



FAR IN THE LEED: TAKING GREEN BUILDINGS OUT OF THE BLACK BOX

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The U.S. government owns approximately 445,000 buildings and leases another 57,000 buildings.¹ Operating this massive portfolio, which encompasses more than 3.3 billion square feet of floor space, requires substantial government resources each year.² In fiscal year 2002, these federal facilities combined used a total of 404 trillion BTUs of energy at a cost of approximately \$4.7 billion, making the federal government the single largest energy user in the United States.³ Buildings are also significant contributors to greenhouse gas emissions. This article discusses federal green buildings and procurement practices related to them.

The Energy Independence and Security Act of 2007 mandates that, beginning in 2010, new and remodeled federal buildings “reduce fossil fuel generated energy consumption by 55 percent ... as compared to 2003 and one hundred percent by 2030.”⁴ Executive Order 13,423 imposes a 2015 deadline for agencies to reduce 2003 energy levels of total building energy consumption per square foot by 30 percent.⁵ In October 2009, President Barack Obama issued Executive Order 13,514, which declares the following as a matter of policy:

Federal agencies shall increase energy efficiency; measure, report, and reduce their greenhouse gas emissions from direct and indirect activities; conserve and protect water resources through efficiency, reuse and storm water management; eliminate waste, recycle and prevent pollution; leverage agency acqui-

sitions to foster markets for sustainable technologies and environmentally preferable materials, products and services; design, construct, maintain and operate high performance sustainable buildings in sustainable locations; strengthen the vitality and livability of the communities in which federal facilities are located; and inform federal employees about and involve them in the achievement of these goals.⁶

The executive order also requires that the head of each federal agency implement high-performance sustainable federal building design, construction, operation and management, maintenance, and deconstruction.⁷ The policy aims to ensure that federal buildings entering the planning phase in 2020 and later be designed to achieve zero-net-energy by 2030 and to incorporate federal leadership in high-performance and sustainable buildings into all new construction, major renovations or repairs, and alterations of federal buildings. Additional objectives include managing existing federal buildings in a way that will reduce water and energy consumption and finding alternatives to renovation as a means of reducing the cost of deferred maintenance of the buildings.⁸

The order further directs agencies to prioritize actions based on a full accounting of both economic and social benefits and costs and to drive continuous improvement by annually evaluating performance, extending or expanding projects that have net benefits, and reassessing or discon-

tinuing underperforming projects.⁹ The directive aims to maximize the effectiveness of the government's sustainability efforts and places the burden of prioritizing and monitoring progress on individual agencies. All federal agencies have been given the same targets and deadlines, but each agency has been left to its own innovations in actually complying with these mandates.

The federal government has not developed its own comprehensive framework for achieving the objectives it has established.¹⁰ As a result, many agencies have turned to frameworks developed by third parties to aid in the design and construction of high-performance buildings.¹¹ Among large agencies, the most popular model is the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED).

For instance, the General Services Administration (GSA) has a sustainability design program and, as a way to evaluate and measure achievements in green building, mandates that all new construction projects and substantial renovations must achieve LEED certifications.¹² The GSA also states that projects are encouraged to exceed the silver and gold standards established by LEED.¹³ The U.S. Department of Energy has also reported that many other government agencies, including the Department of Defense and NASA, have used LEED to foster sustainability in new buildings in the recent past.¹⁴ Implementing agencies under Title IV, Subtitle C of the Energy Independence and Security Act—the Department of Energy, GSA, Office of Management and Budget, and the Environmental Protection Agency—are also carrying out their responsibilities to direct and assist other federal agencies in meeting the act's high-performance federal building requirements.¹⁵ In addition, Title V of the American Recovery and Reinvestment Act of 2009 includes funding for green buildings.¹⁶

LEED Process

Developed by the U.S. Green Building Council, LEED focuses on earning credits and meeting prerequisites in several areas: generally sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor air quality, innovation and design, and regional priorities. LEED includes rating systems for the operation and maintenance of existing buildings; leases for commercial interiors; new construction; the core and shell aspects of buildings (for example, mechanical, electrical, plumbing, and fire protection systems); homes; and neighborhoods. The new construction ratings apply as interim LEED standards for schools, retail space, and health care facilities, for which new LEED ratings systems are pending.

LEED applicants must meet various prerequisites, and achieving various optional credits is awarded with positive points. For example, LEED for new buildings gives credit points for the following areas:¹⁷

- sustainable sites (26 points),
- water efficiency (14 points),
- energy and atmosphere (35 points),
- materials and resources (10 points),
- indoor air quality (15 points),

- innovation and design (6 bonus points), and
- regional credit (4 bonus points).¹⁸

The LEED rating system awards a maximum of 110 points in these various credit areas.¹⁹ LEED certification requires a rating of 40 points, silver certification requires 50 points, gold certification requires 60 points, and platinum requires 80 points. LEED can also be used as a green tool even if certification is not sought.

The LEED process involves registration with the U.S. Green Building Council, credit interpretation requests, application for certification, possible appeals, and maintenance.²⁰ Some programs (such as homes and neighborhood developments) are more complex. LEED de-certification or revocation by the Green Building Certification Institute is possible down the line if an owner fails to abide by minimum program requirements—for example, if the owner does not comply with environmental laws or does not share data on energy use and water use.²¹ LEED certification is rarely revoked—if ever.

It has been estimated that construction of projects that receive silver certification generally costs 2–4 percent more than traditional building projects cost.²² This apparently small impact on the cost of construction is true if the project design is integrated with green features, not with green features added only as an afterthought.²³ Thus, LEED theoretically has a low initial cost impact and promises overall rewards through utility savings and comfort.

Points for sustainable sites are awarded for such steps as protecting native habitat, access to public transportation, alternative transportation (for example, bicycles, car pools, and electric cars), connectivity to services (groceries or pharmacies and the like), redevelopment of brownfields, storm water management, and reduction of light pollution and “heat island” (both from roof and nonroof) effects. Some credits are more suitable for urban locations (such as connectivity), others for open locations (such as protection and restoration of native habitat), and a few are driven by the size of the site (storm water management, for example). Many credits are often results (such as redevelopment of brownfields), not drivers, of site selection.²⁴

Water efficiency involves such steps as landscaping, efficient use of water-capturing and using rainwater, reduction of process water and indoor use of water, and innovative water treatment technologies, such as infiltration of wetlands. Historically, most applications for LEED certification sought credit for water-efficient landscaping or reduction in water use.²⁵ Few applicants attempted innovative wastewater technology.

Energy and atmosphere involve such steps as energy efficiency, renewable energy, reduction in the demand for energy, building orientation and measurement, and verification of systems. This credit was not historically pursued in most LEED cases, other than by minimal cost reduction.²⁶ Strategies usually involved energy load reduction (right sizing, actual load analysis, insulation improvements, sun-shading, heat recovery, and so forth) and improved equipment efficiency (such as the size of ducts). However, renewable energy is gradually becoming a more accepted pursuit.

Materials and resources involve such steps as sustainable purchasing, salvaging of existing buildings, management of recycled goods, management of construction waste, and responsible use of forest products or regionally harvested materials. Most applicants pursue credits for management of construction waste and recycling of local building content.²⁷

Indoor environmental quality involves such steps as green cleaning, reduction in or elimination of the use of contaminating products (low volatile organic compound releases), lighting controls, thermal comfort controls, provision of daylight and views, and user surveys. The most popular credits sought are those for the banning of smoking indoors or near entrances, monitoring of outdoor air delivery, increased ventilation, management of indoor air quality during construction and (recently) before construction, use of low-emitting “green” materials (paints, carpets, and the like), inclusion of entry grates, enhanced lighting controls, and so forth.²⁸ The innovation design and local priority credits are more variable.

How Do LEED Green Buildings Fit into the Procurement Law Context?

Minimum Needs

The first question asked—be it from the person drafting the government specifications during planning or an anxious bidder who believes that green building specifications restrict competition—is whether LEED exceeds the government’s minimum needs. Is the government buying a Rolls Royce when a Jeep will suffice? For instance, Federal Acquisition Regulation (FAR) § 11.103 allows the agency to require offerors to demonstrate, among other things, market acceptance. This includes situations where the agencies’ minimum need is for an item that has demonstrated reliability and a record of performance or product support in specified environments.²⁹ In developing relevant criteria, federal agencies’ contracting officers have to ensure that the solicitation reflects the agency’s “minimum need.”³⁰ The doctrine of the government’s minimum need developed in just this way.³¹

Governing statutes and regulations allow contracting agencies discretion in determining their minimum needs and in selecting the appropriate methods for meeting them.³² Government procurement officials are generally in the best position to know the government’s actual needs and the best way to draft appropriate specifications to meet those needs.³³ Not every contractor will necessarily be skilled in green buildings, but theoretically all contractors can hire lawyers, architects, engineers, and construction managers who are skilled in this area. A federal agency is required to specify its needs in a manner designed to achieve full and open competition and is allowed to include restrictive provisions or conditions only to the extent that is necessary to satisfy its needs.³⁴ Without a showing that competition is unduly restrictive, agencies are permitted to determine how best to accommodate their needs, and the U.S. Government Accountability Office (GAO) will generally not substitute its judgment for that of the agency.³⁵ In particular, the GAO has recognized that, in the case

of a solicitation that relates to health and safety concerns, an agency has the discretion to set its minimum needs so as not to achieve just reasonable results, but to achieve the most reliability and highest effectiveness possible.³⁶

Since buildings consume 40 percent of our nation’s energy and raw materials and emit about 40 percent of greenhouse gases,³⁷ it would seem that an agency’s agenda to reduce and mitigate these potential impacts from federal buildings certainly supports environmental health and safety. An agency’s concern in such a situation is highlighted by the Environmental Protection Agency’s findings that greenhouse gases threaten the public health and welfare of current and future generations.³⁸ The LEED process in energy use and atmosphere can reduce greenhouse gases emitted by federal buildings by encouraging reduced energy use and the use of renewable energy. The process can also help address possible droughts caused by climate change through the water efficiency credits included in the rating system. However, energy and atmosphere are only one of the LEED credits that an applicant may be awarded. Therefore, unless a solicitation focuses on energy and atmosphere, as well as other relevant LEED criteria, a potential bidder could “game” the system by promising LEED certification, absent substantial energy and atmosphere credits. Then the “green” specifications could entirely or substantially fail to meet the government’s minimum needs. LEED certification may test the minimum needs doctrine.

High Quality and Cost Realism

Moving further into the acquisition process, the next question would be: How can the federal government be sure that it is hiring a qualified “green” contractor? Obviously, quality counts, but agencies must also consider budget restraints.³⁹ According to the GAO, long-term funding and capital budgeting issues—specifically the need to recognize capital costs up front in the federal budget—will continue to pose challenges to a federal agency’s ability to meet all statutory requirements for high-performance federal buildings.⁴⁰

The federal procurement process takes into account unreasonably high costs or excessive bids. Price and quality tradeoffs are typical evaluation factors. However, realistic costs must also enter the picture, because some uninitiated bidders may propose prices that are unrealistically low or a “buy-in” to the green market. An analysis of realistic costs included in FAR 15.404-1(d) involves a process of independently reviewing and evaluating specific elements of a proposal and determining whether estimated costs are realistic, reflect a clear understanding of the solicitation, and are consistent with the unique methods of performance in the contractor’s technical proposal.

Although cost realism is usually used on cost reimbursement contracts, a cost realism analysis may also be used in competitively fixed-price contracts when there are new requirements that competing bidders may not fully understand, when there are unique quality concerns, or when past experience indicates that a contractor’s costs have resulted in shortfalls.⁴¹ Therefore, a cost realism analysis can determine whether a bidder’s prices are too low.⁴² For an

agency to be able to conduct such an analysis, the agency must set forth a realistic estimate of costs as a factor in the evaluation of proposals;⁴³ otherwise the agency could face a substantial protest.

Past Performance

In addition, evaluation of a bidder's past performance should be a requirement in the solicitation in accordance with FAR 15.305(a)(2). Information about past performance is a vital indicator of an offeror's ability to perform contracted work successfully. Again, the solicitation should describe the approach the agency will use for evaluating past performance, including how offerors with no relevant history will be evaluated and what opportunity will be provided to offerors to identify their experience on past or current green contracts. The government should also specify that proposals must tell the contracting officer about the contractor's success in meeting LEED requirements on other building contracts. All this information will give the soliciting agency the ability to evaluate the competence of various bidders on federal green building contracts.

Performance-Based Acquisitions

Underperformance is another issue that may plague federal green buildings during the actual administration of the contract or afterward.⁴⁴ What if the building does not produce the savings that were proposed by the bidder? It is important to note that LEED certification does not automatically guarantee performance. Although de-certification is possible if a LEED-certified building does not live up to its LEED standards, that potential is hardly the same as performance-based acquisition or contracting. Such contracting is set forth in FAR 37.6. For instance, the Department of Energy uses energy-saving performance contracts to allow federal agencies to award energy-saving contracts without incurring capital cost.

An energy-saving performance contract is typically a partnership between a federal agency and an energy service company. The energy service company conducts an energy audit and identifies improvements to the building that should be made to save energy. The energy service company then designs and constructs projects that meet the agency's needs and pays for the project over the term of the contract. After the contract work is completed, all additional costs savings accrue to the agency. Because the terms of contracts can be as long as 25 years, standard model government contracts that specify a building, set a price, and award the contract to the lowest bidder may have to change. The change would be to a model based on adhering to a set schedule, achieving a LEED rating, and obtaining operational efficiency through design quality standards. The process would be measured by its ability to achieve the environmental quality standards that have been established. Benchmarks for that standard have to be created, including past performance, LEED performance objectives, and rewards. For instance, specifying energy and atmosphere credits, achievement, and measurement and verification could be one performance level.

Warranties

Finally moving to contract closeout and possible claims, the "Inspection of Construction" clause in FAR 52.246-12(i) comes into play. That clause provides that "the government shall accept, as promptly as practicable, after completion and inspection, all work required by the contract or that portion of the work the contracting officer determines can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the government's right under any warranty or guaranty."

Thus, when the contract is close to being completed, if the government accepts a building and makes final payment for the work, the government's right to claim that the work was defective work afterward is limited. The bar does not serve as a defense if there are any of the latent defects, fraud, or warranty issues involved. Therefore, for the government to reserve its rights, because the operational efficiency of the building will take some time to demonstrate after completion, the government should require a certification in the prime contract that the LEED standards will be met and also should negotiate a warranty that the work will provide the water efficiency, energy efficiency, clean indoor air, and so forth, as mandated in the contract, for a period of time greater than one year. In other words, the LEED design requirements will have to meld into a performance and special warranty requirement. If there is failure to achieve LEED certification or if the building does not perform as stipulated, the government would preserve its rights for a time. "Green-washing" will not be allowed. This reservation puts LEED certification on the proper pedestal—one that establishes performance-based objectives.⁴⁵

Conclusion

The federal government is "going green," which means that the country has to go green as well. Part of being green shapes the procurement process, and the government has long used its procurements to shape social policy. LEED-certified buildings are only one step in this new era. Recent initiatives undertaken by the General Services Administration reveal that it plans to require its more than 600,000 vendors⁴⁶ to report their emissions of greenhouse gases—probably in an effort to establish goals for reducing carbon dioxide. In addition to devising federal procurement processes for LEED certification, tracking systems, verifications, learning curves, and additional procurement training are needed to accomplish that goal. This is just the beginning. These changes show that if you are not far in the LEED, you are all behind.

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