EASA
The Electro•Mechanical Authority
EUROPEAN & WORLD CHAPTER

October 2015
Volume 51

NEWSLETTER

Presidents Message

Dear Members, Affiliates and Friends,

We are just out of our great and active EASA Region 9 Convention, in Barcelona Spain. This year 65 participants from Europe, Middle East, Asia and Africa along with the US and Canada attended the convention, with a special focus around Networking for Business Growth.

It was very good to see so many New Members attending, their first EASA Region 9 convention. Our Members had the chance to meet with new business partners, to present their new products and solutions, and to be involved in very efficient face2face business meetings. Last but not least to be involved in the Management of EASA Region 9, by attending the Annual General Meeting.

We also had a very interesting session with Steven Vantongelen, a top sales expert who highlighted to us, the type of partners we should recruit and bring to our association. What enabling tools should EASA offer to its Members? How can other staff Members be involved more in, and contribute to the network? What training do you require from EASA, how can EASA improve in, and in what areas should EASA help more?

Something is happening in our industry, more Members, Suppliers, Customers and Local Associations are convinced we can no longer be so fragmented within an International business and environment, with so many challenges in terms of training, regulations, new technologies, attractiveness, energy efficiency and reliability. Like our customers and suppliers we need to be involved in our industry, we need to better coordinate between all of us. We need one channel to represent all of our companies, a place where time to time we can all meet without competing. We have to work together on the next challenges, and EASA is certainly well prepared to do so.

During the convention Frederic Beghain our EASA Region 9 General Manager, was insisting on looking at EASA not only as an association to provide some support and resources to our Members, but also as a place to be active and proactive. To suggest, to propose, to mutualize/optimize some investments, actions, training and projects, why not also within the different committees and our council. He summarized it through “My EASA”. Do not hesitate to contact Frederic Beghain if you want to know more on all resources and services that you have access to, also on projects you would like EASA to invest with all of our Members.

Thanks go to Steven Vantongelen for his time and expertise, he provided an excellent session for all. Also to all the good presenters and in particular our Affiliates: Solutions in IT, WES Ltd, ASEIN, Fritz Diel Gmbh, Whitelegg Machines Ltd, Inpro Seal LLC, Fluke, Aegis, Ridgway Machines, Knight Manufacturing, Rotary Engineering and Electrom Instruments. Thanks also to all new Members who attended such an important event for our Industry and Region.

Last but not least, I want to personnaly congratulate Emre Kaya, Coil Partners, Istanbul, Turkey, for the great 2015 Karsten Moholt Award he has won. On the 3 very good candidates, with all of them having achieved some exceptional results, Emre Kaya was unanimously selected by all the committee members. Out of making his company successful and working hard on its important development, one of the first biggest achievement he made this year as a Production Manager is that he had no Guarantee claim for the last 12 months ! I also want to thank CPM/NDC and Vogelsang to propose such good candidates. Please consider to propose a candidate next year !

Best Wishes Mathis Menzel, President EASA European and World Chapter

Contentious Corner

In the Policy Guidelines for Electric Motor Systems Part 2: Toolkit for Policy Makers October 2014, Developed by EMSA and several Government Agencies as stated on Page 29:

When rewinding Is the selected path, the contracter should be approved by the Motor Producer.

What do you think? Would it be possible to implement that kind of process? Are you expecting to do so, would that bring some benefits? Please let us have your views, your thoughts, and suggestions at secretary@easa9.org

FYI, this guide is designed to provide assistance to policy makers who wish to design and implement a strategy to en- courage the greater energy efficiency of electric motors and motor systems in industry in their jurisdiction. More details on: http://www.motorsummit.ch/index.php?option=com_content&view=category&layout=blog&id=23&Itemid=35

Affiliates Article - Fluke Industrial B.V.

Founded in 1948, Fluke Corporation is the world leader in compact, professional electronic test tools. Fluke tools deliver the testing and troubleshooting capabilities that are critical to keep commerce and industry running smoothly.

Fluke customers are technicians, engineers, electricians, metrologists and building diagnostic professionals who install, troubleshoot and manage industrial, electrical and electronic equipment and calibration processes for quality control and building restoration.

In the past five years, Fluke tools have won more than 50 industry awards, including EC&M Platinum Product of the Year Award, Test and Measurement World Best in Test, Control Engineering Engineer's Choice and Plant Engineering Product of the Year.

Fluke's comprehensive line of digital multimeters, electrical power analyzers, thermal imagers, insulation resistance testers, accessories, plus the integrated ScopeMeter® handheld test tools, are being used by a growing number technicians. These tools provide them the ability to analyze, troubleshoot, and repair these systems these complex new systems and detect prob ems quickly.

One example of electronics being integrated into an increasing number of electrical and electro-mechanical systems is the use of variable speed drives (VSDs). In the past, most electro-mechanical systems relied on gearing changes, dampers and hydraulics to control output and speed. The simple AC electric motors driving these systems ran at a constant speed. With the introduction of variable frequency electric motor drives, designers can adjust motor speed to meet changes in system demands and save energy. These VSDs are energy-efficient and may make it possible to re-engineer an entire system for greater simplicity and cost savings.

However, for the technician who must keep them running, VSDs introduce new challenges. Motor drives generate high frequency square electrical waves that can bounce and radiate and create harmonics, causing problems in a deficient installation.

To help electricians and plant maintenance technicians test and repair increasingly common electronic motor drive systems Fluke has published the book "Motor and Drive Troubleshooting: Basic Testing to Advance Diagnostics". This book demonstrates the measurement techniques and tools needed to troubleshoot motor and variable speed drive systems quickly and safely. Starting with motor and drive fundamentals, the book discusses safety, tools, test measurements, and troubleshooting techniques from the basics — using digital multimeters and clamp meters to understanding and fixing more challenging problems using such advanced test instruments as Fluke power quality analyzers and the Fluke ScopeMeter® portable digital oscilloscope.

The book "Motor and Drive Troubleshooting" is available from atplearning.com, iTunes, or get the book for free when attending the Fluke Motor and Drives seminar.

Thanks for this months article goes to

Gerard Grashof
Fluke Industrial b.v.
email gerard.grashof@fluke.com

What's New From Our Members

Menzel Elektromotoren GmbH - Press Release

Working well under pressure - Quick delivery of custom replacement for failed compressor drive

To View full article please visit https://www.menzel-elektromotoren.com/en/news/news-detail/datum/2015/10/01/mass-geschneiderter-hochspannungsmotor-fuer-kompressorantrieb/

Parsons Peebles Group Significantly Scales Up UK Service Presence

Parsons Peebles Group, a Clyde Blowers Capital company, is pleased to announce the acquisition of the Avonmouth headquartered, Anstee & Ware Ltd.

To View full article please visit http://www.parsons-peebles.com/news/2015/10/09/parsons-peebles-group-significantly-scales-uk-service-presence

Whats New?

Tests cast doubt on higher efficiencies of PM motors

A series of tests, funded by the Copper Development Association (CDA), comparing the efficiencies of a copper-rotor motor (CRM) with three permanent magnet (PM) motors, have failed to show that one type is clearly more efficient than the other. In one test, the efficiency of a copper-rotor induction motor was found to be higher than that of a commercially available PM motor. The results of the tests were revealed in a paper presented by Richard deFay, project manager of the CDA's sustainable energy programme, at the 2015 Energy Efficiency in Motor Driven Systems (Eemods) conference, held this week in Finland.

"The efficiency of the permanent magnet motor has been widely regarded as superior to that of the induction motor," deFay told the meeting. "What CDA set out to do was conduct a relevantly equal 'apples to apples' system comparison between a PM motor and a CRM, using a drive specified by the PM motor manufacturer to determine the validity of marketing claims."

Read more at: http://www.drivesncontrols.com/news/fullstory.php/aid/4909/Tests_cast_doubt_on_higher_efficiencies_of_PM_motors.html#sthash.P723ablC.YyNpJ5ye.dpuf

Next-generation drives 'deliver 12% extra energy savings'

Mitsubishi Electric has announced a new generation of variable-speed drives which, it claims, can deliver an extra 12% of energy savings over standard variable torque curve operation. The FR-F800 drives are also said to offer other benefits including optimised speed control, simple start-ups, auto-detection of faults, enhanced communications, high reliability, and auto-tuning of induction or permanent magnet motors.

The F800 is designed primarily to control fan and pump motors, but can also be used for compressors and other applications. Initially there are six models, three in ratings from 0.75–110kW for 200–240V operation, and three in ratings from 0.75–630kW, for 380–500V supplies. They are said to be 98% efficient.The inverters incorporate a "unique" function, called Advanced Optimum Excitation Control (AOEC),that adjusts the motor current constantly to achieve high torque levels at the same time as high efficiency. According to Matt Handley, Mitsubishi's product manager for drives in the UK, previous systems have required a compromise by optimising either for performance or efficiency.

Read more at: http://www.drivesncontrols.com/news/fullstory.php/aid/4913/Next-generation_drives__91deliver_12_25_extra_energy_savings_92.html

Era of rapid growth in LV drives revenues 'has ended'

In the five years leading up to the economic downturn in 2009, revenues from global sales of low-voltage drives grew at an annual average of more than 12%. In the six years since then, the CAGR has been only about 2%.

Even if you exclude the double-digit contraction in revenues in 2009, the market has still been averaging only around half the annual growth that it achieved before the recession. The market analyst IHS does not expect growth to recover to the rates experienced before the downturn, adding that the low growth rates of recent years are the "new normal" for a maturing product market, which has also been affected by regional economic weaknesses.

Read more at: http://www.drivesncontrols.com/news/fullstory.php/aid/4910/Era_of_rapid_growth_in_LV_drives_revenues__91has_ended_92.html#sthash.nZAyDRT2.dpuf

UK chemical company fined after hydrogen explosion

A chemical firm has been fined after a hydrogen explosion blew a vessel lid through a factory roof, leaving a worker with minor injuries. Catalloy Ltd was prosecuted by the UK Health and Safety Executive (HSE) following the incident at its plant on Moss Bank Road in Widnes on 25 November 2011. Warrington Crown Court heard on Thursday 24 September, that the company, which produces metal catalysts used by the pharmaceutical and petrochemical industries, had made a modification to one of its reactors.

The explosion occurred on the first day of production following the modification and blew the lid and other equipment through the corrugated panels on the roof of the factory and into a neighbouring car park. A worker also suffered cuts to his hand and back.

Read more at: http://www.hazardexonthenet.net/article/105658/UK-chemical-company-fined-after-hydrogen-explosion.aspx

Technical Article -Importance of Best Efficiency Point (BEP)

When working with pumps, you are sure to encounter instances where the pump curve is referenced, along with a number of parameters associated with it. A key parameter of the pump curve is the Best Efficiency Point (BEP). This simple concept of an operating point that yields the most efficient operation is not difficult to visualize. For electric motors, efficiency varies with load; the best efficiency being at about 75% load. However, with rotodynamic pumps which include centrifugal and axial flow pumps – there are four key parameters to be considered, one of which is efficiency. These four parameters are head, flow (aka capacity or volume), power and efficiency. They are related to each other by the simple formula:

$$BHP = \frac{Q \times H}{3960 \times \eta} \times s.g.$$

$BHP = brake\ horsepower$

$Q = flow$

$H = head$

$\eta = efficiency$

$s.g. = specific\ gravity$ (remains constant)

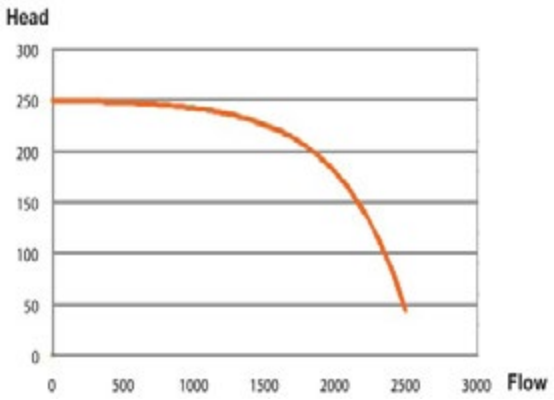
Of course power is inversely proportional to efficiency: greater efficiency means less power is needed. Notice also that power is directly proportional to Flow x Head (QxH). Now, for a rotodynamic pump, the flow and head vary depending on the demand of the system. If the system restricts the discharge of the pump, as when a discharge throttle valve is closed, the head increases and the flow decreases.

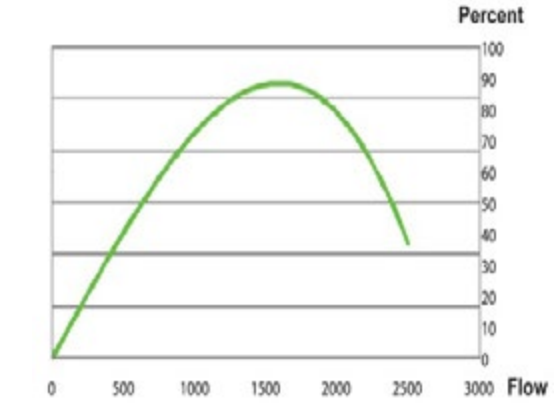
Conversely, less restriction from the system means less head and greater flow. This relationship is illustrated by a pump curve, which is specific to each pump. See Figure 1. To understand BEP, it is essential to know that the flow through a rotodynamic pump varies from zero flow at "dead head" (discharge valve closed), to maximum flow at "run out" condition (no discharge restriction). Efficiency, it turns out, is a function of flow through the pump. See Figure 2.

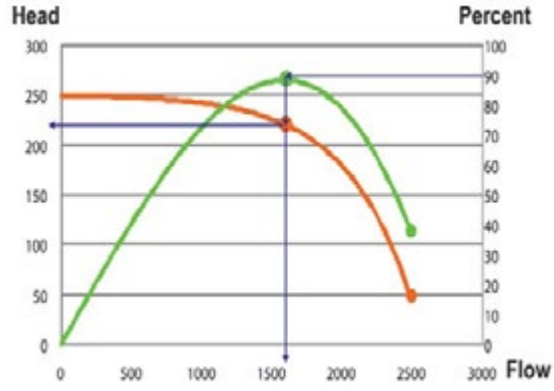
Compare it to traffic flow

A good analogy is the flow of traffic on a highway, with efficiency measured as cars per minute. Early in the morning, traffic is moving fast, but there aren't many cars, so efficiency in cars per minute is low. Just before rush hour, traffic is still moving fast and there are lots of cars, so efficiency is high. But at rush hour, the volume of cars increases greatly and traffic slows way down, so now there are lots of cars moving really slow and efficiency of the highway dropsThere is one period, just before rush hour, when the efficiency of the highway in cars per minute is greatest what you might describe as the best efficiency point for the highway.

And so it is for the pump BEP. See Figure 3. At zero flow (discharge valve closed), there is zero efficiency. As the discharge valve opens, flow increases and therefore so does efficiency. As discharge restriction is further reduced and flow increases, efficiency increases up to some point. Past that point, flow through the pump becomes more turbulent and efficiency decreases as the pump approaches run out condition where efficiency is very low (but not zero).



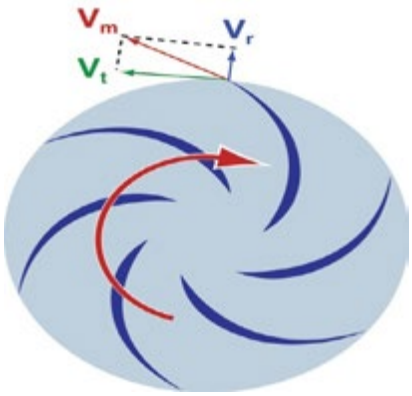




So somewhere between dead head and run out condition, there is a flow rate at which the efficiency is maximum that's the BEP. Note that the BEP is indicated in Figure 3 at a flow rate of about 1600 units; that flow rate coincided with the maximum value on the efficiency curve. That flow rate also intersects the pump curve at a point equal to head of about 220 units.

Technical Article -Importance of Best Efficiency Point (BEP) Continued

Effects of flow rate
It is useful to look more closely at why the efficiency of the pump changes with flow rate. As mentioned above, turbulent flow through the pump plays a central role in determining pump efficiency: The greater the turbulence, the lower the efficiency. So it makes sense that the BEP is the point where turbulence is minimized. The impeller is what imparts the power to the liquid being pumped ("pumpage"). Impeller design is the most significant factor in determining the BEP of a pump.



To understand how impeller design affects efficiency, focus on how the pumpage exits the impeller, relative to the angle of the impeller vane at that point. The pumpage is swirling around in the impeller housing outside of the impeller, but at a slower speed of the impeller, but at a slower speed than the tip of the impeller vane. The pumpage is being directed through the impeller and out of the impeller by the impeller vane.

So if the angle of the impeller vane directs the pumpage into the impeller housing at just the right angle to merge smoothly with the pumpage swirling there, turbulence is minimized and efficiency is maximized, yielding the BEP for that impeller.

Design engineers use a series of vectors to calculate the impeller vane angle for a certain flow rate. As seen in Figure 4, one vector (Vt) represents the speed of the vane tip, tangent to the impeller. A second vector (Vr) represents the velocity of the flow of the pumpage out of the impeller.

The discharge angle of the flow is the sum of those two vectors and it should match the impeller vane angle at the discharge (Vm). The length of vector (Vr) changes with flow rate: greater flow through the pump means the pumpage must move faster as it exits the impeller.

So flow rate changes the discharge angle, and of course the impeller vane angle remains constant. The BEP is the flow rate where discharge angle matches the vane angle. A similar analysis is applied to the impeller intake.

The characteristics of the impeller housing also play a role, but the impeller design is the primary factor that determines at what flow rate the BEP occurs. So any change to the impeller will also change the BEP. Trimming an impeller outside diameter (OD), replacing an impeller with one of different diameter or number of vanes, or changing the rotating speed will all alter the BEP for the pump.

For any impeller modifications, an analysis of the impact on the pump curve, the efficiency curve and the BEP should be conducted.

A PDF of this article is available in the "Engineering/Technical Article Archive" section of "Members Only" at www.easa.com.

Thanks for this months article goes to

Eugene Vogel
EASA Pump and Vibration Specialist

Dates for your Diary

Explosive Equipment 1 Day Awareness – 16th November 2015, Birmingham, England
3 days EX Equipment Users and Commercial & Sales Management -16th to 18th November 2015 Birmingham, England
Explosive Equipment FULL course – 16th to 20th November 2015, Birmingham, England
Windings and Connections - Webinar - Wednesday, December 9th, 2015 - 12:00pm to 1:00pm

Please contact EASA at secretary@easa9.org for any further information.

Message From Emre Kaya, 2015 Karsten Moholt Award Winner

Dear Karsten Moholt family, Board members and EASA Members, Ladies & gentlemen

I am so honored to be here and very grateful to receive the Karsten Moholt exceptional achievement award.

When Kamil Tekin informed me that he would forward my candidature for this award I was very surprised, but even more nervous. It is the first time in my life that I have participated to a competition, I am grateful that my nomination was accepted. The reference letters from the customers & the support letters from the employees of Coil Partners have given me a warm feeling. That's what really gives us the energy to work so hard every day.

I am extremely proud that a great organization such as EASA, the reference in our industry, has awarded me with this price. The recognition by experienced members gives me the confidence that my colleagues and I are on the right track.

2015 is a year that I always will remember. I have a challenging job in a very successful company and I just got married to a wonderful woman. I am honoured with this fantastic award, and I will have the opportunity to visit some of the EASA member companies.

I am especially looking forward to visiting the Karsten Moholt workshop in Bergen. I have heard a lot of positive things about it. While receiving this award my thoughts are with Karsten Moholt and Karsten Alexander Moholt. I would have loved to of received this award out of their hands.

Thank you
Emre Kaya, Coil Partners

COIL PARTNERS

About the Karsten Moholt Exceptional Achievement Award

The Karsten Moholt Exceptional Achievement Award is made annually in the memory of Karsten Moholt and Karsten Aleksander Moholt who are past Presidents and Regional Director of EASA European & World Chapter.

Their exceptional guidance and leadership of our Chapter is remembered by awarding young people, under the age of 30, within our industry who have demonstrated improvements within their company up and above expectations.

A financial contribution is made by the Chapter to the winner of this award to visit other Member's facilities within our Chapter in order to extend their understanding of the industry and learn new ideas, methods and cultures.

All details about that important Award for our industry is available : http://www.easa9.org/karsten-moholt-award/

If you are an EASA Region 9 Member and you know an Exceptional Member Individual under the age of 30 for the next award in 2016, please nominate him or her and contact EASA at secretary@easa9.org

Feedback: EASA E&W Convention Barcelona 24th - 27th September 2015







In addition to the formal business sessions there was the usual program giving the opportunity for a little enjoyment and created an opportunity for networking for both Members and Affiliates.

Summary of Actions EASA E&W Convention Barcelona, Spain 24th to 27th September 2015

Summary of actions from Barcelona, Spain

- The minutes were approved from previous meetings unanimously.
- The financial statements to 31.8.2015 were accepted.
- The 2016 Budget was approved by all AGM participants
- All Members are convinced our Electric Motor Systems Repair and Maintenance industry is now much more complex and needs to be more active/coordinated and represented on Local, Regional and Global levels to better support them and to also invest in some specific support and projects. EASA offers unique resources for this happen also in partnership with some of the local associations in Europe
- A New EASA Region 9 affiliate Member committee will be installed by Gary Downes. A second Affiliate Member will join EASA Region 9 Council. Affiliate Members will keep one vote in EASA Region 9 Council.
- EASA Members are encouraged to use EASA medias to promote their company/products and to print some important reports for our industry
- EASA Region 9 members will have the chance to inform EASA Members about their training offers and dates on the EASA Region 9 Websites
- EASA proposes to offer more EASA training in national languages and to certify EASA Trainers per country/regions. EASA Members are ready to register participants for the next EASA Root Cause Failure Analysis Training (End of November/December 2015 to be confirmed)
- Members are interested to organize with EASA some EASA Roadshows and to promote more unique EASA Resources
- Future meeting dates and venues were confirmed Spring Council meeting 22nd of April 2016 in Copenhagen and the Convention and AGM 29th of September 2016 to the 1st of October 2016 in Marseille or Nice, France.
- 3% Increase to Chapter fees was agreed
- 2015 Karsten Moholt Award Winner is Emre Kaya from Coil Partners, Istanbul, Turkey

Chapter and Associate Fees for 2016/17

	Current	New
Active	$381.00	$393.00
Affiliates	£381.00	£393.00

Appointments for 2015 - 2016
Council Officers and Directors for the term 2014 – 2016
President: Mathis Menzel
Vice President: Linn Moholt
Immediate Past President: John Allen
Regional Director: Johan DeCoster
Secretary/Treasurer: David Griffin
General Manager: Frederic Beghain

Council Members:
Robert Shoebridge, Christian Vogelsang, Richard Hale, Ahmed Ashoor, Stephan Beese, Richard Emery, Mark Corral, Wim Schelfaut, Keith Hargreaves,
Affiliate Representative Gary Downes of Solution in IT
Mentors to Council Michael Trigg and Brian Gibbon

A copy of the full AGM minutes is available on the Members only section of the E&W website, please go to www.easa9.org

2015 Training Schedules & Information on Available Courses

Explosive Atmosphere Equipment Training - 1 Day Awareness:

Designed for organisations considering registering for the IECEx/EASA Scheme

Available to anybody who wanted awareness training in Ex Equipment and Overhaul, this is to enable Ex Equipment Users and Commercial & Sales Management & personnel to attend. There will be no pre-requirement of experience in equipment repair. A Certificate of attendance will be provided

Skill | Knowledge | Attitude | Training | Experience

Explosive Atmosphere Equipment Training - 3 days EX Equipment Users and Commercial & Sales Management:

For organisations requiring greater knowledge for using, managing EX Equipment Overhaul & Repair or selling the IECEx/EASA Scheme

Available to anybody who wanted awareness training in Ex Equipment Overhaul & Repair, to enable Ex Equipment Users and Commercial Managers who require greater knowledge of Ex Equipment Overhaul & Repair to attend. There will be no pre-requirement of experience in equipment repair but the number attending will be limited to 9. A certificate of attendance will be provided.

Skill | Knowledge | Attitude | Training | Experience

Explosive Atmosphere Equipment Training - Full Course:

Requirement for Competent Craftsmen Engineers and Authorised Persons

The full 5 day training and assessment program will be available to personnel with experience in equipment repair. Certificates of Assessed Training will be awarded by EASA for personnel who have demonstrated the skill, knowledge and understanding to the standard defined for Operatives and Responsible Person.

Skill | Knowledge | Attitude | Training | Experience

Explosive Atmosphere Equipment Training - 3 Year Refresher:

Follow on from the Initial 5 Day Training Senior Managers, Authorised Persons, Supervisors/Team Leaders

2 day refresher course every three years which will assess knowledge and understanding, practical skills will be verified by demonstration of practical skills.

Skill | Knowledge | Attitude | Training | Experience

2015 Training Schedule Table

Course No:	Type:	Training Dura-tion (days)	Training Dates	Trainer	Venue	EASA Member Price	Non Member Price
	Explosive Atmosphere Equipment Training - 1 Day Awareness of Ex. Atmosphere Equip.	1	16th November 2015	Bob Pearce Flexi Tech Training Ltd	Birmingham England	£215	£240
	Explosive Atmosphere Equipment Training - 3 days EX Equipment Users and Commercial & Sales Management	3	16th - 18th November 2015	Bob Pearce Flexi Tech Training Ltd	Birmingham England	£837	£937
	Explosive Atmosphere Equipment Training - Full Course Operatives & RPs Repair and Overhaul Ex. Atmosphere Equip.	5	16th to 20th November 2015	Bob Pearce Flexi Tech Training Ltd	Birmingham England	£1395	£1562
	Windings & Connections		Wednesday, December 9, 2015 - 12:00pm to 1:00pm (Central Time Zone)	Webinar		$59 per site	$199 per site

Prices Guaranteed if Enough Participants Register

Discounts available on 3 or more staff if registered 6 weeks in advance of the course date!

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Contact Details: For information or to provide details for future Newsletters please contact our editor at secretary@easa9.org