



# IESNA Update

By Tom Baker

The Illuminating Engineering Society of North America (IESNA) is the recognized technical authority on illumination. For nearly 100 years, its objective has been to communicate information on all aspects of good lighting practice to its members, to the lighting community, and to consumers, through a variety of programs, publications, and services.

The IESNA is a forum for the exchange of ideas and information, and a vehicle for its members professional development and recognition. Through technical committees, with hundreds of qualified individuals from the lighting and user communities, IESNA correlates research, investigations, and discussions to guide lighting professionals and lay persons via consensus-based lighting recommendations. The Society publishes nearly 100 varied technical publications, and works cooperatively with related organizations on a variety of programs and in the production of jointly published documents and standards. Local IESNA Sections and many lighting corporations offer formal educational programs on lighting utilizing material developed by IESNA. Sections offer programs related to specific applications based on IESNA standards - seminars on sports and recreational lighting, lighting industrial facilities, roadway lighting, museum lighting, to name a few.

Virtually every curriculum devoted to lighting - from beginner to advanced - includes IESNA educational materials. IESNA is almost 10,000 members strong. Its members work with lighting in a variety of capacities - lighting designers, architects, interior designers, government & utility personnel, engineers, contractors, manufacturers, distributors, researchers and educators - throughout the United States, Canada, Mexico - and around the world. They share a common interest in lighting, and a common desire to promote the use of the latest, most innovative lighting technologies, with a focus on judicious use of energy in all lighting applications.

The IESNA is celebrating its 100<sup>th</sup> anniversary in 2006. Its annual meeting will not be held in 2005; and in its place the January 2006 meeting will be a centennial celebration.

The IES has over 80 committees, such as Agricultural Lighting, Aviation Lighting, and Office Lighting. Of interest to the IMSA membership is the Roadway Lighting Committee.<sup>1</sup>

## Roadway Lighting Committee

The objective of the Roadway Lighting Committee is *To establish the scientific principles underlying roadway lighting; to collect data on the results of the application of such principles to actual practice; to prepare such reports thereon as will assist those charged with safety on roadways in minimizing the hazards of night operating conditions.*

As one of the most active committees of the IESNA, the Roadway Lighting Committee produces two important documents, RP-8 Recommended Practice for Roadway Lighting, and RP-22, Recommended Practice for Tunnel Lighting. The Roadway Lighting Committee has 21 subcommittees; it meets twice a year, in the spring and during the IESNA annual conference.

The following documents are pending:

- Roadway Lighting Maintenance
- Roundabout Lighting
- Tunnel Lighting

At the April 2004 meeting in Vancouver, British Columbia, about 60 attendees were present. During the general and subcommittee meetings the following were discussed:<sup>2</sup>

## General Meeting

A motion was made and seconded to withdraw Small Target Value (STV) from the RP-8 standard (STV was added to the last edition of RP-8). Additional research is needed, and this may delay the adoption of the next edition of RP-8 as an ANSI standard. It is hoped that a decision can be made at the July 2004 Roadway Lighting Committee in Tampa. John Hart is the incoming chair of Roadway Lighting Committee, and Jim Havard is the retiring chair.

Rita Harrord, Director Education and Technical Development, reported that the IESNA website has been redesigned. In July, the research journal will become an electronic publication, and articles are submitted directly to the editor.

Reports and presentations were made on Obtrusive Lighting, HPS vs MH lighting costs and Solid State Lighting.

## Sub-Committees and Reports

### • ELMS

Need to write the scope of the document. The concept is to improve safety by reducing cost of operation, so a larger lighting system can be installed. The advantages of an ELMS (Energy Lighting Management System) are:

1. Energy Management
2. Tools to address light pollution (may be required by law)
3. National Security
4. Electrical safety – wiring systems deteriorate – can monitor ground faults
5. Power monitoring

*Continued on page 24*

IMSA Journal

## IESNA Update. . .Continued from page 22

6. Change and control lighting due to environmental factors, weather, traffic, security and crime.

### • Education

There are two documents in development:

ED-8 Educational Guide to RP-8

ED-22 Educational Guide to Tunnel Lighting

Tom Baker volunteered to write the basic electrical section of ED-8.

### • Energy Management

This committee will not take a specific responsibility for the Energy Lighting Management System (ELMS).

Design Guide 13 will discuss new light sources (induction, fluorescent, and LED) affecting photocontrol operation.

The concept of dimming for energy management was discussed.

### • Fundamentals and Education

ED-8 (Roadway Lighting) is 50% complete. The committee wants to make it a course level document. ED-22 (Tunnels) is fairly well written with the 1996 version of ED-22. It may be appropriate to update ED-22 to the new version of RP-22.

### • Honors

This committee recognizes Roadway Lighting Committee members for IESNA awards.

### • Interchanges with other Organizations

The AASHTO Intersection Guide for Roadway Lighting is nearly out.

ANSI Tunnel Lighting will be available in June for a vote.

CIE Tunnel Lighting is out for a vote.

IDA will be releasing its Model Lighting Ordinance soon.

### • Maintenance and Light Sources

The new document was published last year.

### • Measurements and Calculations

This committee will make the recommendations about the status of STV in RP-8.

### • Obtrusive Light

The new Technical Manual on Lighting Zones will be ready by the next Roadway Lighting Committee in Tampa, and then will be sent to the Technical Review Committee.

### • Off Roadway Facilities

Submitted to technical review are the following design guides:

DG-5 Pedestrians and Bikeways

DG-38 Highway Rest Areas

### • Programs and Applications

### • Research and Visibility

A study is being done on the research about discomfort glare.

There is a fixed roadway lighting project on older drivers by the FHWA, the report is complete but not released. The FHWA has a pedestrian lighting project for improved mid-block pedestrian lighting.

### • Roundabout Lighting

This new standard will cover conflict areas, pedestrian, entrance and exit areas for lighting values. The document should be completed in December 2004.

### • Standard Practices

### • Traffic Signals

The Traffic Signal committee has considered disbanding, as the ITE has the standard on traffic signal displays. A new standard has been developed on LED signal displays; it will be up for comments from November to February. The VTCHS revision to circular supplement will be posted next. The new ratio of Red-Yellow-Green will be 1:2.5:1.3, the old was 1:4.6:2, as a result the greens were too bright. Currently, yellow LED's do not meet ITE specifications. The new specifications for turn arrows and LED pedestrians are posted on the ITE web site. There has been a slight change to colors to assist color vision deficient drivers. The FHWA may institute a policy that all signals with federal funding shall use low power traffic signal heads.

### • Tunnels and Underpasses

There are conflicts with the RP-22 document that need to be resolved, and then RP-22 can be published.

### • Toll Plaza Lighting

Reviewed the design guide and information, the updated document will be sent out in one month.

### • Work Zone Lighting

Committee submitted and approved for Work Zone Lighting Design Guide for permanent and mobile operations.

## Future Roadway Lighting Committee Meetings

- Spring 2005 - Joint meeting with IDA, Tucson AZ, the first week of April. The meeting theme will be on "Visual Perception", and will include a star party.
- Fall 2005 - Meeting may be with the IESNA Street and Area Lighting Conference in San Diego (early October) as there will be no IESNA annual meeting in 2005.

Tom Bakers Code Corner Column will resume next month.

### Footnotes

<sup>1</sup> Editor Note: Tom Baker is the IMSA Representative to the IESNA. He is a member of the IES Roadway Lighting Committee.

<sup>2</sup> Not the official minutes of the Roadway Lighting Committee, this is a summary of what the author noted at the meeting and subcommittee meetings.

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