Baroda (India) in electronics and MBA degree from Sukhadia University, Udaipur (India) in 1996. He is at present Asst. General Manager in Yadav Measurements Pvt. Ltd. He has total 17 years experience in manufacturing, quality, metrology and reliability in electronics industry. He is qualified lead assessor for assessment of quality system as per ISO 9000 and IEC 17025.



G.K. Panchal has vast enriching experience in Power Distribution Sector, He Joined AEC as a Graduate Trainee and rose up to Sr. Mgr. He headed Transmission, Distribution and Commercial segment. He joined SEC in 1999 as G.M. He was responsible for upgradation of the entire distribution system. The AT & C losses were reduced from 17% to 13.5%.

He presented many papers viz. "Management of Static/Ferraries Meter & Billing", "Meter Reading and route Management Software" and delivered talks on "Eco-friendly T & D system" at the International Seminar on Green over organized by World Council of Power Utilities at Delhi and also on "Upgrading Service" organized by Indian Standards Institute, Ahmedabad. He presented a paper at ELECRAMA, on "Innovation in Distribution System" and "Experience with Electronic Meters".

Mr. Panchal has widely travelled in foreign countries. He underwent a Training Session on Demand Side Management at USA under US Association of International Development (USAID) for 12 weeks.



Kiran Shrikant Kelapure has received his Diploma in Electrical from Govt. Polytechnic, Nagpur in 1986. He has total 21 years experience in commissioning and maintenance of all Electrical equipments specially Switch Yard equipments. He has a wide experience in Energy management and handled many energy conservation projects. He was approved Energy Manager by BEE in his previous

cement organization. Presently in Yadav Measurements Pvt. Ltd. he is in-charge of all On-site activities like testing and calibration of CT-PTs up to 132 kV and energy meters which are accredited by NABL.



Umesh Soni has received his Bachelor of Engineering Degree in 1996 from Amravati University, Maharashtra (India). He is at present Quality Manager in Yadav Measurements Pvt. Ltd. Also responsible for management of onsite projects. He has total 12 years experience in manufacturing, marketing and metrology in Electronics industry. He is a trained technical assessor for NABL.



Shuvendu Patnaik is an Electrical Engineering graduate from IIT Kharagpur, from the 1978 batch. He has over 26 years of experience in power sector in the field of generation, transmission & distribution, in electrical testing & commissioning, O&M and Commercial aspects of power systems. He has played a pivotal role in initial stages of development of

Availability Based Tariffs, development of frequency based special meters for inter-utility power exchanges and in preparation of the first draft Electricity Bill 1996. He has subsequently played a key role in applying innovative concepts to develop special software & technology for energy audits in distribution systems and for meter information management, which are the core strengths in formation & establishment of Datagen Power Systems..



Surendra Jhalora has received his Bachelor of Engineering Degree in 1990 from MBM Engineering College Jodhpur. He is a Gold Medalist in Electrical Engineering. He has 18 years of Experience in the field of metering related to R&D, Manufacturing and Marketing. At present he is working as Dy. General Manager, Marketing in Secure Meters Ltd. Responsible for Product management for new products, technologies etc. He is the member of

National and international metering committees.



Rajesh Nimare has received Bachelor of Engineering Degree (Electrical) in the year 1991 from University of Jabalpur. He started his career as a Marketing Executive with Secure Meters Limited. He is at present working as Manager (Business Development) for PRI Ltd. U.K. He has an aggregate experience of 17 years in the metering domain and was the architect and builder of setting pre-payment system in Brunei. He has worked in diverse markets

like South-East Asia, South African and Europe.



Abhijat Dube has received his Bachelor of Engineering Degree (Electronics) in 1993 from University of Poona and Post Graduate Diploma in Management and he is at present Manager and also working as In-charge (Calibration and Electrical Testing area) in Yadav Measurements Pvt. Ltd. He has total 15 years experience in various sections such as quality, manufacturing, repair & rework, marketing and metrology in Secure Meters Ltd an Electronics

industry. He is a trained qualified internal auditor and assessor for assessment of quality system as per ISO/IEC/IS 17025 and ISO 9000. He is trained for conducting Proficiency testing program / inter-laboratory comparisons. He has worked as Project In-charge for Meter Installations and accuracy testing, Bill generation and distribution work. He has attended National and International Conferences.

Likely Contributors

Viiresh, Surendra Acharya, Vinod Vaya, Rajendra Java, Kostub Payal from ESL, Sunil, Dinesh, Uttam from YMPL and other widely experienced utility and industry experts.

Note : In case of non availability of the mentioned faculties the substitute faculty will take the session.

Course Fees

The Course fees details are as follows

Registration	Course Fees (Rs) per participant Including Tax	US \$	Accommodation
Till 20 th Aug., 09 for Course 1	15000/-	1550	Residential accommodation Guaranteed.
Till 1 st Sep., 09 for Course 2	15000/-	1550	Residential accommodation Guaranteed.
After 20 th Aug., 09 for Course 1	16000/-	1600	Residential accommodation Subject to availability
After 1 st Sep., 09 for Course 2	16000/-	1600	Residential accommodation Subject to availability

This fees including service tax & also covers course material, tea , snacks , breakfast, lunch , Dinner and transport facility to and fro hotel to Course venue.

Accommodation

This course is residential and accommodation (air conditioned single occupancy) to the participants will tentatively be provided at :

Hotel Ashish Palace

Chetak Circle, Udaipur (Raj.)

Ph.: +91-294-2525558, 2525658

or

Hotel India International

opp. Meera Girls college, Nr. Petrol Pump, Sardarpura, Udaipur, Tel : +91-294-2424101-103 and 2425501 or equivalent hotel.

Course venue and timing

Yadav Measurements Private Limited

Plot no 373-375, RIICO Bhamashah Industrial Area, Kaladwas, Udaipur (Raj.) Ph.: +91-294-2650127, 2650128
Telefax: +91-294- 2650129

Timings : 9am to 6 pm

Registration

The registration for the course is on first-come-first serve, basis. Total number of participants is restricted to 25 in view of the available laboratory facilities. The registration form must reach the course coordinator by 19th Aug. 2009, along with requisite course fee.

Cancellation Policy

Cancellation if any before 19th Aug. 2009, will get 50% refund. Thereafter no refund, however participant will be accommodated in next course.

For further information please contact :

Course Coordinator

Mr. Abhijat Dube

Ph. : +91-294-2650127, 2650128



YADAV MEASUREMENTS PVT. LTD.

P.B. No. 169, Plot no. 373-375, RIICO Bhamashah Industrial Area, Kaladwas, Udaipur (Raj.) India

Ph. : +91-294-2654102-04, 4118 Telefax : +91-294-2650129.

E-mail : metering.school@ymllabs.com

Website : www.ymllabs.com

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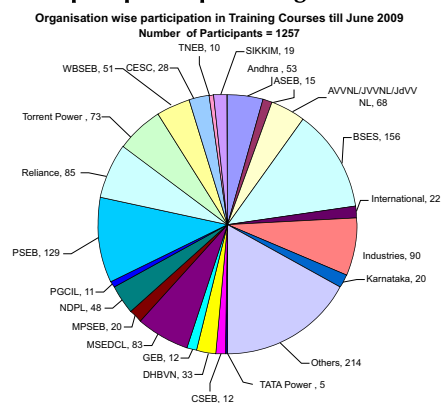
Yadav Measurements Pvt. Ltd.

Yadav Measurements Pvt. Ltd. (YMPL) is involved in providing measurement and calibration services in electrical sector. YMPL specializes in power and energy measurement, solid state Energy Meter Testing etc. on site calibration of instrument. Transformers in substations. YMPL provides state-of-the-art measurements and is having best measurement capability of 0.01%.

YMPL is accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL), Govt. of India and by United Kingdom Accreditation Service (UKAS), UK. YMPL is equipped with high precision, high accuracy testing and calibration equipment and is committed to provide accurate, reliable and valid measurement and test results to all our customers at all times.

YMPL with a vast experience in the field of electrical measurement, calibration, design and manufacturing of static meters and training of power sector professionals, has been operating in training and education for utility engineers. 19 metering schools and 8 workshop on Revenue Protection and 4 course on NABL Accreditation and 6 onsite courses revenue protection conducted by us received an overwhelming response. Above 1250 participants from country's top electricity utilities have participated in the program

Break-up of participants organisation wise



The course was highly appreciated by all the participants as well as by the authorities in the respective utilities.

Special calibration service offer during training

YMPL calibrates all types of energy meters reference standards (e.g MTE, L&G, Zera, Schlumberger etc.), portable energy meter calibrators (e.g. accuchek), reference CT/PT, CT/PT calibrators and many other electrical instruments being used by utilities. Participants coming to this course can bring their instrument along with them for calibration which will be completed during the course period itself. Hence they can take the instrument back with themselves along with calibration certificate. For this service please contact B.M.Vyas (09829267374), Manish (09928331774) & Sandeep (09929606477)

REGISTRATION FORM

Telefax : ++91-294-2650129

20th Electricity Metering School

Full Name (in Block Letters)	Designation	Course option	Course Fees	Total
1.		1/2/Both		
2.		1/2/Both		
3.		1/2/Both		
4.		1/2/Both		
5.		1/2/Both		
			Total Fees	

Organization

Telephone Fax: E-mail

Signature Date

The course fee of Rs. (Rupees only) is being sent vide cheque/D.D. No. dated drawn in favour of

Yadav Measurements Pvt. Ltd., payable at Udaipur.

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This fees including service tax & also covers course material, tea , snacks , breakfast, lunch , Dinner and transport facility to and fro hotel to Course venue.

Payment is to be made in favour of "Yadav Measurements Pvt. Ltd., Payable at Udaipur.

Please return the completed form to:

Mr. Abhijat Dube
Manager

Yadav Measurements Pvt. Ltd.

P.B. No. 169, Plot no. 373-375, RIICO Bhamashah Industrial Area,

Kaladwas, Udaipur (Raj.) India

Ph. : +91-294-2654102-04, 4118 Telefax : +91-294-2650129.

E-mail : metering.school@ymllabs.com, yadav.measurements@ymllab.com

Website : www.ymllabs.com



Yadav Measurements Pvt. Ltd.

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Training Calendar (September, 2009 – March, 2010)

S.No	Name of the Training Module	Start Date	Completion Date
1.	Metering School Electricity metering technologies and systems	8 Sep. 09	12 Sep. 09
2.	Metering School Electricity metering technologies. Advanced applications and systems.	14 Sep. 09	18 Sep. 09
3.	Laboratory Accreditation (NABL) of meter testing lab in utilities.	5 October 09	9 October 09
4.	Metering School Electricity metering technologies and systems	1 Dec 09	5 Dec 09
5.	Metering School Electricity metering technologies. Advanced applications and systems.	7 Dec 09	11 Dec 09
6.	Workshop on Electricity Revenue Protection.	18 Jan 10	22 Jan 10
7.	Metering School Electricity metering technologies and systems	9 March 10	13 March10
8.	Metering School Electricity metering technologies. Advanced applications and systems	15 March 10	19 March 10