1. Welcome
The meeting was convened at 10:00 AM by the Committee Chair, Jim Woods. Committee Members and guests introduced themselves, and Marsha Maz introduced David M. Capozzi, Executive Director of the Access Board, who welcomed the Committee, identified lighting and acoustics as two important issues, and talked about a project concerning acoustics standards for schools, on which NIBS currently is working. He said he hoped that low vision projects could follow suit. He advised the Committee to study low vision standards that are in place in other countries, and thanked all for their hard work.

2. Codes/ Standards and Guidelines Efforts
Eunice Noell-Waggoner led the discussion about codes, standards, and guidelines

FGI Guidelines for Design and Construction of Long Term Residential Health, Care, and Support Facilities
Eunice said that the committee’s recommendations received no pushback from the committee.

IES Committee/ASHRAE 90.1 – 2014. Development of Guidelines for Interior Illumination
Eunice: We need to identify areas (building types) that are exempt from the Standard. In RP28, the tables don’t show enough lighting for low vision.

- Stuart Knoop: We should expand the requirements to general areas for low vision, not just those limited by RP28.
- Marsha: Regulating by exemption is not the way to go. We need scientific facts.
- Suleiman Alibhai: About a third of the population over 70 has vision issues that would be considered impaired. The lighting levels of ambient lighting are not the issue; the focused task lighting is more important.
- Dennis Seimsen: While it’s true that we need more light, it’s the contrast that is important. We’re looking at how we can be smarter about this; we don’t know all of those things.
- Robert Dupuy: For example, there is a conflict among codes about stairwells. We’re fighting the bureaucracy, who is not interested in discussing an issue unless there are proven numbers, so the codes numbers [the lighting levels] keep coming down.
- Stuart Knoop: We’re going to have to confront the energy issue sooner or later—and exemptions are not the answer.
- Jim Woods: ASHRAE 90 (with which he has interfaced since 1975) no longer provides any indoor environmental criteria. It only deals with the energy attributes of materials and equipment. In accordance with Standard 90, how do you do a load calculation without these criteria? And how do you do an energy calculation without these criteria? If you use the prescriptive method, you don’t have to do any energy calculations—no numbers. If you use the performance method, computer programs are needed for running the analysis; the computer programs define the environmental criteria. Section 9 defines allowable lighting power densities, but these are power, not energy criteria; time and schedules have to be factored in.
- MaryAnn Hay: This includes task lighting.
- Robert: We have to know what the task lighting is to calculate the load in California. The only place you can get lighting levels is IES. But the only place you can get energy numbers is ASHRAE. It’s hard to parse lighting energy use out of the whole building loads.
- MaryAnn: There is a big push to incorporate energy use into total connected load, but it’s got a way to go. They are still making assumptions on what the overall energy use and related percentages are. It’s still in development. I will look for evidence-based studies to share.

Eunice explained that the only pushback of the LVDC’s recommendations for this section was on lighting controls. Greg Guarnaccia is taking a lead on development of these recommendations. RP-28 is not all together yet—drafts of the individual sections are available. Eunice expects the full draft will be available in June. There are many areas relating to low vision. This needs to be done by the end of the year. It’s supposed to be 50 percent done; we’re getting there. We could send updates around for comment.
• Jim: Stuart and I submitted a review and outline. There’s a lot of info on low vision throughout the standard, but we needed a section on common spaces. We drafted an outline for senior living facilities. We haven’t had any feedback. We owe Rob input on that. (Eunice will tell Jean about this issue.)

• Stuart: We have to address ambient light, too.

• Greg: Lobbies and stairwells are good examples for that.

• MaryAnn: You also don’t want to create such a strong contrast.

• Greg: That’s also a concern in egress situations.

• Stuart: Going from a dark space to a brilliant space is just as bad.

• Eunice: We really need current research.

• Lam Vu: VA owns many facilities. We constantly struggle between using the numbers in the codes and what we know works. It’s not just lighting and energy: it’s all of the components. We have to influence the codes. For example, contrast is as important as the foot-candle requirements. We struggle to meet the energy mandates. Our committee’s responsibility is to include codes and standards requirements. We can make a difference.

• Robert: Remember that the Lighting Power Density is tradable—you can put more light around. It can help you meet the code, but it severely impacts spaces. I’m not sure the tradable part is a good idea.

• Jim: It’s encouraging that the IES people heard what was being said.

**Update on U.S. Access Board activities**

Marsha Mazz told the Committee that at the moment, the Access Board has no low vision topics before it. They do have 11 rulemakings underway, including one for medical equipment (ie., how to transfer to exam table from wheelchair, mammography, and other diagnostic equipment). Comments close on June 7.

Marsha said also that the final rule for accessibility to public rights of way is just about ready. The Access Board is reviewing public comments. In answer to a question about the use of tactile guidance strips, she explained that while we use them sparingly in the US, other countries use them a lot more—for wayfinding as well as warnings.

**NFPA**

Eunice: NFPA is now in the process of updating its 2015 doc. (Eunice expressed disappointment that neither the assisted-living section nor the general group took up the issue. Their advice was to submit comments during the public comments committee.)

• Marsha: *Send the proposal to me—I can present it to disability committee and engender some support.*

• Greg Guarnaccia: The proposal is to increase the 1 foot-candle minimum to 2 -2.5 foot-candles and also to decrease the contrast ratio from 40:1 to 35:1. The current emergency egress level is 1 foot-candle, even on the stairway.
• Eunice: This current value is based on equipment parameters; it is based on what batteries and lights could deliver at the time. We need scientific studies that state the light level low vision people need in corridors and stairways. As far as contrast goes, we’re asking for 30-point contrast between nose and lip of tread. The pushback is that “we don’t want to restrict decorative staircases.”

• Marsha: We’ve had poor luck with the contrast at the nosing. Contrasting nosing wears off. We now have standards for the back of the tread. We get pushback from the Building Owners and Managers Association and the American Institute of Architects.

• Rob Mayer: There didn’t seem to be engagement at the hearing. Is there just not enough understanding? Is there a way to better educate the technical NFPA committees— so we make the numbers live for them? It wasn’t clear to them what the numbers meant.

• Eunice: Jake Pauls has carried the flag. More people needed to carry the flag now.

• Rob: We need to be creative in educating them.

• Eunice: They are representative of manufacturers—we have to get it to become their thing.

3. Research and Development Efforts
Jim Woods presented an update from Bob Massof concerning the National Institutes of Health grant proposal that was submitted by a team that includes some members of the committee. We are waiting to get final word on the funding when the National Eye Council meets in June. The good news is that they haven’t said no, but if it’s not funded at this go-around, we will have to go back to the drawing board and figure out how we can get it funded. Jim offered a brief recap of what the proposed study contains. The biggest concern would be the complexity of the effort. It will take about 10 years.

Dennis: We definitely need more scientific studies like this. We need to understand some basic science: “the psychophysics of reading.” One way or another, we need to be doing this, and only certain facilities can do this. If the NIH funding source doesn’t work out; we should probably take smaller bites. We need different sites at which to conduct the research.

• John Paul Eberhard: In our retirement community, the average age is 84, There are 1,000 people in the community; 400 of them fell. Of those, 40 percent broke their hips.

• Dennis: There is data that connects falling to low vision.

• Suleiman: As we look into the falls, research shows many occur indoors and even when the person isn’t moving. We need the evidence-based data.

• Dennis: Vision is not a good predictor of driving ability; yet it has become the standard.

• Marsha: We know that fire alarms don’t work for older people, but the decision to require them is made on power standards, not what works. As far as lighting goes, we don’t even know what good lighting for a person with normal vision is. Maybe we should be questioning what’s good for everybody. I suspect people with low vision will benefit.

• Dennis: Any studies need to include controls—so that we can see what the differences are between the special population and the controls. The gap between the controls and the low-vision people may not be so great.
Jim: From a research standpoint, we need to address glare and brightness and controllability. How do you create an environment that can address both ends of the spectrum? It comes down to a matter of control.

Marsha: You find out what’s good for everyone; then find out what is needed for people with low vision.

Tom Williams: True. Benefits accrue when you design for accessibility. You design so that people with disabilities are not singled out. In a move to downsize space, GSA is trying to eliminate the individual office space; even open office space. It’s very hard for people with low vision.

Robert: It requires a change in how you design, for example, individual controls. You can install fixtures that task-light and up-light at the same time.

4. Outreach and Education
Stuart Knoop facilitated discussion of the various outreach and education activities of the LVDC members.

Lions Club
Vijay Gupta reported that he had joined the Springfield, Va., chapter of the Lions Club as a way to provide public service. He noted his chapter recently invited Jim Woods to make a presentation about LVDC and its work. This presentation was given on 13 March 2012. A pdf of that presentation is attached as Appendix A.

Suleiman Alibhai commented that it struck him that there is an assumption that a generic low-vision person exists. However, everyone is different. He noted that in his business, they spend a lot of time with each individual to find what is right for him or her. He further noted that the NIH study is intended to give us an idea of how a person with low vision sees. It is a very complex situation for which it is difficult to determine the optimum conditions. He suggested that maybe the optimal lighting environment is adjustable. But is the needed flexibility acceptable? He mentioned new LED lighting presented at the symposium that changes as the day goes on.

Suleiman noted that we are all saying that we need to make lighting more flexible. He suggested that we make a fieldtrip to the new Washington Gas building in Springfield, an extremely “green building that boasts open cubicles and automatic window shades. He said he would be curious to know if it works for low vision. The meeting attendees decided that a fieldtrip was premature and that it might be better to discuss the building with the architects (Gensler and Fox) first.

Vijay has a copy of an application for grant for low vision problems. The most immediate deadline is June 30. The Committee agreed that we would shoot for the next deadline instead. Suleiman noted that the Lions Club International Foundation likes to offer grants in partnership.

IES Symposium
Jim described the IES Symposium on Lighting and Senior Living, held March 6-7 in Washington, DC. Some 150 people, including Jim, Lam Vu, Suleiman, Eunice and Robert took part in the symposium, which was sponsored in part by NIBS. Jim noted there were some great presenters, and said he was impressed by the level of science that is available for our use, even though it is not yet being applied to buildings.
• Suleiman: The symposium was not directly involved with low vision. Jim further noted that the material presented by the LVDC members at the September 2010 workshop and the 2012 IES symposium material were very compatible.

• Lam said he will forward the article he wrote for his office about the symposium to the LVDC.

• Robert indicated that he saw a change in the national IES and what they say in public; he believes they see a need to adopt a leadership role. They are looking to continue presenting small symposia; there could be one on low vision.

• Eunice said that she would love to have studies that Bob Massof was citing at the symposium about contrast sensitivity.

• Dennis wanted to know if there was any sense that researchers are looking for people to test their idea. He believes that if some researchers needed some sites, even setting up a room or public space, the Mayo Clinic might be able to help. We need to explore how we take it into the real world.

AIA Seminar
Robert Dupuy and Eunice Noell-Waggoner talked about the seminar they will present, along with Eric Richman, head of ASHRAE lighting subcommittee, at the AIA convention on Friday, May 18. They will address the topic of lighting for older people, and where ASHRAE standards stand on the topic. The session is: FR300 Silver Tsunami: Aging Population, at 4:00 p.m. (John Eberhard will also present a seminar, entitled, “Brain-Mind Connections to Architecture” at the AIA convention; unfortunately it is in the same time slot.)

Article for Architect magazine
Stuart Knoop presented an outline (attached – Appendix B) for a proposed article, “Visible Architecture,” for Architect magazine. He requested that it be submitted through NIBS, and Stephanie agreed to follow through with this process. Rob Mayer suggested retirement communities also could be an audience for the article and that Stuart include personal stories as part of the article.

AIA 2030
Jim Woods gave a presentation on “The Importance of the Thermal Envelope” at a AIA DC 2030 Challenge Seminar, for the second year in a row on 9 May 2012. He talked about the limited focus of the Building Envelope in meeting the 2030 challenge, which is concerned solely with energy. He also presented the 2030 Committee with a list of issues to be talked about in future sessions of the seminars including controlled daylight as beneficial to persons with low vision and the benefits of controls to people with low vision (see List in Appendix C). He spoke about how occupant considerations are not being addressed by the 2030 Challenge.

Westminster-Canterbury Low vision Group.
Jim Woods lives in a Continuous Care Retirement Community (i.e., Westminster-Canterbury of the Blue Ridge – WCBR) that has an active Low Vision Committee. The WCBR Low Vision Committee, which has more than 80 resident members) has indicated interest in participating in studies sponsored by NIBS. WCBR is now planning a new addition, with construction to start in September. Jim will follow up with the WCBR Low Vision Committee.

5. Administrative and Fund Raising
Rob Mayer, President of the Rothschild Foundation, talked to the committee about fundraising. He said that he is impressed with the dialog that has arisen from the committee’s efforts in the short time of its existence. He explained that from the original white paper assembled by NIBS, the Foundation had selected areas that they could support, which included meetings; as well as support for recommendations on long-term residential health care facilities and support facilities, such as those for the Facility Guidelines and the RP28-2012, which are well underway. (A third item, recommendations to the Access Board, was tabled until we have more research.)

Rob indicated that the Rothschild Foundation has interest in funding some of the LVDC’s future efforts and suggested a “shopping list” of where the committee might go from here:

- **International lighting standards**—research or white paper to look at research-based international standards; this may cut down the amount of research we may have to do ourselves. (Dave Capozzi forwarded some examples to share with the LVDC; they are attached as Appendices D-G.)

- **Study of light levels/contrast in corridors and stairways.**

- **Look at a portion of the proposed NIH study.** Don’t define it as an escape avenue; just take as a smaller piece.

- The previous two suggestions are in the category of Safety and Security, which is one of six regulatory task forces within Rothschild. We recommend starting with some low-hanging fruit. Get a faster win and build some bridges.

- **Evidence-based research for the IES Handbook—maybe some standards?** (Rob would prefer to pursue the standards work.)

- **Wayfinding recommendations**—closely aligned with illumination and particularly in the healthcare field.

- **Possible collaboration with the Lion’s Club or the Robert Woods Johnson Foundation.**

6. Symposium at NIBS Annual Meeting: Theme and Presenters (Jan 2013)
Stephanie Stubbs explained that the LVDC had been offered a half-day time slot on Wednesday, January 9, at the NIBS annual building innovation meeting in Washington DC. The Committee favors four 20-minute presentations with a panel discussion at the end. Topics discussed included international standards (British and Canadian), lighting basics, and lighting for seniors. Dennis Seimsen, Suleiman Alibhai, Lam Vu, Robert Dupuy, Greg Guarnaccia, Vijay Gupta, and Stuart Knoop volunteered to be involved in the symposium development.

*The Committee agreed to have preliminary material completed by 30 June on the following topics*
1. Context – Overview of the State of the Science/Art
2. The Energy/Vision/Lighting Conundrum
3. Low vision perspective
4. Medical perspective
5. Panel: Finding common ground

7. Erin Schambureck’s research proposal
Erin reviewed an outline for her proposed interior design Master of Fine Arts in Interior Design thesis for the University of Wisconsin-Milwaukee with the Committee. She originally wanted to interview LVDC
members about ADA guidelines, with the thought that from improved presentation of proposed guidelines would come improved chance for acceptance. Marsha explained that the Access Board currently is assembling a project that will include graphics and animations that explain why standards are what they are. Half of the project would be graphics—accessible for people with low vision. Instead of comparing guidelines to the ADA, Marsha suggested that Erin look at how we accept any kind of guidelines. Erin agreed with the general tenor of the discussion. Jim Woods reminded Erin that we consider her an active member of the LVDC and as such she is welcome to contact members of the committee at any time. Erin will keep the Committee posted on her progress.

8. Next steps

Review of Action Items:

<table>
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<tr>
<th>Action Item Number</th>
<th>Page in Minutes</th>
<th>Action</th>
<th>Volunteer</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>look for evidence-based studies to share</td>
<td>Mary Ann Hay</td>
<td>30 Jun 12</td>
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<tr>
<td>2</td>
<td>3</td>
<td>Send proposal to Marsha—who can present it to disability committee and engender some support.</td>
<td>Greg Guarnaccia and Eunice Noell-Waggoner</td>
<td>30 Jun 12</td>
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<tr>
<td>3</td>
<td>5</td>
<td>The Committee agreed that we would shoot for the next deadline instead.</td>
<td>Vijay Gupta</td>
<td>Fall 2012</td>
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<td>4</td>
<td>6</td>
<td>Lam said he will forward the article he wrote for his office about the symposium to the LVDC.</td>
<td>Lam Vu</td>
<td>30 Jun 12</td>
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<tr>
<td>5</td>
<td>6</td>
<td>The Mayo Clinic might be able to help with sites. We need to explore how we take it into the real world.</td>
<td>Dennis Siemsen</td>
<td>Fall 2012</td>
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<tr>
<td>6</td>
<td>6</td>
<td>Stuart requested that [his draft article] be submitted through NIBS, and Stephanie agreed to follow through with this process.</td>
<td>Stuart Knoop and Stephanie Stubbs</td>
<td>Summer 2012</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>Jim will follow up with the WCBR Low Vision Committee – Candidate Site</td>
<td>Jim Woods</td>
<td>June 2012</td>
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<td>8</td>
<td>7</td>
<td>Develop Abstract on White Paper: International lighting standards</td>
<td>Robert Dupuy</td>
<td>30 June 12</td>
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<td>Action Item Number</td>
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<td>9</td>
<td>7</td>
<td>Develop Abstract on Study of light levels/contrast in corridors and stairways</td>
<td>Eunice Noel-Waggoner and Stuart Knoop</td>
<td>31 Jul 12</td>
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<tr>
<td>10</td>
<td>7</td>
<td>Develop Research Abstract a portion of the proposed NIH study</td>
<td>Bob Massof and Jim Woods</td>
<td>31 Jul 12</td>
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<tr>
<td>11</td>
<td>7</td>
<td>Develop Abstract on Evidence-based research for the IES Handbook—maybe some standards</td>
<td>Suleiman Alibhai and Dennis Siemsen</td>
<td>31 Jul 12</td>
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<tr>
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<td>Develop Abstract on Evidence-based research for Wayfinding recommendations</td>
<td>John Eberhard</td>
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<tr>
<td>13</td>
<td>7</td>
<td>Develop Abstract for collaboration with the Lion’s Club or the Robert Woods Johnson Foundation</td>
<td>Jim Woods and Stephanie Stubbs</td>
<td>31 Jul 12</td>
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<tr>
<td>14</td>
<td>7</td>
<td>Develop Abstract for Symposium, with Speakers for NIBS Annual Meeting</td>
<td>Stuart Knoop and Stephanie Stubbs</td>
<td>30 Jun 12</td>
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**9. Next meeting**

November 2, 2012 at the Access Board, 11 am – 5 pm.

Meeting adjourned at 3:45 p.m.