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## **IDENTIFYING THE RISKS IN GREEN BUILDING CONSTRUCTION**

by  
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### **What is a "green" building?**

The American Institute of Architects (AIA) began to formally recognize environmental factors as a part of design in 1989 when they formed the Committee on the Environment (COTE). Initially the meaning of the term "green design" was broadly interpreted by the people selling designs to owners. The result was a dilution of the term that threatened to make "green design" just a marketing phrase. This concerned many of the people who were trying to implement fundamental changes in the way buildings used energy, used water, used materials and impacted their surroundings.

In 1992, the Environmental Protection Agency (EPA) initiated a voluntary labeling program called Energy Star that was intended to promote the development of energy efficient consumer products. Since then, the Energy Star program has expanded to include entire buildings, which can be awarded the Energy Star label.

The more widely recognized and influential program is the LEED program promoted by the U.S. Green Building Council (USGBC). The USGBC was formed in 1993 by about two dozen individuals who were or had been involved in the Consortium for Energy Efficiency. The first goal of the new organization was to develop a system that would help to give structure and accountability to the term "green design," which heretofore was largely a marketing term.

As the committee worked over the next three years, a broader set of energy and environmental impact factors were incorporated into what became the Leadership in Energy and Environmental Design green rating system, which was first issued in 1998.

### **What is LEED Certification?**

The LEED system is NOT a building code or building standard. It is a voluntary RATING system that is applied early in the design process to evaluate how many of the goals set by the USGBC a building's design achieves. Since there are several types of buildings, there are several LEED RATING systems including new construction, existing building projects, residential home projects, and others.

The LEED-NC, new construction, is perhaps the most familiar at this point. Per the USGBC as of September 2008, there have been 9,528 LEED-NC registered or certified projects. The current version has seven primary categories under which the design of a building CAN BE evaluated. These are: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, Indoor Environmental Air Quality, and Innovation & Design.

Points are awarded under each category with a maximum total of 69 points that can be awarded to a building's design. Depending on the total number of points awarded, the building's design is rated as: "Certified", "Silver", "Gold", or "Platinum".

### **How are these points awarded?**

The points for a building's design are awarded by the USGBC based on an independent review of the design and the points being requested by the designers. Based on that review, the building is certified to meet one of the four levels of green design as listed in the preceding paragraph.

Briefly, the process begins when the owner or his architect registers his intent to have his building certified under the USGBC LEED system. As the design progresses, the design approaches being used are evaluated. Once the complete application is submitted, the USGBC will conduct a design phase review and identify each proposed point sought and provide either an "anticipated" or "denied" ruling for each point sought. "Anticipated" means that if the actual construction is in accordance with the design documents, then those "anticipated" points will be awarded. "Denied" means that the design does not qualify for the points sought. This is a key point in regard to the architect's liability for design. Who pays for the redesign if, because of "denied" points, the project fails to meet the level of LEED certification desired? For the building's owner, does he pay for more design or accept the lower certification level without risk? Perhaps the Owner was to receive a graduated tax incentive depending on the LEED level awarded to his building.

Finally, once construction is complete, the USGBC will conduct a construction phase review in which final documentation is submitted to prove that the building was built per the approved drawings and that any changes to the plans did not alter the "anticipated" points previously accepted. Once all documentation and verification have been submitted along with a certification fee, the USGBC will rule on the full application and the appropriate LEED certification will be awarded based on the final point tally.

An important point to note is that total number of points awarded, and hence level of LEED certification, is not verified until the project is complete. Therefore, any promise of attaining a particular LEED level before a project is completed is risky for the party making that promise.

It remains to be seen if Energy Star or some other organization will supplant the USGBC. As of 2008, the USGBC claims that, via legislation, executive orders, policies, and financial incentives, their LEED rating system is now being used by as many as 72 cities, 22 counties, 27 states and 13 federal agencies.

### **Where are the risks in green building?**

#### ***Owners' Risks***

The Owner of a project is ultimately responsible for ALL the risks on a project. After all, it is the Owner's project, the Owner's land, the Owner's money. However, "green" building adds another layer of complexity and jargon that the Owner needs to understand. Without that understanding, an Owner can enter the project with expectations that are too high. An example would be an Owner advertising that his new "green" building will be healthier or allow better productivity, which are claims that the USGBC touts as

benefits of the higher LEED levels. Another example would be the Owner expecting to get this building at the same design fees as a prior, similar, non-green building. Another example is an Owner that plans on lower energy costs without understanding the higher maintenance costs to keep the "green" systems running properly.

Perhaps the best approach for an Owner to control his risk is to engage an independent consultant who is a LEED Accredited Professional to act as his representative and to give him objective advice as the project's design progresses. The title "Accredited Professional" (or LEED AP) is a designation reserved by the USGBC for individuals who have received training in the LEED system and passed an examination to prove their understanding of that system and its applications. An "Accredited Professional" is, therefore, qualified to assist the design team in achieving their LEED goals.

### **Design Professional's Risk**

The Design Professional is the one who bears the brunt of the risk for "green" projects. After all, the operative words in Leadership in Energy and Environmental Design are leadership and design. Hence, the other project parties have a right to expect both from the Design Professional on a project that intends to achieve LEED certification.

One of the first risks occurs when the Design Professional's services are being sold to an Owner – namely, over selling the benefits of a "green" building and raising the Owner's expectations too high. Some of the selling may result in making guarantees about what can be achieved. Care must be taken to talk about shared goals and working together with the Owner to obtain a reasonable LEED rating that is achievable within the Owner's budget. . The Design Professional needs to be clear that not all the LEED points applied for will be granted.

Obtaining LEED certification adds up-front costs to the project. The USGBC presents a compelling case that these costs will be recovered over the LIFE of the building. However, in today's markets, the initial Owner will seldom retain ownership over the LIFE of the building. Further, the time to accomplish the submittal and research tasks as well as the time needed for additional explanation to the Owner about design or material alternatives must be added to the design schedule. Time must also be included in design schedules for the USGBC to respond after the submittals are made.

If Platinum LEED levels are desired, the Design Professional needs to be clear that untried or unproven materials and/or technologies may be involved and that these materials or technologies may prove to be costly maintenance or administrative headaches for the Owner. Further, such materials or technologies may take more time to obtain or install or startup.

The current forms of contracts between Owner and Design Professional or between Design Professionals do not yet have clauses that adequately address or allocate these risk issues, not to mention other risk issues not discussed in this brief article. Again, the key to controlling these risks is to identify them as early in the process as possible and address them head-on. Once a risk allocation is made, that allocation must be documented by an amendment to the existing agreement or a letter of understanding or memo between the parties.

### **Contractor's Risk**

The Contractor's risk in a LEED project is more limited than might be first imagined. The Contractor is liable only to build to the plans and specifications on which he bid. This is really only the normal risk that a contractor assumes in any project. Typically, a LEED project affects the Contractor relative to only five issues:

- Site pollution. The Contractor must control erosion and sediment migration, which is now a well-established requirement across the country and, therefore, nothing new. However, for LEED, the Contractor must look at what else about his work might affect the properties abutting his work site and consider how dust, noise, wind blown debris, etc. will affect those abutting properties. If some element of his work does affect an adjoining property, then the Contractor needs to control that element to reduce or eliminate its impact. The Contractor then needs to document what he has done for submittal to the USGBC. Without the documentation, no points will be awarded.

- Waste Stream Control and Recycling. LEED projects are awarded points for managing and controlling how the waste on a project is handled. Construction generates two types of waste: recyclable waste and disposable waste that typically goes to a landfill. A LEED project adds a specification requiring the Contractor AND his subcontractors to develop a plan to control these wastes. Recyclable materials must be segregated, collected and sent to an appropriate facility. However, the Contractor and his subs must also reduce the volume of disposable waste by finding ways to recycle more. It is not enough to just do the collection and recycling, LEED requires documentation to be submitted as to what was done. This may involve what are now unusual tasks such as weighing waste materials being sent to landfills or obtaining certifications that materials were actually recycled.
- Documentation Collection and Submittal. All projects require the Contractor to make submittals for the materials he intends to use. However, LEED projects involve more attention to detail and a different level of effort for collecting submittal information. For instance, physical location of where some material was manufactured now becomes important to receive a LEED point for using local materials; or, documenting the amount of recycled material in some product is needed to obtain LEED points for recycling. The previously noted examples of needing to document some pollution control effort or a recycling plan that the Contractor implemented are instructive of the added effort and attention needed.
- In addition, the Contractor must ensure that his subcontractors all provide similar information for the material they supply. The Contractor must make sure that his subcontractor agreement has specific, enforceable language about the subcontractor's responsibility to provide the needed submittal information and that the subcontractor passes that requirement down to his sub-tier subcontractors and suppliers. Collecting and submitting such information is becoming less of a chore as suppliers become more used to including LEED related information in their normal product literature. However, the Contractor remains charged with this task and incurs liability if he fails to collect and submit this information in a complete and timely manner. His failure may cause some "anticipated" LEED points to be "denied," which may result in consequential damages.
- Additional Time Needed. A LEED design may involve special materials that are not normally stocked or take additional lead time to manufacture. Such materials may involve special storage while they wait to be installed or require a different level of building enclosure before they can be installed. The Contractor must now be sensitive to how these potential lead-time or sequencing concerns will affect the project's schedule and account for them in his bidding or when he agrees to a completion date. Further, if a change is made that increases the quantity of specially manufactured or long-lead material, the Contractor must be sure the Owner is properly notified and agrees to the added time before the change is accepted.
- Build Per Plans and Specs. Finally, Contractors building projects involving LEED or Energy Star or some other "green" rating system must be more attentive to constructing those projects "per plans and specs." Then, in the event that a specialized material or new technology fails to work, the liability for that failure is placed more squarely on the Design Professional or Owner who specified that material or technology. This may involve generating more RFI's (Requests for Information) to clarify what the designer intends.

### **Third Party Involvement and Risks**

A very interesting wrinkle in the "green" building fabric is the Green Building Act of 2006 passed on March 8, 2007 in Washington, D.C. This legislation phases in "green" building requirements for different types of buildings over the next five years. This Act imposes both LEED and non-LEED requirements on buildings depending on their size, use-classification and when, in the five years after 2006, that they are started.

The striking provision of this Act is the requirement that the contractor provide a performance bond guaranteeing satisfaction of the "green" requirements for the project. The Surety and Fidelity Association of America ("SFAA") and the National Association of Surety Bond Producers ("NASBP") responded to the Green Building Act's performance bond requirement, stating that the Act "includes bond requirements that, if not clarified significantly, may make sureties reticent to issue such bonds." The SFAA

and NASBP outlined several problems with the Green Building Act's performance bond requirement, including:

- The Act incorrectly uses the term "performance bond" as the bond described in the Act "seems to function more in the manner of a license or compliance bond, which typically guarantees compliance with a law or code." A performance bond typically assures one party that another party will perform the contract in accordance with its terms and conditions.
- The Act does not designate which party is to furnish the performance bond. The letter argues that "the building owner or developer, as the originator of the building project that retains the design professional and contractor, hold the ultimate responsibility for whether the building achieves compliance with the Act's requirements."

The SFAA and NASBP's primary concern with the Act is that contractors and performance bonds are improperly suited for guaranteeing compliance."

As more states, cities, towns and municipalities adopt "green" requirements, all three parties (Owners, Design Professionals and Contractors) need to be current on these requirements and how they affect their risks and how these risks will be addressed in the contract agreements they develop and/or sign.

#### Litigation to Date.

To date, litigation and claims involving "green" buildings have yet to develop. However, the lack of contract documents with adequate clauses for the allocation of risk and the more public and private entities that include "green" building requirements in codes and contracts are sure to cause this to change.

One early LEED-related suit is Southern Builders v. Shaw Development. This suit was filed in 2007 in Circuit Court in Somerset County, Maryland. In part, the suit claimed that the builder failed to obtain a LEED Silver certification, which had been a goal of the project. Briefly, Shaw Development hired Southern Builders to construct a \$7.5 MM condominium project called the Captain's Galley. Application had been made and fees paid to the USGBC for a LEED Silver certification. Subsequent to construction, Southern Builders filed a mechanic's lien for \$54,000 in unpaid bills. Shaw Development filed a countersuit that included a demand for \$635,000 in compensation for tax credits Shaw claimed they lost when the building failed to be constructed in conformance with a LEED Silver certification. These suits were settled out of court so there is no explanation of how the claims were adjudicated.

However, with many cities adopting "green" building requirements, passing ordinances and codes mandating "green" certifications, these bodies are also using tax credits and incentives to promote "green" building. Such tax credits are very desirable for the Owner as a way to help defray the higher initial cost of "green" design. Receiving such tax credits may make or break an Owner's budget for a project. Hence, achieving a desired LEED or Energy Star level becomes crucial and very much a matter of litigation if the desired level is not achieved and tax credits are reduced or lost.

#### Closing Thoughts.

There can be no doubt that the era of "green" building is upon us as the following facts illustrate:

- 3.6 BILLION SF of commercial building space is involved with the LEED certification system
- Per a McGraw-Hill Green Building Market Report, by 2010 approximately 10% of commercial construction starts are expected to be "green" buildings
- Per the USGBC, every business day, \$464 MILLION worth of construction is registered with them for LEED certification.
- About 14% of U.S. cities with populations of more than 50,000 have "green" building programs, according to a survey by the American Institute of Architects. The number of counties with "green" building programs has grown by nearly 400% since 2003.

Just as the era of "green" building is upon us, so is the era of "green" litigation. A "Google" search of the internet turns up six or seven law firms touting the number of LEED AP's in their firms and their expertise in "green" building matters. Clearly, these firms believe a market for "green" litigation will develop along with the development of "green" building.

The key to controlling risk for Owners, Design Professionals and Contractors is to control the "green" expectations for the project during the earliest phases of the project's development. Then, as the project matures, these parties need to make sure their agreements with each other identify who is responsible for what LEED points and that liabilities and consequences are defined clearly for each party.

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## ABOUT THE AUTHOR

Mr. Kucera has worked in the engineering and construction industry for more than 40 years. He has extensive experience in estimating, project planning and scheduling, project management and construction claims resolution. He has provided expert analysis and reports on numerous construction claims, assisted in multiple mediations, and provided expert witness testimony in trials and arbitration hearings. Mr. Kucera is a Leed® Accredited Professional. His full resume is available at [www.forcom.com](http://www.forcom.com) under the Michigan office.

This article is condensed from a paper prepared by Mr. Kucera for presentation at the Southern Surety & Fidelity Claims Conference in April, 2009. If you would like a copy of the full paper, please contact John Holland at [jjholland@forcon.com](mailto:jjholland@forcon.com) or 813-684-7686.

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