

Bylaws Recommendations: With Your Approval, A Big Win For EASA Members

More Resources, Technical Assistance In New Areas Would Be Available



*By Bill Nielsen, Chair
Ad Hoc Committee-Chapters/Regions
Chairman of the Board
Flanders Electric Motor Service of
Illinois, Inc.
Marion, Illinois*

As reported last month, EASA's Board of Directors **voted unanimously** in June to recommend significant changes in EASA's bylaws.

These changes, if approved by the membership upon balloting next spring, would dissolve the chapters in the U.S. as well as eliminate regions and *strictly* geographically-based representation (such as we have today with regional directors) on the Board of Directors. The changes have been approved in principle. Details (including the actual bylaws and related governing policies changes) are still being worked out and will be presented to the Board at its meeting in February.

Your Board believes these funda-



mental changes, if approved by the membership, will be vitally important to the future of our Association. Of course, there are many factors involved with most decisions, but essentially there is an overarching "big picture" that the Board considered before voting to make these recommendations. To help you understand why we feel these changes are necessary, I'd like to share that "big picture" with you in this column. First, though, here is a bit of background.

Work Began In 2003

The Board's action in June was the culmination of meetings, discussions and extensive research that started in February 2003. At that time, then Chairman Woodrow McClure, Jr. appointed an Ad Hoc Committee on Chapters/Regions with me as chair. We were asked to investigate alternatives to the current chapter structure and related representation issues. Once our work was complete, we were to make our recommendations to the full Board.

The committee included Art Anderson, Jasper Fisher, Brian Gibbon, Woodrow McClure, Jr., Les Parsons and Mike Pence. We met twice (with

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the full Board invited to “sit in” and provide input at one of our meetings). There also was a great deal of communication via e-mail, phone, etc.

Building on the work of the Blue Ribbon Panel in 2000, the committee took into consideration the findings of the “State of the EASA Industry” research as well as those of the most recent Member Needs Assessment Survey. Results from both of these surveys and additional research fed the development of both our strategic plan and the proposal on chapters/regions. The committee was charged with developing recommendations that would benefit *all* members, and while we feel we’ve done that, we also believe it will be the smaller firms who are best served by these changes.

The Big Picture

EASA must always reassess what matters most to the *majority* of the membership and make sure resources are allocated appropriately. This is especially true considering:

- The state of the industry
- Recent and projected membership declines
- Serious revenue pressures of the past few years

When discussing the challenges of our chapter/regional system, it quickly became clear that we could not and should not address such an important issue in isolation. The ad hoc committee and then the Board *had* to look at the organization as a whole. And that “big picture” must take into account our strategic plan (see our recently approved plan in the “Members Only” section of EASA’s Web site) as well as other factors.

- The strategic plan dictates that the Association must not only stay relevant to its current base but also perhaps grow by expanding core competencies and providing technical support and service in *additional area(s)*.

- EASA’s strategic plan also requires the Board to reexamine EASA’s financial model: dues, chapters/regions, services, convention and so forth. We must use our resources more efficiently and effectively. We certainly cannot expand our core services otherwise.
- For decades, members have been required to belong to a chapter and therefore most pay chapter dues — some of which are substantial — despite the fact that they never participate in chapter or regional events.
- In addition, EASA currently rebates to chapters in the U.S. 10% of its dues — well over \$80,000 per year and nearly a half-million dollars over five years. Add the actual chapter dues collected to that, and the five-year total nears \$1 million.
- **Yet, EASA is serving no more than 20% of its members via chapter/regional meetings, with the average around 10%.**
- **Conversely, the Association serves well over 80% of its members directly with its technical support service** via our staff engineers — and most members use this service *multiple times* per year. It is rated by members as **the No. 1 reason for renewing membership**, with chapter/regional meetings far down the list.

Choices Before The Board

I am proud that your Board recognized that this is a critical time in EASA’s history; virtually a crossroad. The questions Board members asked before taking its vote on the ad hoc committee proposal were many, but they considered these essential questions. Should the Association:

- 1) Continue with a system that it knows serves 20% or less of its members

or

- 2) Reallocate resources so that it may work toward expansion of services/core competencies in order to maintain and increase its relevance to its current base and perhaps even grow its membership.

With their vote to recommend bylaws changes to the membership, the Board chose the second point. The big WIN with such a reorganization is that EASA will have more time and money to give the *majority* of its members what they want and need.

Proposed Changes

While there are still many details to be worked out, the new bylaws (still being drafted, as mentioned above) would:

- 1) Remove governance/charters from all chapters in the U.S.
 - a. Chapters in the U.S. would no longer exist.
 - b. Members could continue to meet as networking groups in a fashion similar to EASA’s Roving Chief Executive groups but without requirement for sharing of financial information, etc. These groups will not receive support or recognition from EASA financially or otherwise. Should they choose to do so, they will operate as independent groups, setting up their own self-supporting meetings.
 - c. *Members therefore will not be required to pay chapter dues or be a member of a networking group unless they choose to do so. (Consequently, most members will see a reduction in their total dues cost to EASA.)*
- 2) Eliminate regions and therefore geographically tied representation on the Board of Directors.
 - a. The Association’s Nominating Committee would be made up of the immediate past chairman as chair, the current chairman

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Insulation Resistance Testing: How Low Can Megohms Go?



By Tom Bishop
EASA Technical Support Specialist

All of us in the electrical apparatus service industry test the winding ground insulation resistance of machines such as motors and generators. A frequent question is: What is the minimum acceptable megohm ($M\Omega$) value for this winding? The good news is that there is a standard that identifies minimum values for insulation resistance of rotating machines.

That standard is the "IEEE Recommended Practice for Testing Insulation Resistance of Rotating Machinery," IEEE Std 43-2000. The EASA "Recommended Practice For The Repair Of Rotating Electrical Apparatus," ANSI/EASA AR 100-2001, uses IEEE 43 for its insulation resistance test references. Note that IEEE 43 only applies to rotating machinery. There is no equivalent standard for non-rotating electrical machinery such as transformers. In this article we will delve into determining minimum insulation resistance for rotating electrical machinery.

Purpose Of Testing

Before going into the main topic of minimum insulation resistance, let's go through a brief refresher on

the insulation resistance (IR) test. The primary purposes of an insulation resistance test are to determine if a machine can be placed back into service, or if high potential winding tests such as hipot or surge can prudently be performed. Another important reason for the IR test is to establish a baseline value for the winding insulation condition of an installed machine. If the winding IR value is below the acceptable minimum, the machine should not be energized, and high potential tests should not be performed until the IR value meets or exceeds the prescribed minimum. Good winding ground insulation behaves like a capacitor, becoming charged when voltage is applied across it.

The IR value per IEEE 43 should be taken after applying and holding test voltage on the winding for 1 minute. That allows some of the capacitive effect to stabilize, making the readings more consistent. (The theory of insulation capacitance and other components is very complex and beyond our scope in this article.)

The most common instrument used for the test is the battery powered 500 volt (DC) megohmmeter. One lead is applied to the winding leads (typically all tied to the instrument lead) and the other instrument lead to the frame (ground) of the machine. The meter, which may be digital or analog, will display the winding megohm value. The meter actually applies a voltage and measures the current, then displays

Table 1-Insulation resistance test voltages versus machine rated voltages.

Winding rated voltage (AC or DC)	Insulation resistance test DC voltage
<1000	500
1000-2500	500-1000
2501-5000	1000-2500
5001-12000	2500-5000
>12000	5000-10000

the value of voltage divided by current, i.e., resistance, in megohms. The megohmmeter voltage should be applied and held for 1 minute, and the reading at 1 minute is recorded as the IR value for the test. The recommended test voltage to apply with the megohmmeter increases with machine voltage rating as illustrated in **Table 1**.

Winding temperature affects the megohm value result. As temperature increases, insulation resistance decreases. The cause is not insulation degradation with temperature, but is a physical property of the insulation materials. The IR reading must therefore be corrected for temperature. The temperature correction per IEEE 43 should be to 40° C; and the correction factor for temperature is such that the minimum insulation resistance value is *doubled* for every 10° C *decrease* in winding temperature. **Note:** Windings that are very hot, e.g., over 100° C due to oven baking, may result in relatively low megohm values. Allow the winding to cool to 60° C or lower and then perform a temperature corrected IR test.

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Expressed as a formula the temperature correction factor is:

$$K_t = (0.5)^{(40-T)/10}$$

K_t Factor to multiply T by to obtain insulation resistance corrected to 40° C

T Temperature in ° C at which insulation resistance was measured

Here is an example for a winding being tested is at 35° C:

$$K_t = (0.5)^{(40-35)/10} = (0.5)^{5/10} = (0.5)^{1/2} = 0.707$$

If the measured IR was 100 MΩ at 35° C, the corrected megohms would be:

$$100 \times 0.707 = 70.7 \text{ or about } 71 \text{ M}\Omega \text{ at } 40^\circ \text{ C.}$$

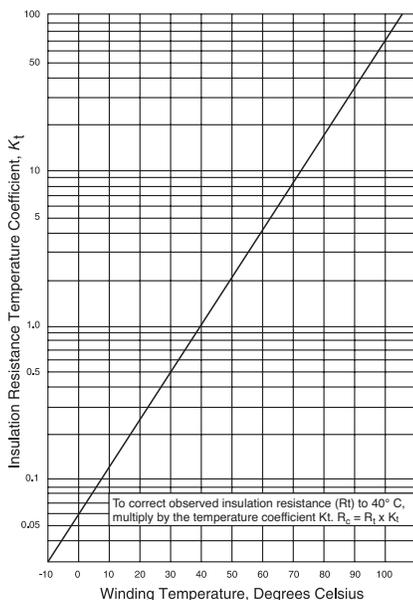


Figure 1. Can be used to graphically convert temperatures to 40° C. (From Section 8 of EASA's Technical Manual.)

Humidity can affect IR readings. However, there are no formulas or “rules of thumb” for the effect of humidity with respect to rotating electrical machine windings. Nonetheless, it is a good practice to record the humidity reading as well as winding temperature and insulation resistance for each IR test. Knowing

these parameters, insulation resistance readings can be evaluated for the possible effect of humidity, recognizing that at higher humidity the IR reading may be lower for a specific temperature.

Interpreting The Results

Having considered how to perform the insulation resistance test, we will now address how to interpret the results. For many years the IEEE 43 standard used the rule of “kV + 1” (1 kV = 1000 volts) to determine the minimum megohms for rotating electrical machinery. After nearly 3 decades of being reaffirmed, from 1974 to 2000, the standard was significantly revised for the 2000 edition. IEEE 43 now states that “for most DC armature and AC windings built after about 1970 (form-wound coils)” the minimum IR is 100 MΩ. That standard also states that “for most machines with random wound stator coils and form-wound coils rated below 1 kV” the minimum IR is 5 MΩ. Capturing the remaining windings IEEE 43 states that “for most windings made before about 1970, all field windings, and others not described” above, the minimum IR is kV+1. For a 240-volt field winding the minimum, using the “kV+1” rule, would be .24 + 1 = 1.24 MΩ.

Note that all of these minimum values are based on a winding temperature of 40° C. The winding rated voltage can be either AC or DC, and the standard states that line-to-line voltage be used for three phase windings, line-to-ground voltage for single phase windings, and (nameplate) rated voltage for DC machines or field windings. If the IR is below the minimums as described above, the machine should not be started or high potential tested. Corrective measures, such as cleaning and baking, should be taken to increase the IR value to an acceptable level.

Minimum IR Rules

We will use some examples to demonstrate the application of the minimum IR rules. Our first example is a form-wound stator winding rated 4000 volts, with an IR of 60 MΩ at 20° C. Recalling that every 10° C decrease results in a halving of the minimum IR value, the 20° C difference means we halve the value twice ($1/2 \times 1/2 = 1/4$), i.e., it is reduced by a factor of 4. That means that the IR value will be 15 MΩ ($60 \div 4$) at 40° C, a value less than the minimum IR of 100 MΩ. The insulation resistance of this winding is not acceptable and corrective measures should be taken.

The second example is a random wound armature rated 500 volts DC with an IR of 52 MΩ at 30° C. Correcting the megohm value from 30° C to 40° C, a 10° C difference, the result is 26 MΩ ($52 \div 2$). The 26 MΩ value exceeds the 5 MΩ minimum value; therefore the armature could be energized (e.g., put back in service) or high potential tested if desired.

The field windings of the random wound armature machine will be used for the third example. The field voltage rating is 150/300 volts and the IR value at 25° C is 12 MΩ. The 15° C (40° C – 25° C) difference dictates that we use the K_t correction factor formula given above. For the sake of brevity we will skip displaying the math and use the resulting factor of 0.354. The corrected megohms are 4.25 MΩ (12×0.354), and the minimum IR is (kV + 1) 1.30 MΩ. Notice that we used the higher voltage rating of the winding to determine the minimum acceptable megohm value. Since 4.25 MΩ is greater than the 1.30 MΩ minimum, the fields can be energized or high potential tested if desired.

Polarization Index Test

Another test, the polarization index (PI) test, is an expansion of the

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IR test. The PI test extends the time of the IR test, lasting for 10 minutes with constant test voltage applied. The PI is the ratio of the IR at 10 minutes to the IR at 1 minute. For example, if the IR at 1 minute was 270 MΩ and the IR at 10 minutes was 590 MΩ, the PI would be 2.2 ($590 \div 270$). In general, the PI of a winding should be 2.0 or greater. The PI test uses the capacitive behavior of winding insulation to check its integrity. As the capacitance effect stabilizes, leakage current decreases and megohms increase.

If a DC hipot is used to perform the PI test, the leakage current in microamps is typically measured. Calculating the PI from current readings can be done by dividing the 1-minute microamp value by the 10-minute microamp value. For example, if the 1-minute value was 0.28 microamps and the 10-minute value was 0.15 microamps, the PI would be 1.9 ($0.28 \div 0.15$). In this case the PI is less than 2; therefore the insulation system condition does not meet the IEEE 43 standard minimum requirement. Further baking and/or cleaning would be in order.

The megohm value of the insulation resistance can be obtained from the DC hipot readings by dividing the applied voltage by the microamps of leakage current. If the PI test voltage in our example was 1000 volts, the 1-minute IR would be 3571 MΩ ($1000 \div 0.28$), and the 10-minute value would be 6667 MΩ ($1000 \div 0.15$). Also of note, according to IEEE 43, if the 1-minute IR is greater than 5000 megohms, the PI may not be meaningful and the PI may be disregarded as a measure of winding condition.

Further Testing

One other potentially useful test is to apply the IR test at the lower recommended test voltage, then

In addition to temperature and humidity, other factors that can affect megohmmeter readings are the instruments and the method of application of the test. The implied accuracy of an instrument may change when the megohm scale is changed. By “implied” we mean the number of significant digits.

discharge the winding, and repeat the IR test at the higher recommended test voltage. For example, apply 1000 volts to a winding rated 4000 volts and obtain the IR, discharge the winding and repeat the IR test at 2500 volts. The winding can be discharged after the IR test by connecting the winding leads together and to ground, e.g., the frame of the electrical machine. (Caution: See “A Closer Look at High Potential Testing of Rotating Electrical Machine Windings” in the August 2003 issue of *CURRENTS* for information on discharging after a hipot test.)

If the IR values are about the same for both voltages, and exceed the minimum IR recommendations, the winding ground insulation is probably in satisfactory condition. Conversely, if the IR value decreases with applied voltage there is a weakness in the insulation system that may necessitate rewinding.

In addition to temperature and humidity, other factors that can affect megohmmeter readings are the instruments and the method of application of the test. The implied accuracy of an instrument may change when the megohm scale is changed. By “implied” we mean the number of significant digits. For example, a

reading of 190 megohms on the 1000-megohm scale of a meter may be indicated more accurately as 185 MΩ on the 200-megohm scale. The 1000-megohm scale has 2-place accuracy in this case when reading below 200 MΩ, and the meter has 3-place accuracy on the 200-megohm scale.

Results When Voltage Reapplied

Another factor is the charging current decay and change in reading as voltage is reapplied. The insulation is a capacitor and the current across it becomes lower with time. Applying the megohmmeter and maintaining the voltage causes the capacitive current to decrease, thus increasing the megohm value (megohms = volts divided by microamps). If the megohm reading at one minute is obtained from one lead of a winding and the megohmmeter reapplied to another set of leads, the second megohm test value will be higher than the first.

The reason is that some of the winding capacitance has been discharged by the first test, thus the second test begins at a megohm value greater than that of an uncharged winding. This case applies when the leads of the winding being tested are interconnected internally, i.e., there is continuity among all the leads. When there are separate windings, e.g., a 6-lead wye-delta motor with separate circuits of leads 1-4, 2-5 and 3-6, each circuit should be tested individually. The separate circuits should be tested to ground, with all other circuits intentionally connected to ground.

A final note of caution: Make certain that the machine to be tested has been ventilated prior to the IR test, particularly if a winding fault is suspected. Gases from the fault (or from a volatile substance such as a solvent or paint) may be ignited by the IR test if an arc occurs during the test.

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- and vice chairman, as well as at least two members-at-large.
- b. The Nominating Committee will be responsible for recommending to the Board and membership the most qualified and willing candidates from the entire membership to serve as Board members.
 - c. This committee will be charged with the task of recommending individuals that are representative of EASA's membership while avoiding disproportionate representation geographically or otherwise.
 - d. Note that many trade associations, particularly those in the industrial arena, conduct their nominating process quite successfully in a similar manner.
 - e. The Board believes that being able to recommend to the membership a broader range of director candidates (rather than limiting the field to past chapter presidents, as is currently the case) will only enhance the representation provided at the Board of Directors' level.
- 3) Chapters currently based outside the United States will continue to exist and receive financial support from EASA, and chapter membership will still be required of members in these areas.
 - a. The current dues rebate will be continued as long as these chapters are successful in serving/maintaining their existing membership and in attracting new members.
 - b. EASA recognizes that in these cases, the chapters are able to provide industry representation before governmental, academic and other entities that EASA International would not be able to provide from the U.S.

Summary

Serving the membership via the chapter/regional system made sense

for decades. Your Board is not disputing that by any means. After all, keep in mind that each Board member basically "grew up" in our respective chapters! We are not recommending change for the sake of change. But the current system simply no longer makes sense. And, we can no longer be "just motor repair."

Your Board of Directors believes strongly that EASA must change, evolve and essentially "reinvent itself" **NOW** while the Association is strong. We will appreciate your support in making that happen.

Please see the Q&A section that starts below for further information and clarification regarding the Board's proposals. And, if you have any additional questions or comments, please submit them to me (bnielsen@flanderselectric.com) and our CEO, Linda Raynes (lraynes@easa.com). Of course, feel free to phone or fax as well. We will be happy to hear from you.

Questions & Answers Related To Proposed Association Bylaw Changes

While many details are yet to be worked out, following are questions members might have, along with the appropriate answers, relative to the proposed bylaws changes the Board will be recommending to the members next spring:

- Q.** When would the new bylaws take effect?
- A.** Detailed proposed changes in the bylaws (which are being developed now) will be discussed by the Board at its February 2005 meeting and presented to the membership for a vote during the spring. If approved, the bylaws would become effective in the 2005-2006 administrative year that

begins June 29, 2005.

- Q.** What would happen to the existing chapter treasuries?
- A.** These funds belong to the chapters, and there is absolutely no intent on the part of EASA to gain control of any of these monies. The bylaws of the respective chapters usually dictate that upon dissolution, the chapter funds shall be distributed among the members in good standing at the time. Or, it's possible that members (if given the choice by the chapter) can opt to allow the chapter to retain the funds for the purpose of holding meetings in the future. Chances are a good number of chapters will choose to distribute the funds among existing

members as per their bylaws.

- Q.** Will these changes affect chapters/regions during EASA's current fiscal year that began on September 1, 2004?
- A.** No. Chapter dues will be collected as usual, and 10% of EASA International dues still will be rebated to chapters in the U.S. (15% to chapters outside the U.S.) per our current system. EASA Headquarters will send dues invoices in late November/early December and collect and remit dues to the chapters through April (April 1 is the beginning of the new membership year) as in the past. Again, the proposed

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- changes will not be effective at all in the current fiscal year.
- Q.** With the potential for these significant changes, can we plan or schedule a chapter or regional event?
- A.** Yes. Since none of the changes would take effect until mid-2005 at the earliest, chapters or regions can schedule and fund any event as they have in the past. The caveat is the *possibility* that this would be the last year for dues payments to be remitted to them, so they need to make sure not to schedule anything they would not be able to support.
- Q.** Can chapters continue to meet?
- A.** Yes. Chapters may choose to continue to meet as networking groups in a fashion similar to EASA's Roving Chief Executive (RCE) Groups but without requirement for sharing of financial information, etc. RCE groups do not receive any support or recognition from EASA financially or otherwise.
- Q.** Would there continue to be regional meetings?
- A.** Because of the *possibility* that chapters in the U.S. will no longer exist beginning in mid-2005, we would recommend avoiding scheduling any regional meetings beyond next spring.
- Q.** Since there wouldn't be "official" chapter or regional meetings, will EASA International provide something similar to regional meetings?
- A.** The Association, in coordination with the Board and volunteers, would have the *option* of creating "Specialty Conferences" that may be offered in strategic locations in the U.S. If such meetings are not successful, however, the Board would also have the option of discontinuing them and offering alternative services for the members.
- Q.** What about the dues rebates (the 10% of EASA dues) that currently are remitted to chapters in the U.S.? What would EASA International do with the money it would save by not rebating this portion to the chapters?
- A.** These funds would go to support EASA's strategic plan that, among other things, calls for expanding core services by providing technical support and service in *additional areas*. More research needs to be done, but this might start with hiring a pump specialist. Approximately 90% of our members repair pumps, and in many cases, this is an area that is expanding for members as they work to replace business they've lost on the motor repair side. Yet many members have a much more limited knowledge of pumps. And while our current technical support staff is certainly capable of helping with many questions related to pumps, they do not have the background or expertise of a "pump specialist." EASA also views this as a potential growth area in terms of membership. Members have told us overwhelmingly — both via our Member Needs Assessment Survey and *actual usage* — that our technical support service is the No.1 reason they remain members. The Board believes strongly that it should devote these resources to the benefit that serves well over 80% of the members as opposed to the chapter/regional meetings structure, which serves significantly less than 20% of our members.
- Q.** Would the amount of my dues be affected by these proposed changes?
- A.** While we don't know how other forces will affect dues in the future, we do know that members of current U.S. chapters would no longer be required to pay chapter dues or be a member of a networking group. Most members, therefore, would see a reduction in their total dues cost to EASA if the proposed bylaws are approved.
- Q.** Would directors represent a geographic region?
- A.** No. Directors would be elected at-large, although the Nominating Committee will be charged to avoid disproportionate representation geographically or otherwise.
- Q.** Would current directors continue to serve on the Board?
- A.** Yes. Current directors will continue to serve the terms for which they were elected. If the new bylaws are approved, as directors complete their terms, new director candidates will be selected by the Nominating Committee and voted on by the entire membership.
- Q.** How would Board members be elected?
- A.** When current directors complete their terms, the Nominating Committee would be responsible for recommending to the Board and membership the most qualified and willing candidates from the entire membership to serve as Board members. Members would then be presented the slate for voting.
- Q.** Would chapters outside the U.S. continue to operate as they currently have, and if so, why?
- A.** Yes. Chapters outside the U.S. would continue to receive financial support (through dues rebates) and recognition as chapters. The Board quickly determined that chapters outside the U.S. are able to provide industry representation before governmental, academic and other entities that EASA International would not be able to provide from the U.S.

EASA Convention Attendees Win Prize Money In Exhibit Hall

In addition to the valuable information picked up at this year's convention in Washington, DC, many attendees received a special bonus for the time they spent in the exhibit hall: cash door prizes.

Winners are listed below:

\$500 Winners

David Carene, Detroit Electric Motor Works, Inc., Hazel Park, Michigan; Sandra Schmidlkofer, K&N Electric Motors, Inc., Spokane, Washington; Jewel Lorentzen, Foster Electric Motor Service, Chandler Arizona; Rebecca May, Trade-Mark Industrial, Inc., Kitchener, Ontario, Canada; Mary Mendes, Los Banos, California; Michael J. Stewart, Stewart's Electric Motor Works, Inc., Orlando, Florida; Steve Jacobson, Precision Drive & Control, Inc., Monroe, Wisconsin; Jerry Gray, Sloan Electric Co., San Diego, California; David Hamilton, Oskaloosa, Iowa; Timothy Robertson, R/S Electric Motor Service, St. Joseph, Missouri; and Terry Glass,



EASA President & CEO Linda Raynes presents exhibit hall prize money to (from left) David Hamilton, Terry Glass and Timothy Robertson. Each received \$500 in prize money.

A.O. Smith Corp., Distribution Services, Tipp City, Ohio.

\$400 Winners

Walter Doyle, Industrial Motor & Control, Inc., Phoenix, Arizona; Carol Dupuis, Monelco, Ltd., Windsor, Ontario, Canada; Anita Kephart, Electrical Mechanical Services, St.

Paul, Minnesota; Christopher Graham, Volland Electric, Buffalo, New York; Carol Blevins, Electric Motor Repair & Sales Co., Bristol, Virginia; Gerry Siemon, Ampro Electric, Ltd., London, Ontario, Canada; Jimmie Neace, Priest Electric, Caldwell, Idaho; Wiley Gibson, Gibson Electric Motor Sales & Service, Inc., Pascagoula, Mississippi; Rick Schultz, R/S Electric Motor Service, St. Joseph, Missouri; Scott Mohler, Mohler Technology, Inc.; Boonville, Indiana; Ken Gralow, Gray Electric Co., Schenectady, New York; and Clive North, Rotational Power Group, Ltd., Auckland, New Zealand.

\$300 Winners

David Barcomb, Troy Motor Service, Watervliet, New York; and Rene Robertson, Transwest Mining Systems, Inc., Port Coquitlam, British Columbia, Canada.

EASA Award Nominations



Do you know someone who has rendered lifelong exceptional service to the electrical apparatus sales and service industry? Nominate him or her for EASA's Exceptional Achievement and Service Award.

See more detailed information on the enclosed form.

**Nominations are due
January 1, 2005
and the winner will be announced at
next year's Nashville, TN Convention**



New Active Members

EASA welcomes the following companies, which became Active members within the past year.

Rios Electric Motor

HC 03, Box 23428
Arecibo, 00612
Puerto Rico
Rep: Marcos Rios
Phone: 787-880-4985
Fax: 787-880-4985

Western Utilities Transformer Service

1010 N. Plaza Dr.
Visalia, CA 93291
Rep: Anthony Borba
Phone: 559-651-0141
Fax: 559-651-0143

PowerHouse

788 Hwy. 24
Newport, NC 28570
Rep: Chimer Clark
Phone: 252-222-0036
Fax: 252-222-0056

Servicio Electromecanico Integral

Hacienda de Malpaso 143
Naucalpan de Jaurez, 53310
Mexico
Rep: Sergio Altamirano
Phone: 52-55-53294644
Fax: 52-55-53971855

BNG Equipment

2201 Jessica Ave.
Mission, TX 78573
Rep: Franklin Brown
Phone: 956-584-7140
Fax: 956-316-1197

Bluegrass Electric Motor & Pump Repair, LLC

15650 Gardnersville Rd.
DeMossville, KY 41033
Rep: Carl Allen
Phone: 859-363-0854
Fax: 859-363-1720

Hock Cheong Electric Pte., Ltd.

49 Kallang Place
Singapore, 339175
Singapore
Rep: Tien Fook Wong
Phone: 65-62931122

Edison Electrical Works

Manalur Keerapalayam
Chidambaram, Tamil Nadu 608 602

India

Rep: Agoram Muthukumaran
Phone: 91-4144-230483
Fax: 91-4144-230423

Dan's Oilfield Electric & Motor Shop

P.O. Box 1402
Graham, TX 76450
Rep: Dan Sloan
Phone: 940-549-7821

Industrial Drive Service, Inc.

151 Richmond St., S.W.
Hensall, ON NOM 1X0
Canada
Rep: James Keys
Phone: 519-262-2837
Fax: 519-262-2310

Magnetech Industrial Services, Inc.

1029 7th Ave.
Huntington, WV 25701
Rep: Robert Grounds
Phone: 304-529-3264
Fax: 304-529-3266

Magnetech Industrial Services, Inc.

1125 S. Walnut St.
South Bend, IN 46619
Rep: John Martell
Phone: 574-234-8131
Fax: 574-232-7648

Power & Pumps, Inc.

P.O. Box 1536
Tampa, FL 33550
Rep: Tommy Nichols
Phone: 813-621-8071
Fax: 813-623-5591

Dowding & Mills PLC

10 Bluestem Rd., Ransomes Park
Ipswich, Suffolk IP3 9RR
England, UK
Rep: Martin Stratford
Phone: 44-1473-717071
Fax: 44-1473-717075

Dowding & Mills PLC

3-4 Kirkton Ave. Pitmedden Rd. Ind'l Est
Aberdeen, Aberdeenshire AB21 0BF
Scotland, UK
Rep: Norman Campbell
Phone: 44-1224-427200
Fax: 44-1224-723560

Dowding & Mills PLC

Atlantic St.
Altrincham, Cheshire WA14 5DJ
England, UK
Rep: Benny Hinchliffe
Phone: 44-161-9286444
Fax: 44-161-9269685

Dowding & Mills PLC

Centurion Ind'l Pk, Bitterne Rd., W.
Southampton, Hampshire S018 1ZA
England, UK
Rep: Dave Hewitt
Phone: 44-2380-631611
Fax: 44-2380-223663

Dowding & Mills PLC

Coldwall St.
Sheffield, South Yorkshire S9 3WP
England, UK
Rep: Geoff Barnes
Phone: 44-114-2446661
Fax: 44-114-2436823

Dowding & Mills PLC

Fulwood Rd., S., Fulwood Industrial Est.
Sutton-in-Ashfield, Nottingham
NG17 2JZ
England, UK
Rep: Jason Horton
Phone: 44-1623-511242
Fax: 44-1623-440278

Dowding & Mills PLC

Lochlands Industrial Est., Larbert
Falkirk, Stirlingshire SK1 3NN
Scotland, UK
Rep: Graeme Robertson
Phone: 44-1324-556511
Fax: 44-1324-552831

Dowding & Mills PLC

Lower E. St.
Middlesbrough, Cleveland TS2 1QQ
England, UK
Rep: Carl Mudd
Phone: 44-1642-248451
Fax: 44-1642-232577

Dowding & Mills PLC

Third Way
Avonmouth, Bristol BS11 9HL
England, UK
Rep: Phil Mason
Phone: 44-117-9381188
Fax: 44-117-9380066

Meeting Spotlight

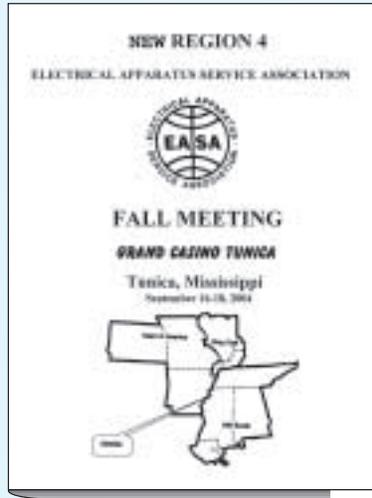
Highlights Of Upcoming EASA Chapter/Regional Events

Region 3 Meeting

- September 23-25
- The Hyatt on Capital Square Columbus, Ohio
- Contact Mike Moshier by phone at 614-444-1451, e-mail at mmosh@aol.com; Kevin Krupp by phone at 989-684-7460, e-mail at kevin@yorkelectric.com.
- Guest speaker will be EASA International Chairman Bill Nielsen. Sessions are planned on these topics: "How to Develop a Quality Control System Using EASA-Q," presented by A-1 Electric; "Electrical Safety as it Relates to Motor Maintenance & Testing," by Dennie Neitzel, AVO International – Biddle, Meggers; "How to Develop a Shop Layout for Maximum Work Flow to Reduce Overhead," by Tom Mahoney, West Virginia Manufacturing Extension Partnership; "Clearing Up the Confusion Regarding Micarta, Melamine and Other Insulation Products," by Jim Graffigna, Omnitek Products, Inc.; "Key Financial Indicators to Profitable Operation of a Motor Repair Facility"; "How to Use Motor Status as a Warranty Tool to Protect You"; "Operations and Setup of Soft Starts"; "Are You Environmentally Compliant? Are you Sure?" by Paul Ball, Environmental Remediation Systems; and "What You Need to Know When You Repair Pumps," by Roger Jenkins.

Region 4 Meeting

- September 16-18
- Grand Hotel Tunica, Mississippi



- Contact Sandra Gibson by phone at 228-762-4923, e-mail at sagibson@cablone.net; Bob Giesen by phone at 316-267-1238, e-mail at bfgiesen@swbell.net; or Linda McLaughlin by phone at 636-343-9700, e-mail at mhclsm@sbcglobal.net.
- Guest speaker will be International Chairman Bill Nielsen. John McLaughlin of McLaughlin Hoist & Crane will give a presentation on hoists and Shane Lilley of Southland Carbon Products will lead a session on brushes and commutation. Jerry Peerbolte of J. Peerbolte & Associates will lead a session on "Developing a Marketing Game Plan: Strategies, Techniques & Tools."

Region 6 Meeting

- October 1-3
- Radisson Corpus Christi Beach Hotel Corpus Christi, Texas
- Contact Diane Werling by phone at 972-939-8588, e-mail at easasw@aol.com.
- Sessions are planned on "Chem-

icals in the Workplace," "Revenue Opportunities With Transformers," "State of the EASA Industry," "The Latest in Shop Safety – Loss/Risk Evaluations," "Rigging (Crane & Hoist)" and "Starting a Web Site."

Region 7 Meeting

- September 9-11
- Harrah's Reno Casino & Hotel Reno, Nevada
- Contact Kevin "Fuzz" Thurston by phone at 208-436-4658, e-mail at emridaho@pmt.org.
- Theme for the conference will be "Changing to Reach New Heights." Guest speakers will be John McFarland, president and CEO of Baldor Electric Co. and Bill Nielsen, EASA chairman of the board. Sessions are planned on "Change & Growth of Coil Insulation Systems," "Varnish Consideration and Supply Changes," "Service Center Software Reaching New Heights," "Adapting to Changes in Workman's Comp," and "Changes & Advances in Test Equipment."

Region 9 Meeting

- September 30-October 3
- Sheraton Porto Hotel & Spa Oporto, Portugal
- Contact Brian Gibbon by phone at 44-121-353-7865, e-mail at brian.gibbon1@bopenworld.com.
- Guest speaker will be International Chairman Bill Nielsen. Attendees will tour WEG Electrical Machines. John Allen of Dowding & Mills PLC will give a presentation

Continued On Page 11

Spotlight On Associate Members

EASA welcomes the following companies, which became Associate members within the past year.

Klozure Dynamic Seals

Klozure Dynamic Seals in Palmyra, New York, was founded in 1887 and produces oil seals, bearing isolators and mechanical seals. The company is a division of Garlock Sealing Technologies, an EnPro Industries Company.

Klozure oil seals and bearing isolator products have been used extensively in the steel and pulp and paper industries. Company representatives say their focus on sealing is bringing greater productivity and profitability to chemical processing, hydrocarbon processing and power generation plants as well as facilities serving such industries as pharmaceutical, food, light and medium duty manufacturing.

For more information, contact: Barbara J. Ross, Klozure Dynamic Seals, 1666 Division St., Palmyra, NY 14522; phone: 315-597-4811; fax: 866-645-7325; e-mail: barb.ross@garlock.com; Web site: www.klozure.com.

Electro Static Technology

Electro Static Technology in Mechanic Falls, Maine, began operating in September 1986. The company is a division of Illinois Tool Works, Inc.

Electro Static Technology was founded to provide innovative passive ionization solutions to industry. The company invented the patent pending AEGIS™ Rotary Coupling for Shaft Grounding and Bearing Isolation applications. The key to the coupling's performance is a unique technical innovation called Electron Transport Technology™. This technology combines passive ionization physics with the use of sub-micron particles to boost the electron transfer rate beyond that of any other rotating electrical coupling.

To learn more, contact: Tony King, Electro Static Technology, 31 Winterbrook Rd., Mechanic Falls, ME 04256; phone: 207-998-5140; fax: 207-998-5143; e-mail: tking@est-static.com; Web site: www.est-static.com.

Chapter/Regional Meeting Dates

September

New England	17-18
Midwestern	16-18
North Central	24-25
Ontario	10-11
Quebec & Maritimes	3
Region 3	23-25
Region 4	16-18
Region 7	9-11
Region 9	30
Rocky Mountain	16-19
Tri-State	21
Western Canada	16-18

October

Australasian	16-18
Central District	12
New York Metropolitan	21
Region 2	7-9
Region 6	1-3
Region 9	1-3

November

Central District	20
Quebec & Maritimes	27
Tri-State	16

December

Northern California	7
Wisconsin	4

January

New York Metropolitan	20
Ontario	21-22
Quebec & Maritimes	21

March

New York Metropolitan	17
Quebec & Maritimes	18

April

Heart of America	22-23
Northern California	8-9
Ontario	22-23
Quebec & Maritimes	22
Region 6	1-3

May

New York Metropolitan	19
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June

Quebec & Maritimes	17
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Meeting Spotlight

Continued From Page 10

on the "Affects of Amendments to BSIEC 60079-19 to the Business of Hazardous Area Equipment Repair." There also will be a session presented by WEG Electrical Machines on "Manufacturing Standards for Electric Motors for Use in Hazardous Areas."

Western Canada Chapter Meeting

- September 16-18

- Harrison Hot Springs Resort and Spa
Harrison Hot Springs, British Columbia
- Contact Rene Robertson by phone at 604-941-6611, e-mail at rrobertson@transwest.ca.
- EASA Technical Support Specialist Tom Bishop will present sessions on "Root Cause: Winding & Rotor Failures" and "Root Cause: Bearing & Shaft Failures."

Be Sure To Complete Activities, Facilities Section Of Yearbook Survey

Members will soon receive (or have already) EASA's yearbook survey for 2005-2006. Please return your survey promptly to assure your correct and up-to-date listing in the directory and on our Web site.



Please note that EASA's activities year has modified and updated. **In this year's survey**, you must complete the Activities and Facilities section (Item #6) on Page 3 of the survey. **If you return the survey with this area blank, no activities or facilities will be listed in the next yearbook.**

And, if the information you provide changes at all during the year, please let us know.

With the speed and convenience of electronic communications, it's especially important that we have your current e-mail addresses.

Therefore, please be sure to provide or correct e-mail addresses for your

company as well as your company representative(s) in the space provided in the survey. And, if your company has a Web site, please provide that information.

Also, it's very important for the company's "official representative" to sign the survey on the designated line at the bottom of the first page of the survey. The "official representative" is the survey recipient, whose name also is shown on Page 2 of the questionnaire.

This survey also gives you the opportunity to add representatives to your yearbook listing, and to purchase subscriptions of *CURRENTS* for your key staff members for the very nominal price of \$12 (U.S.) per year. Please contact EASA Headquarters if you have any questions about the survey.

The completed surveys are due at EASA Headquarters no later than November 5, 2004.

"Principles" Seminar Offered October 1-2

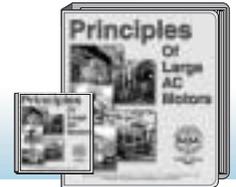
EASA's highly acclaimed "Principles of Large AC Motors" seminar will offered October 1-2 in Charlotte, North Carolina. If you haven't had the opportunity to attend this seminar, sign up today. This will be the only time it will be offered this "seminar season."

While the course covers horizontal and vertical squirrel-cage induction motors in the 300 to 5,000 horsepower range, low and medium voltage, **most of the principles covered apply to other sizes as well.**

The material is relevant to North American and international standards.

Technical Support Specialist Tom Bishop will be the instructor for the seminar.

To register, see the enclosed flyer, register at www.easa.com or call EASA Headquarters at 314-993-2220.



Plan To Attend EASA's 2004-2005 Seminars

Dates	Seminar	City
October 1-2, 2004	Principles of Large AC Motors	Charlotte, NC
November 5-6, 2004	Root Cause Failure Analysis	New Orleans, LA
March 18-19, 2005	Fundamentals of DC Operation & Repair Tips	Denver, CO
April 22-23, 2005	Mechanical Repair Fundamentals of Electric Motors	St. Louis, MO
May 6-7, 2005	Root Cause Failure Analysis	Cleveland, OH

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