

# Advantage AGMA

## Technical Committees

### Build Knowledge & Experience in Gear Industry

Matthew Jaster, Associate Editor

The world is full of acronyms. At work, the inbox reveals e-mails from the AWEA, SAE, MPIF and AMT. On the weekends, Saturday mornings are consumed by activities involving the AYSO, PTA, YMCA or DMV. It's a struggle to determine what organization does what and why we should care in the first place.

There are certain acronyms for certain people. If you're trying to save a rain forest, you're probably interested in the EPA. Want to play third base for the Yankees? Try the MLB. If you're in the business of gears, it might not hurt to know a thing or two about AGMA.

"For an individual starting out in the gear industry, AGMA can offer individual education programs that will aid them in developing expertise in areas such as gear design, manufacturing and failure analysis," says Dave Ballard, corporate manager at SEW-Eurodrive, Inc. and vice chairman/treasurer of the AGMA board of directors. "For me personally, during the course of my career in this industry, I have interacted with AGMA in furthering my knowledge of gear failure, interpreting standards, sales and supplier networking and marketing evaluations."

Members also have an opportunity to participate in AGMA's various technical committees. For some, volunteering provides a chance to address key issues, stay informed on current events and become an active participant in the industry. Many business professionals try a variety of strategies to get ahead in their careers. They look for mentors, update resumes and network over the phone or Internet. They sometimes forget the most valuable tool they have to offer is their time.

**Shortening the learning curve.** AGMA was created in 1916 by nine U.S. gear companies with the objective of advancing, improving and promoting the gear industry. Today, more than 400 companies worldwide participate in the organization. One of the key aspects to AGMA's success is the people that volunteer their time and services to work on the various technical committees.



Members of the Epicyclic Enclosed Drive Committee in the fall of 2007 included from left to right: (Seated): Terry Klaves, the late Don McVittie, Chuck Schultz and Dick Schunck. (Standing): Charlie Fischer, John Amendola, Vanyo Kirov, Octave LaBath, Johannes Picard and Tom Miller.

When Phil Terry joined Lufkin Industries, Inc. in 1996, he made it a priority to get involved with AGMA immediately. "My new co-workers recommended becoming active with AGMA as soon as I arrived and described the way in which their own introduction to gear technology had been accelerated by their involvement," Terry says. "I was able to get an understanding of the special material requirements, the specific gear terminology and

establish a network of contacts."

Lufkin found his own experience to be invaluable when meeting with customers, certifying authorities or trainees about standards and similar documents. "There is nothing quite so convincing as saying, 'I helped write the standard' when a detailed technical point from a document is questioned or there is a subtle nuance in a clause."

His work on both the Metallurgy and Materials Committee and the Technical Division Executive Committee significantly shortened the learning curve and gave him the necessary skills to further his knowledge of the gear industry.

"In the early days of the development of the AGMA 923 document, I acted as secretary and had to get all the words and terms correct. A specific question about heat treatment response in large section parts arose and through the in-house facilities available at my own company, I was able to perform actual trials to confirm the recommendations I was proposing. The power of scientific data on the table was clear."

Robert Wasilewski, chairman of the Bevel Gearing Committee, also started out as secretary when he first got involved with AGMA.

"While this is often seen as a thankless task, it really is vital. As secretary, you control the meeting. You have to understand what is going on or you can't describe it. Learning to be a good secretary builds the foundation you need to write a better standard by learning how to describe the committee's intention. This is the perfect job for the new member."

Wasilewski's experience on the Computer Programming

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Committee is beneficial because every detail has to be covered in order for the program to function. "There is no better way to understand how to use a technical standard than to try and program it," Wasilewski says.

Wasilewski has devoted countless vacation days to his work on AGMA. Most members he knows do the committee work on their own time. No matter how chaotic it might get, he's always found something positive in the experience.

"Most of the committee members volunteer to do tasks because they want to work on a particular material. Either they're familiar with it, or they want to be. I look at it as learning. Take time at work to learn and take time after work to learn. You should only stop learning when you're dead!"

For George Lian, senior project engineer at Amarillo Gear Co., work on the Bevel Gearing, Helical Gearing and Programming Committees has helped his full time job immensely.

"Committee work has given me advanced knowledge in AGMA standards related to the gear product for my company. Consequently, I was able to make better judgments in designing gears and improving manufacturing processes."

Lian states that the work he's done on the Programming Committee is a far different experience than anything else he's worked on.

"The members would meet in a city with nice scenery, but would be in the hotel writing codes the entire time.

The sessions would usually continue late (past midnight). Members are usually easy-going, but they're dead serious when writing codes. At times, however, a member could be influenced to write code in a certain way by tempting them with chocolate."

As far as the workload is concerned, Lian says it's not difficult when the work is interesting and you have an understanding family. "Although many hours are used doing committee assignments, there's still ample time to be with family and friends."

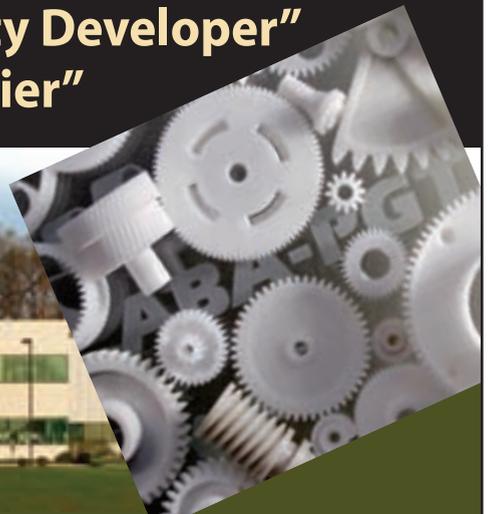
**Technical difficulties.** The most challenging task for AGMA is recruiting new members for the technical committees. According to Wasilewski, sometimes potential members are not given support from their upper management.

"Committee participation is looked at as an expense, not as an education. Management must understand that good engineers need continuous learning and exposure to contemporaries. These companies need to realize that if you send a new engineer to the committee, you start to build the developed engineer you'll need in the future. If nothing else, they should remember that having a participant gives them a voice in the standards that affect their products and helps protect their interests."

Lian believes the recruitment process should be addressed at AGMA annual meetings or other functions where attendees can influence companies to send employees to technical

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committees. He also thinks new members could be recruited by running advertisements in gear-related publications.

Lukfin says recruitment is a continuous process. "All committee members are continually searching for new members, and the full time staff of AGMA always discusses technical committee work with potential new member companies and during visits to existing company members."

While there are many benefits to technical committee work, not everyone sees committee work as an advantage to an individual's career goals. Michael T. Robinson has been in the semiconductor industry for 30 years and is the founder of a website called [www.careerplanner.com](http://www.careerplanner.com) that helps people build more fulfilling and rewarding careers.

Robinson explains that sometimes management sees standards committees as a necessary evil and expense until there is something they need done by the committee.

"These include influencing standards, hearing new trends and changes within the industry and getting an advanced look at technical papers," Robinson says.

Another cause for concern for Robinson is the amount of time some volunteers take if they hold a chair position or head an annual technical conference. The work it takes to volunteer for such activity may have an adverse effect on their full-time jobs. The key for Robinson is to be an active participant at your full-time job and make sure whatever you do outside the office, it gets back to the office first and foremost.

"It's critical to attend technical conferences in your field,

hear the questions, review the papers and see what your competitors are talking about. When you get back to the office, you should give a presentation on everything you've learned."

While there are definite obstacles in trying to balance your full-time job with your volunteer work, Wasilewski believes the positives far outweigh the negatives. He will continue to support the various committees he serves.

Wasilewski frequently tells people that he "brings home more from an AGMA meeting than he brought to it." Typically, the people working on a particular project share similar or complementary responsibilities in the gear industry.

"Often, they relate some experience that you can use in your position, either now or in the future. They, in turn, can learn from even the newest person. Each member company is unique, and each has experiences to share. Meetings are often an open dialog full of these experiences," Wasilewski says.

"Where else can an individual go today and work with a room full of mentors?"

(See sidebar next page.)

#### For more information:

AGMA  
500 Montgomery St. Suite 350  
Alexandria, VA 22314  
Phone: (703) 684-0211  
Fax: (703) 684-0242  
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## What Does AGMA Offer?

So what are your options when considering participation in an AGMA technical committee? It all depends on your area of expertise and your various interests. Here's a breakdown of the committees currently available online at [www.agma.org](http://www.agma.org).

### Technical Division

*Technical Division Executive Committee:* This committee supervises the development of AGMA standards and organizes the Fall Technical Meeting as well as technical education seminars throughout the year.

### Academic, Research & Technical Liaison Committees

*Academic Committee:* Supports the American academic community in the education of the gear industry. *Computer Programming Committee:* Facilitates standards using computer software.

### International Standards

*ANSI Technical Advisory Group:* Contributes to the development of international gearing standards.

### Specialty Standards

*Data Exchange Protocol Committee:* Develops a system of storage and retrieval of digital gear metrology and related data for cylindrical gears.

*Fine-Pitch Gearing Committee:* Evaluates design considerations, tooth forms and other aspects that must be treated in a different manner for fine-pitch gears and face gears.

*Nomenclature Committee:* Develops definitions, symbols, terms, etc., for all types and elements of gears.

*Plastics Gearing Committee:* Evaluates materials, design, rating, manufacturing, inspection and application of molded or cut-tooth plastic gearing.

*Powder Metallurgy Gearing Committee:* Evaluates materials, design, rating, manufacturing, inspection and application of powder metallurgy gearing.

### Manufacturing & Inspection

*Calibration Committee:* Develops methods of calibration for equipment used in the manufacture or inspection of gears.

*Cutting Tools Committee:* Evaluates tools for producing gear teeth, such as hobs, shaper cutters, etc. (Committee maintains liaison with organizations involved directly with such tools and prepares AGMA standards only when the need is not being met).

*Gear Accuracy Committee:* Develops classification system covering dimensional accuracy of gears and associated measurement methods of equipment.

*Sound & Vibration Committee:* Evaluates sound and vibration specifications and methods as applied to gearing, generally to enclosed gear drives.

### **Rating Standards**

*Bevel Gearing Committee:* Evaluates all aspects of bevel gearing, except inspection.

*Helical Gear Rating Committee:* Determines strength and durability rating of spur and helical gears.

*Lubrication Committee:* Covers the description and application of lubrication of open and enclosed gear sets.

*Metallurgy & Materials Committee:* Evaluates gear materials and heat treatment.

### **General Product Standards**

*Enclosed Drives for Industrial Applications Committee:* Evaluates design, rating and application of enclosed drives in which helical, herringbone or spiral bevel gears are the principal form of gearing.

*Epicyclic Enclosed Drives (Planetary) Committee:* Evaluates design, rating and application of enclosed drives employing epicyclic gear arrangements.

*Flexible Couplings Committee:* Evaluates design, rating and application of mechanical connectors for transmitting torque without slip and for accommodating misalignment between axially oriented rotors.

*Wormgearing Committee:* Covers all aspects of cylindrical and globoidal worm gearing, including design, rating and application of enclosed drives, and inspection.

### **Specialty Product Standards**

*Aerospace Gearing Committee:* Determines special considerations required for gears used in manned and unmanned aircraft, rockets and missiles, and for the guidance and data systems used for control.

*Helical Enclosed Drives High Speed Units Committee:* Evaluates design, rating and application of enclosed helical gear drives where the pitch-line velocity exceeds 5,000 fpm, or pinion speed exceeds 3,600 rpm.

*Helical Enclosed Drives Marine Units Committee:* Evaluates design, rating and application of enclosed drives in which helical gears are the principle form for propulsion and/or ship service generator sets.

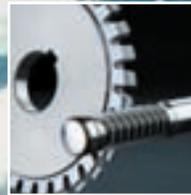
*Mill Gearing Committee:* Evaluates special considerations required for helical and herringbone gears used to drive cylindrical grinding mills, kilns, dryers and metal rolling mills.

*Vehicle Gearing Committee:* Evaluates special considerations required for gears used on vehicles propelled along the ground.

*Wind Turbine Gear Committee:* This is a joint committee with the American Wind Energy Association (AWEA) that develops gear standards used in the production of wind energy.

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