

**2009-06-10 10.04 Green Building**

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[00:00:00] START AUDIO

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WOMAN

The Broadcast is now starting. All attendees are in listen-only mode.

VICCY SALAZAR

Great. Welcome to this month's session of the Federal Green Challenge Web Academy. We are really excited to have you here and really excited to have three fabulous speakers talking about managing energy, transportation, waste and water through green buildings. Green building takes an integrated whole building approach and can be implemented in new construction and major renovation projects...

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as well as in existing building operations and maintenance. There are opportunities to green your building and lease facilities too. And we know, as we just finished completing our lease at the EPA building and are actually--to find out we're going for the LEED Platinum for Existing Buildings. In this webinar, our three great speakers will be providing an overview of green buildings along with information on federal opportunities in existing buildings and in lease facilities. So before I introduce our speakers, let me hand it...

[00:01:07]

it over to Tommie Jean from Tetra Tech to go over some of the logistics. Tommie Jean.

TOMMIE JEAN VALMASSY

Thanks, Vicky. Hi, everyone. Welcome and we're glad to have you here today. Just wanna let you know that your lines are muted, so if you have questions, whether they are about the content or whether they are technical, please use the little question bar and type it in there. We do encourage questions and between each of the speakers today, we've set aside time for question and answer. Any time during the presentation, go ahead and type in your question. Then after each presentation, we'll read the questions...

[00:01:37]

aloud and try to provide you answers right then. And if we can't get back to you, we'll try to get back. If we can't answer right away, we'll try to get back to you after the webinar. The slides are being moved for you, like I said, so there might be as much as a

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10-second delay between when we move the slide and when you see it, if you have a slow web connection. If you look in the chat bar, you'll see that I did send out a link where you can download these presentations, and I'll send that again during the webinar so that you can download them now and follow along or you can share them with your colleagues who couldn't be here today or just use them for your own reference later. At the end of the webinar, we will have a pop-up window with a...

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survey for you, just four or five quick questions, and we really appreciate it if you would answer the questions right away when they come up. It really helps us keep improving the Federal Green Challenge and make sure that we're meeting your needs. And with that, I will hand it back over to Vicky to introduce our speakers.

VICCY SALAZAR

Thank you, Tommie Jean. And I also wanna remind everybody...

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that our next session is on July 8, 2009, and the topic is Waste Prevention 202 where we'll get a more in-depth look at waste prevention. But back to today's session, three fabulous speakers who have really been the leaders within the federal government on how do you take a building either a new one or an existing one and green it and make it as green as possible. So first up, we have Don Horn. He is the Director of Sustainability for GSA's Public Building Service in the Office of Federal High-Performance...

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Green Buildings. He ensures that sustainable design principles are included in the agency guidance for new construction, repair, alteration, facility management, and leasing. After that, we're gonna have Joni Teter, who is the Green Building Education EMS Coordinator for EPA Region 8. In her current position, Joni focuses on integrating high performance building standards with environmental management systems operation in EPA Region 8's, which is Denver, new LEED Gold headquarters facility.

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Next up, we have Ms. Broskey who works for the GSA Office of Real Estate Acquisition, Real Estate Acquisition Policy, Strategic Planning and Measures Division--well, that's really a long name--which is shortened to PRB in Washington, D.C. She is a Senior Real Estate Policy Advisor and the National Lease Policy Lead for GSA's Green Lease Program. So welcome to all of our speakers

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and I know that we, here at EPA, are looking forward to hearing what you have to offer us.

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So let's turn it over to Don Horn. Don.

DON HORN

Okay. Thanks, Vicky. Today I wanna talk briefly about sustainable design principles. I am assuming that a lot of the people on the call are not necessarily green building people, but just other environmental responsibility so some of this might be introductory. But I wanna talk about the principles where they came from. Then I'll step through them and talk about strategies for successful implementation, and we'll look at one specific building example.

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There are many terms being used today. Sustainable design, sustainable buildings, green buildings, high-performance buildings, but to me they all refer to the basic need to wisely use our natural resources by reducing consumption of non-renewable resources, minimizing or even eliminating waste and creating healthy built environments. I refer to built environments or work environments because that is the mission of GSA. On the next slide, sustainable design is still a fairly...

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new term. It's been around for about 10 years, but the basic components have been around for a long time and laws have been pushing us towards better environmental stewardship, as you can see since NEPA 1969. So you can see the progression of their development. Sustainable design was first mentioned in Executive Order 13123 in 1999. So if you go on to the next slide, we'll see what these original sustainable design principles were that federal...

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agencies should follow. Actually I guess I have my slides out of order. The basic requirement there was--that executive order was to apply sustainable design principles to the siting, design, and construction of all new facilities. And so this language has been repeated in the Energy Policy Act and more recent Executive Order 13423 and the Energy Independence and Security Act, EISA. Next.

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So, yes, the principles that were originally developed were to optimize site potential, protect and conserve water, minimize non-renewable energy consumption, use environmentally preferable

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products, enhance the indoor environmental quality, and optimize operational and maintenance practices. These covered the full range of building development. Next. Then with Executive Order 13423, it adopted guiding principles that were developed for inter-agency memorandum...

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of understanding. And these are condensed down to: employ integrated design principles; optimize high energy performance; protect and conserve water; enhance indoor environmental quality; reduce the environmental impact on materials. As you can see, it's built upon what we had previously, but it is a little more focused now. So now we'll step through each of these principles. These principles are the basis of our tracking and reporting for sustainable buildings on the OMB scorecard.

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So that's why I think it's kind of important that everybody have a basic understanding of what each agency has to report on. There was an updated version in December of last year that also included guidance for existing buildings, but I'm gonna be focusing more on the new construction and major renovations now. So one of the most fundamental aspects of sustainable design is the use of an integrated design process. A typical design approach is a linear approach where the disciplines...

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are separated and there is a hand-off from the architect to the engineer and then to the contractor to build. But integrated design is a process where all the players come together throughout to establish the performance goals and work toward the best solutions together, the best solutions possible using charrettes and other means to communicate and come up with a higher-performing building. Next. Commissioning is the next element under "Employ Integrated Design Principles," and commissioning is a...

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process of assuring through verification and documentation that all the building systems perform correctly, that they are working together in accordance with the design intent and in accordance with the owner's operational needs. And commissioning can be tailored to any site or project, any system components, and it should be included through the entire process from the design phase to a minimum of at least one year after construction. Next.

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Energy efficiency is the one part of sustainable design that everybody gets. I mean, saving energy saves money and that's

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usually the hook that pulls most people into sustainable design in the first place. The best approach is to establish a whole building performance target that takes into account the building orientation, the enveloped design, the systems, and the operational loads. This particular example here is the Arraj Courthouse. We have triple-glazing high-performance glass. You can see...

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some interior light shelf bouncing daylight into the space. They also have some sort of voltaics on the outside. But for new construction, our requirement through the guiding principles and through the Energy Policy Act of 2005 is that we reduce energy use by 30% compared to a baseline building designed to comply with the ASHRAE energy standard 90.1. We also have requirements in EISA, the Energy Independence and Security Act, that require new buildings and major renovations to reduce...

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their fossil fuel-generated energy consumption by 55% now working up to 100% reduction in the year 2030. So that is going to be surpassing the ASHRAE requirement eventually. Next. EISA also directs agencies to meet at least 30% of a facility's hot water demand through solar hot water collectors when life cycle cost-effective. I don't have any pictures of GSA thermal systems so I included two pictures with photovoltaic...

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panels, which are also a good way to produce renewable energy on site. The Wilson Building in the upper picture, it has integrated PV with the roofing. It actually produces more energy than it consumes on some days. Next. Another element under energy performance is measurement and verification. The requirement is to install meters as required in the Energy Policy Act and EISA, the Energy Independence Security Act. It's always important to have monitoring capabilities...

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to know a building's actual performance and if it's meeting the design expectations. If you don't have that data or that feedback, you won't know how a building is actually doing. The photo on the right is actually an electric meter that spins backwards. It's measuring electricity produced from photovoltaics on the EPA northeast regional lab in Chelmsford, Massachusetts. Next. The last element under energy is benchmarking. So the measurement and verification part...

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allows the capability for monitoring performance, and then benchmarking, actually, tracks a building's performance. And the

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best tool for that is ENERGY STAR Portfolio Manager, which hopefully many of you are familiar with. Okay, next. This is not in the guiding principles. I wanted to add this to help dispel a myth that some people have. The answer's there, but it was supposed to be the question, "Which building is more efficient?" Well, it's the one that's built in 1899, on the right, the...

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Savannah Courthouse. Historic buildings were frequently designed with the environment in mind. So this one has large overhangs for shading and large windows for daylight that are also recessed for shading and great thermal mass in the thick walls. And so it is a quite efficient building. So next. The next guiding principle is to protect and conserve water. So indoor water use should be reduced by at least 20% from federal requirements and codes. This means using strategies such as high-efficiency fixtures...

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faucets with flow controls, dual-flush fixtures, and/or waterless urinals. You can also collect and use rainwater rather than potable water to reduce potable water consumption. Next. Outdoor water use can be reduced through water-efficient landscaping and irrigation strategies by choosing native or adaptive plants that don't need additional water or maintenance for a particular location. Another requirement under outdoor water is to reduce storm water runoff...

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and EISA refers to the predevelopment hydrology of the site. The EPA Science and Technology Center in Kansas City collects rainwater from the roof into an underground storage tank and reuses it for flushing toilets, irrigation, and for cooling tower make-up water. The other picture there shows a section of a green roof which is also a great strategy for reducing storm water runoff from a site. Next. The next slide has two other strategies for storm water...

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control. The first are curb cuts and vegetated swale to promote infiltration of water rather than sending it off site to some concrete infrastructure. This is known as Low Impact Development. The second picture shows a parking lot of permeable paving, so that the water can infiltrate back into the ground and recharge aquifers in the water system. The text, if you noticed, it also adds an element, processed water. So in the guiding principles, it refers to...

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using water to improve a building's energy efficiency. A water-cooled chiller can save energy but frequently comes with great cost for water usage. So it's important to balance these two issues and look for cost-effective water conservation methods like increasing cycles of concentration or using non-potable water as in the former slide with the EPA facility. Next. The last element under water is to use the EPA WaterSense labeled products or irrigation services.

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This is a new program by EPA similar to ENERGY STAR but labeling products for their water conservation qualities. So I think the website is [epa.gov/watersense](http://epa.gov/watersense) if you want a shortcut to that. Okay, next. The next principle is to enhance the indoor environmental quality, and with sustainable design, we frequently refer to indoor environmental quality, not just indoor air quality. Because as you'll see, there are more aspects that are important.

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The ventilation and thermal comfort are important. So the requirement here in the guiding principles is to comply with the ASHRAE Standard 62 and 55 that are related to ventilation and thermal comfort. Individual control is always a good idea to improve comfort or at least the perception of comfort. So underfloor air distribution, it is a good strategy, I think. It allows occupants to control the airflow at their desk by registers...

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that are placed at each workstation and they can control it. The picture on the right shows one of these registers. Lighting control is also something that's good, or some ways that the occupants control blinds for day lighting or light switches to turn off lights when they don't need them if there's adequate daylight. Okay, next. The next element is moisture control. You can see in the text there, it requires implementation of strategies...

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to control moisture flows and the risk of moisture damage in a building, and EPA has some good guidance on moisture control. But, again, I don't have any specific pictures, so I'll move on to day lighting here. The use of daylight creates tremendous energy savings in a building but also contributes to the indoor environmental quality. Studies have shown that people are more alert. They learn faster. They get well faster in hospitals with things like that, when they have access to windows and natural light as well as...

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the views to nature, the outdoors. This picture shows interior light shelves that help spread daylight deeper into the office space. You can also see how the direct sunlight is limited on the floor, that it is shaded from the exterior. The higher ceilings in this space also promote deeper penetration of daylight and allow the use of pendant light fixtures so that you can have both direct lighting downward and indirect lighting upwards on the ceiling creating a luminous ceiling effect which is more like a sky rather than...

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a dark ceiling with light fixtures shining light only downwards. Next. Low-emitting materials are crucial to providing a healthy work environment. So false organic compounds and other toxics can be off cast from new products sometimes for a period of several years. So by specifying and using low-emitting products for adhesives, sealants, paints, finishes, carpet, composite wood products, and even furnishings within a space, you can help reduce...

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and improve the air quality of the space. Next. The last element under indoor environmental quality is to protect the indoor air quality during construction. The basic requirement here is to follow the Indoor Air Quality Guidelines for Occupied Buildings Under Construction of SMACNA, the Sheet Metal and Air-Conditioning Association of North America. For both new buildings and existing buildings, it's a good set of practices. This includes things like covering openings...

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or install duct work to keep dust from entering them, to protect the materials on site from moisture or wet conditions, and providing a flush-out period to flush out the air of the space before occupancy. In the guiding principles, it calls for a minimum of 72 hours plus continuing flush out to reach a certain volume of air. Actually, there was another item under enhanced indoor environmental quality that I actually forgot to put on there, and that is...

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environmental tobacco smoke control. Basically smoking is prohibited in federal buildings, but it's saying to make sure that happens and to provide signage within 25 feet of all entrances and openings. Okay, next. So the next principle is to reduce the environmental impact of materials. A federal requirement that we've had since 1992 is to purchase EPA-designated items with minimum levels of recycled content, the Comprehensive

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Procurement Guidelines, and hopefully again, most people are already familiar with that.

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I like this particular picture at Montgomery Park because the carpet is 100% recycled carpet. It is the company that will take up old carpet squares and superwash them and then stamp them with new patterns and put them back on the floor. So it's 100% recycled content--the best that we can do to extend the life of the products. The furniture partitions are also made in-house in the building and consist of local wood. The panels are made primarily with recycled newsprint.

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Another strategy is to reduce their raw use of materials. So you can see the ceiling there, the acoustic ceiling tiles are only used where needed for certain areas for acoustic control or over individual desks within the space. Okay, next. So--

**TOMMIE JEAN VALMASSY**

And I just want to let people know that we'll be taking questions in about five minutes if you wanna go ahead and type in your questions.

**DON HORN**

Okay. The federal government also is required to purchase bio-based content products. And this particular floor here is linoleum, a natural product made of...

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limestone dust, flaxseed oil, cork, and other things. And then all of these are known as environmentally-preferable products. They have reduced effect on human health and the environment. Next. Another element is waste and materials management. And so, here, it's always necessary to accommodate recycling even within the design of the building and during construction then to make sure that you recycle, salvage, or reuse at least 50% of the waste...

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generated. No matter what size of the project, that's something that should be included. Next. The last element involves eliminating the use of ozone-depleting compounds. CFCs are phasing out HCFCs. These are primarily used in refrigerants and flame retardants. Next. So the key to the successful implementation of sustainable design is to make it a standard way of doing business. Instead of having separate sustainable facility standards, I think it's better to just integrate this integration

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sustainability into everything we do.

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That's been our approach at GSA, and these are some of the documents that now incorporate sustainable design and the guiding principles throughout. Next. Also, contract language is critical, so it needs to support your goals so that it can be effective. Focusing on the intent, the environmental intent, or what you're trying to accomplish and then include clear targets to be met. Don't leave room for misinterpretation. Require submittal of the documentation to show that the contract requirements...

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have been met. Frequently, people talk about following green standards is difficult because you have to keep extra documentation. Well, it's a good idea to keep this documentation anyhow because it proves that we are getting what we asked for and that these requirements have been met. Approve all substitutions. Don't let contractors make substitutions without a thorough review and approval. And then provide resources that can help in decision-making. Next.

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Speaking of resources then, I think the whole building design guide is the best, most comprehensive site for federal guidance and standards related to sustainable design. And here are links to three specific locations that I think are quite useful. The slides will be available afterwards, I believe, so you can refer back to these. Next. The means of measuring our success at implementing sustainable design principles. GSA requires new construction and major renovations to be LEED certified at the silver level. LEED is a green building...

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rating system following categories that, you can see, align very closely with the guiding principles. So I think LEED will be mentioned in the next presentations as well, so I really won't say much more here. But in general, it's not meant to be a design checklist with specific answers to fit all situations. You have to look at the intent of the LEED credits and understand the environmental impact that's being addressed when you decide the strategies to use, but the same is true for the guiding principles. There are many...

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more strategies, of course, but I've only touched on a few here today. Next. So I want to take you on a quick tour of one specific building that has earned a LEED rating. Okay. The National Park Service regional headquarters in Omaha, they got a gold rating.

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This is a lease facility for GSA and was required to meet LEED silver, and the developer went on to get a gold certification. Next. The building is sited on the bank of the Missouri River.

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It's actually built on a brown field and it has different treatment for each façade--less glass and sunshades to the south, and more glass and openings to the north in native landscaping that blends into trails along the river. Next. The river theme is also carried out inside the building in a unique way, with design elements such as carpet patterns and a flowing feeling pattern through one of the central hallways on the upper floor. Next. The building is three stories with underfloor air distribution throughout. And...

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you can see on the right a picture of one of the exterior sunshade devices that helps to cut the direct solar radiation into the building. The owner purchases 100% green power for the building, and the building is actually consuming 30% less energy than the national average. It has an ENERGY STAR score of 86. GSA did a post-occupancy evaluation of this building I guess a year and a half ago, and that is published in our Assessing Green Building Performance...

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Report available in our website. Next. Sinks have infrared faucets to limit water from being left on too long. There are dual-flush toilets used in the women's restrooms to deliver either a low flush or a higher volume as needed. There are also a few waterless urinals in the building and I believe one composting toilet or a couple of composting toilets as examples. The building was projected to have a water saving of 39% annually. But when we did our actual measurement of consumption...

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we found that it's using 89% less than the national average. Next. Storm water management is particularly important here next to the river to limit the quantity and improve the quality of water that goes into the river. So they incorporated a rain garden feature to slow the water, prevent erosion, and allow it to absorb more slowly into the ground. Next. Day lighting is used throughout the building. In fact, if anything, on the north side there's actually too much light too much light...

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coming in. I'm pretty sure this is glare. Designing with day lighting takes careful analysis to keep direct sunlight from entering the space and to control the glare. If you can also see in these photos that the area next to the windows was kept free from desks or

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private offices, this allows the daylight to be shared by many people and keeps blinds accessible to adjust throughout the day as the light changes. Next. Natural materials have also been used in strategic places including local stone in the entry.

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This picture doesn't show it that well but there is one large local stone wall. The floor is actually stained concrete eliminating the need for other floor coverings or some other kind of manufactured product. The use of glass in the doors and walls allows light to penetrate throughout the building. It provides a nice sense of openness and welcome to the space. The wood in the building, half the wood, is certified by the Forest Stewardship Council indicating that...

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it comes from sustainably-managed forests. Okay, I'm gonna wrap up here. Next. I'd like to leave you with one last thought. Most of our goals that we have for greening the government and rating systems such as LEED are only slowing the damage that we are causing. It's better than conventional practice, but it's actually changing and improving and it's actually making a difference, changing and improving conventional practice. But even these sustainability targets are only aimed at eliminating the bad things we do, a hundred...

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percent less damage. So what is beyond these targets? Next. We need to think beyond this current approach that we have to sustainable design to how we can actually repair some of the damage and pollution that we have created. This is what we refer to as restorative design. As we continue to learn to reduce our environmental footprint, we can better develop approaches to creating buildings and solving the challenges that we currently face. This is a process where there is continuous learning. A spiral...

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moving upward of improving our approach until we actually develop a regenerative capability. We can build buildings that produce more energy than they consume, that use only the water that falls from the sky on their site and clean the air rather than pollute it. And an example on the next slide is the Living Building Challenge. It's a--I guess you would call it a rating system developed by the Cascadia Green Building Council that actually strives for this. It's a zero net energy...

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and uses only the water on this site and is all set for materials and

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other things. There are about 40 Living Buildings in design and construction currently so this is reality, not just something that people dream about. But I don't think there are any federal projects involved yet, but this is, I think, where the things are headed. So if you wanna take a look at that website that gives you a glimpse of how we can actually make big strides in improving our construction of the built environment. So that's all...

[00:28:07]

I have. I don't know if we still have time for a couple of questions or not.

TOMMIE JEAN VALMASSY

Yeah, we sure do, and if you have more questions, go ahead and type those in. We'll see if we can answer them. So, Don, we have a few questions. Let see, one person asks, "Do you know how much additional costs are incurred to go LEED Gold as compared to an average building with the same square footage?"

DON HORN

For that particular example, the Park Service, there...

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was no additional cost to the government. That was a lease solicitation, so it was a competitive lease, and the developer, as I said, was required to meet LEED Silver, but in order to be more proactive and get the government lease, they delivered a LEED Gold building. Once they got into it, they found that there were more and more strategies that could be incorporated at either no cost or low cost that had a good payback for them. I believe it's a 10-year lease so...

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whatever costs were incurred, the developer had it worked out in his financials that he would be making money still within the 10 years. For our government projects in the past we were maybe looking at a 2%, 2.5% increase in costs. But as many of these practices become standard and the market changes, I believe that we can deliver LEED Silver and sometimes even LEED Gold buildings at no extra cost. Some buildings cost more. Some buildings cost less...

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and it's true whether they're green or brown.

TOMMIE JEAN VALMASSY

Okay. Wow. A couple more questions. Well, I think, I'm just gonna ask one more quick question and then we'll move on to our

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second speaker so we don't run out of time. Then we can maybe revisit if we have more time. Someone was pointing out that it sounds like a lot is being done to green federal buildings. With all this success--is this information getting to the general public or is there a way to get this information out?

DON HORN

Oh, yeah.

[00:30:07]

Individual agencies have their websites and we produce brochures and other publications. In fact, I guess one I can direct you to [gsa.gov/sustainabledesign](http://gsa.gov/sustainabledesign)--well, it's written right there. At the bottom, you can see a link for sustainability matters. The publication that we did just last year that I think is the most comprehensive example of case studies and what the federal government is doing with sustainable design, so I would...

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recommend that book for you first and directing people to that website. But, yeah, there are many publications. I think the word is getting out what the federal government is doing, that we are a leader in green building. Thanks.

TOMMIE JEAN VALMASSY

Okay, great. Thanks. Well, go ahead and keep typing in your questions and we'll see if we can get back to you, but we're gonna move on to our second speaker, Joni Teter. And, Joni, give me a second to pull up your presentation here. Joni, the floor is yours.

[00:31:07]

And, Joni, the floor is yours.

JONI TETER

So, Tommie Jean, how about if I start talking here as you're just bringing this up?

TOMMIE JEAN VALMASSY

Sounds good.

JONI TETER

Okay. Hi, everybody. I am actually gonna be taking this in a little bit of a different direction, focusing more on the operational aspects. You go on to the next slide, Tommie Jean. We moved...

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in to this high-performance building about two years ago, a little over two years ago now. And I tell people it's a little bit like getting

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a Saint Bernard puppy for Christmas, it's really exciting and you feel all warm and fuzzy until you realize you have to learn to teach it to walk on a leash and house break it. And so I'm gonna be sharing some kind of tips and lessons learned, looking back at green design and construction from the standpoint of operations and then also sharing with you some of the ways in which we are trying to operate the building. Next slide please.

[00:32:07]

I will be focusing only on the four Federal Green Challenge and areas, energy, water, transportation and waste. Our building also did very, very well in the IEQ and materials categories. So if you have interest in those areas, feel free to contact me and we'll share that information too. Next slide please. So we'll start first with the statistics, what our design goals were for the building. This...

[00:32:37]

was a lease project, similar to the one that Don just described. Design target was LEED for new construction silver. You can see our energy targets there, 40% less than baseline. We are all now required a new construction to be at ENERGY STAR 75, our target was 85. We were modeled to use 50% less water than baseline. We were aiming for 60% on alternative transportation and a 50% waste diversion rate. Next slide. Now the reality is somewhat different and this is why...

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it's so important to really track what you do. Have you done the next slide, Tommie? It's--

TOMMIE JEAN VALMASSY

Yeah.

JONI TETER

When we look at our documented performance we get a really different picture. Hopefully that will come up here sometime soon. We actually achieved LEED for new construction gold. Still no slide. There we go. But it's important...

[00:33:37]

to recognize that that didn't really help us with operations. Because once you get your LEED for new construction designation, you're done, and we quickly realized that we needed to look at LEED for existing building as well. When we certified at ENERGY STAR, we were ENERGY STAR 96, but three months later we were down to 94. And that's typical and we'll talk a little bit about why that's going on. We found out we're actually using a

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lot more water than the baseline building which had us scratching our heads. Our waste diversion has been...

[00:34:07]

doing really well but we think we can actually get up in the 90% to 95% if we could do composting and there are some barriers that a good design could help us with. Transportation, we're doing great but we're getting some energy tradeoffs in the travel arena. Next slide please. So it's a little bit like, you know, don't look behind that curtain. Some of the green building information that's out there, you really need real data. So, on the energy side, when the slide comes up, you'll see that our building has...

[00:34:37]

many of the same kinds of strategies that Don just went through. I think our building is a great example of the success of integrative design because all of these things have to work together. Next slide. We have a green roof research project, which I'll also mention for those of you who were in the Western United States, we have different issues, as you know, and we're working a lot on that. From a heating--an HVAC...

[00:35:07]

standpoint, heating, ventilation, and air-conditioning standpoint, we have an underfloor system and it's working extremely well. I know there's some controversy out of there among some engineers. We actually did some testing of our underfloor system with the Center for the Built Environment out of California, are happy to share that with you. It demonstrated really the effectiveness of these systems, so it's good ammunition if you need that. Next slide. Lighting is another big component of...

[00:35:37]

energy use and we are a highly daylit building, about 85% daylit. Our electric lights are also on dimming controls, and I wanna stop here for a minute and just talk about one important strategy, which is making sure you build in variability in both your heating and your lighting systems. Typically, both of those systems are designed by mechanical engineers to handle the peak load or the darkest day and then the systems run at that all the time. If you've got a building occupancy system...

[00:36:07]

BOS and you can set this, so that the lights only go on as they're needed. If you have daylight sensors to further dim them, if you run your HVAC so that it's only running at the level that you need, you save a ton of energy. We also went to daytime cleaning--next slide, please--which means that we can have our lights off at night, which has been a great savings. So this next slide shows the

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graph that came out of our whole building analysis, the analysis that Don mentioned. This is the ASHRAE 90.1 model. You can see...

[00:36:37]

the baseline on the left, what the combination of the building envelope and the lighting contributed in reduction and then the HVAC on the right. Next slide. But there is something missing out of this. It's a really important piece, and that's plug load. And by plug load, this includes everything from all of the electronic gadgets we rely on to do work, like the computers we're using for these webinars today to the fun little things we bring in to our offices to make our lives more complete, incense burners and the like.

[00:37:07]

Plug load, we're pretty sure, is why our ENERGY STAR rating has dropped and will continue to drop, and it really emphasizes how important it is to make sure your employees understand what's going on in the building and are engaged in keeping energy use down. One of the main things we're looking at right now is these flat-paneled monitors that we have installed all over the building to enable video conferencing and webinars. We're trying to reduce our official travel carbon footprint, but there's a corresponding energy use there.

[00:37:37]

So there are tradeoffs. So let's move on to our carbon footprint just real briefly. I think it's important to remember, as Don was saying in his last slide, that our building--even though it's at ENERGY STAR 96, which means only 4% of the buildings out there are more energy efficient than ours. We still produce a huge amount of carbon. We have a long way to go in truly getting to sustainable design. So let's look at water. We have WaterSense fixtures; we have closed loop in our processed water.

[00:38:07]

So we have really been scratching our heads around where our water use is coming from. One of the things that we believe is going on is that our fixtures are not all working the way they're designed. We get a lot of anecdotal information that it takes multiple flushes in the dual-flush toilets, so that's something we're trying to look at. We're also looking real hard at the modeling data that's used because it assumes two flushes per day. I'm at an age where that doesn't work for me anymore. We're also in a...

[00:38:37]

very dry climate where people drink a lot of water; we think that may be a little bit low. Next slide. It's been funny that for us,

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potty training has been a big feature of our EMS ever since we moved into the building. People did not automatically know how to use these dual-flush toilets. We just found out a whole bunch of information about assumptions on how these fixtures will be used but don't necessarily carry through. But the big hitter--next slide, please--we found out has to do...

[00:39:07]

with one of the kind of unexpected things that went on around one of our energy-saving features. Our water is heated by steam that comes off of a boiler that's provided by the municipality. The steam goes through several depressurization valves, the system you can see there on the lower left-hand side. And as it goes through that, then it produces condensate, which goes into the big white tank in the upper right hand corner. Then there's a...

[00:39:37]

heat-transfer mechanism that heats the water as the water goes into our faucets. Well, as the water goes into that condensate tank, it is discharged into the storm sewer. It doesn't go back into the city pipes as it does in some systems. It turns out that that discharges at 185 degrees Fahrenheit. It takes pipes to get the water out to this main trunk line in the street. The 185-degree water that comes out of the condensate tank melts...

[00:40:07]

the pumps. So a couple of days after we moved in, a plumber came in and put in a cold water make-up valve so that cold water is dumped every time the hot water comes out and when we put a meter on that we found out that was our water use--31,000 gallons in two days. And I think this is--I mean it really illustrates why it's important to measure and it's important too to realize that a lot of green building is not so much about new technology. It's just being aware of what we do. So let's look real...

[00:40:37]

quickly at transportation. We're doing very well in that and it has almost everything to do with the selection in sight. We are at the heart of the Denver metropolitan region, right across the street from the main transit hub. We have all sorts of alternatives. We've also set ourselves up for plug-in electrics in the future. We put those into our basement. Next. Finally, from a waste standpoint, we were designed to have...

[00:41:07]

easy access to recycling on every room and that's working really well, but compost, it turns out, is cost prohibitive because of the cost of the bags. Now, you see Martha there in the middle. She's one of our cleaning crew. You can see that folks collect both

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waste and recyclables in bags and then toss them into the big dumpster bin. That's a typical way of doing it. We don't really need to have compostable bags for our waste stream because it's mainly paper towels.

[00:41:37]

But there's no way for the cleaning crew to get the waste into that dumpster unless they're in bags. So if we had known that in advance and had thought of a way to create a system where they could just dump containers directly in, we would be all set up for composting. Our start-up cost for composting was quoted at \$20,000 with a \$12,000 a year on-going cost and that's based on bags that you're buying to throw them away which doesn't make a lot of sense. So let's talk a little bit now about operating lessons learned from a green building.

[00:42:07]

So we'll move on to the next portion of this and I'm just gonna talk real quickly about three things: the importance of tracking and monitoring, how the LEED system can help--you go on, Tommie--and how the EMS can tie everything together. So first, tracking and monitoring is I think you can see from the things we've presented before, it's really important to get actual data. Most of the data's design projections, one of the things that Don didn't mention is the high-performance federal building's...

[00:42:37]

database, which has some great case studies and great information about performance data. That's a good tool to use. I think, as Feds using taxpayer money, it's also important for us to do the leadership by example thing and really try to be good stewards of these buildings. Next slide. So what I put in this slide are some examples of metering that we think, based on our experience, should be available in buildings. The ones that are highlighted in white are things that we do not have. That if we...

[00:43:07]

had it to do over again, we would go back and look at it and put in at a more detailed level. These would allow us to better understand where our water use is going. We'd like to be able to understand plug-load by floor. That would then help us enable communication with our employees to maybe get some competitions going to keep use down without that level of sub-metering. We really don't have the tools we need to manage the building in a way we'd like. One...

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great tool we have found for building a sub-metering program is listed there at the bottom, the data collection templates. I highly

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recommend that. And then it's important to think about tying these all into some sort of a dashboard where you can actually show your employees and the public what's going on in the building in real time. There's a lot of data showing that that's really how you motivate people to change behavior. Next slide. So the LEED system, we think LEED is a...

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really good tool. It's important to remember that, in particular, LEED for new construction is a design standard. It's not a performance pack. That's also true for LEED commercial interiors, which I think Denise is gonna touch on a little bit. We see it as a good tool here in the region. In particular, we think the LEED checklist is great as a way of thinking of all the things you need to think about when you're operating a building. The technical reference manuals are a great guide to the kinds of...

[00:44:37]

information you need to develop. They also provide good references about where to go. It's a very, very helpful system from that standpoint. Next slide. We are using LEED for Existing Building here. We are marrying that with our environmental management systems. We think that it provides a good basis to keep us honest. The third party certification is important. LEED for Existing Buildings is an ongoing certification so it's not just a one-shot certification...

[00:45:07]

like new construction. You have to recertify every three to five years. It also meshes very well with what we're doing with our EMS, and we found, in a leased building, it's a great tool to work with our landlord. Next slide. So Environmental Management Systems, we know that we have to have them now. We've got all of these new regulations. And then over the course of the last, really, five to six years, we really have moved into a new era where we are...

[00:45:37]

a regulated community when it comes to EMS. Our objectives and targets are largely being set for us out of this set of principles. Next slide, Tommie. We, however, have found this to be a somewhat troubling world. There's so much out there. Some of the requirements were inconsistent and overlapping. We find ourselves making multiple reports to different people. It's very resource intensive. Next slide. So we have really been trying to use...

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our EMS and LEED-EB to bring some order to all of this. I mean,

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as you all know, the EMS really allows us to just apply normal business systems to environmental problems to integrate those. And so we are looking at the policies, the targets, objectives, the operating procedures, and the performance measures that are coming out of all these legal requirements and trying to synthesize them in our EMS. Next slide. We're working on a tool that we are glad to share with anybody, if this is helpful to you.

[00:46:37]

It's a crosswalk that we've developed in which we're working within the context of the high-performance sustainable building guiding principles that Don just walked us all through. And then we're also looking at all of the regulatory requirements that we have and LEED for Existing Building O&M. And our goal is to say, "Can we just pick one target?" And if we hit that target, we know we have hit everything, and we also wanna know what kind of data we have to collect and what kind of reporting is needed for each one of these.

[00:47:07]

And then with that, we can select objectives, targets, and metrics at the facility level and then roll those into our EMS. And I'll show you just a couple of snapshots you can go on to--of what this looks like. So first--this first slide is a snapshot of the template that we have created, just an example. You can see one of the energy requirements here. So the objective reflecting the HPSB guidelines, you can see...

[00:47:37]

where we're trying to go with our targets, what the metrics would be, and then the actual data about how we would collect it, what's the data we need, how do we put that into a reporting requirement. That really helps us to better understand what we need to do to make sure that we're on track. Next slide, please. We then put that into our environmental management program, and this next picture coming up is a snapshot from our worksheet for our environmental management program. So here you can...

[00:48:07]

see how we've laid out the objectives, targets, progress indicator, everything in one place. It makes it very, very easy for when the auditors come to call. Also makes it very easy for us to communicate internally with our EMS teams and our management group. Next slide. And then we go on to put that into the form of a work plan. So we really have the "who does what, when, and how," that flows down for these objectives and targets. This refining is what...

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really makes the difference for us in having the confidence that we can operate the building and meet those design goals that were set. So final point I'll make here about the EMS--next slide, Tommy--is communicating with employees is really important. It's wonderful to have a green building because that gets people excited, gets attention, focused on what we need to do. We find as soon as we say the word EMS or the acronym EMS, they fall asleep before we get it out of our mouths.

[00:49:07]

So we've had to find ways to put this in other language 'cause it's important to get people excited and make them feel involved. The footprint idea works for us. You can see we try to make our communications with employees fun and a little lighthearted. If the employees are not engaged in helping to live in the building in an appropriate way, we won't meet our goals. So, a final slide for us here, next one, is just a screen shot of our webpage. We invite you to visit that.

[00:49:37]

There is more information about our building as well as links to other information about the different areas and some of the EPA websites. And then the last slide here, I've provided you with contact information for our whole EMS team, green-building team. Feel free to contact us if you need any information on that, and I will stop there.

TOMMIE JEAN VALMASSY

All right. Thanks very much, Joni, and we do have a few questions that came in for you.

[00:50:07]

You were talking about plug load. Someone was mentioning that there are power strips that shut down all plug loads after a certain time of inactivity, and they just wondered if you would explore the use of that at all.

JONI TETER

It's a great question, and we are exploring that. One of the things that's--here are some of the tensions that we find are going out in that. First, our information systems people want us to leave our computers on at night so that they can push out...

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upgrades. Now, we have worked with them and they now have some software that turns them on and then turns them off so they're not on all night. But that means you have to make sure

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your computers are all plugged into a certain set of plugs because for most of us, if you have it on a power strip, you've got your laptop, you've got your screen, you've got everything plugged into it. So working with the ISP people is important. The other thing that we found in the building is that we can't isolate just plug load in the way the wiring was done...

[00:51:07]

because the electricians wired the building the way they normally did. They took a geographic area and ran all the lighting and plugs together. Ideally, it would be nice to have all of the plugs on one circuit and the lighting on another because then we could install these kinds of controls much more easily. There are ways to do that with building automation systems and such and we are exploring that. But this is one to think about in advance if you have the option of designing a building.

[00:51:37]

TOMMIE JEAN VALMASSY

All right. You were talking about transportation. Have you tried to influence big national federal systems like GovTrip to provide good information on travel emissions and other impacts of travel?

JONI TETER

We have been doing some modeling around that. I think for us the challenge will be actually trying to get our hands around all of the data and then comparing that to what we think we're saving in video conferencing. We just hooked into a new video...

[00:52:07]

conferencing system, new to us, that is managed out of Research Triangle Park, and that is actually enabled with a carbon calculator that will help give us data on how much travel savings we have made based on a video conferencing event. So for example, we can say these people are all in these locations and it will calculate for us how much carbon has been saved by that. So there are some good tools and we're just beginning...

[00:52:37]

to start exploring those.

TOMMIE JEAN VALMASSY

Okay. So for your building here, are there any active renewable energy sources, like solar or anything on site for this building?

JONI TETER

We have a very, very small photovoltaic array on our roof. It's only a 10-kilowatt system. We have that primarily as a demonstration

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project because we had to have something. We do--we have a very active building tours program and we wanted to have something we could talk with people about. That 10-kilowatt system...

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provides less than 1% of our energy. For us, it was a tradeoff in putting renewable energy on the roof. We have a vegetated roof that covers all of the space, and at least when the building was designed, we didn't see that we could do both. In retrospect, in our climate, it looks as though we actually could do an integrated PV vegetated roof application, and that's one of the things we're trying to explore coming up in this next fiscal year, if we can get the budget for it. EPA purchases...

[00:53:37]

renewable energy for all of our facilities, so we are able to say we are green in that sense. We would very much like to be able to add some more renewable energy on to the building if we can, but that becomes a matter of budget as we move forward.

TOMMIE JEAN VALMASSY

Okay. Well, speaking of green roof, do you--so you do have a vegetated roof there? And do you ever have to water that?

JONI TETER

We do have a vegetated roof and we are irrigating it. This is one of the things where our region...

[00:54:07]

and the LEED system don't match up well. We installed--it's a four-inch tray system, typical of what you see in a lot of parts of the country and the world. It's planted with several varieties of commercial sedum, and it was installed with the expectation that we would not irrigate. But we're on a high mountain desert here with very, very high UV and a lot of really cold winds in the winter time, and our local horticulturalists advised us that we would definitely have to irrigate. What's interesting...

[00:54:37]

we asked them if they had some data they could share, and they didn't. It's just all kind of common knowledge. So we actually have a PhD student who's doing her thesis now on our roof, looking at both irrigation requirements and also looking at the biological performance of a suite of about a dozen or more--I think she's added another dozen or so native plants and adaptive plants. And that's a good thing to mention to you all because when you do start putting these features in here, there are

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[00:55:07] wonderful opportunities to...  
collaborate with universities and expanding knowledge by getting students involved as interns or thesis projects. We're finding a lot of people are really thrilled at the idea of having a building that they can use as a learning lab.

TOMMIE JEAN VALMASSY

Okay, great. And just one last quick question to help us understand your building level a little bit more. Does EPA lease the entire building or just some of the floors?

JONI TETER

[00:55:37] This was a building that was built to suit for us. It's totally occupied by EPA.

[00:56:07] We're nine floors. It's about 450,000 square feet total. We have about 900 people in it, 10-year lease, typical what Don talked about. We worked very closely with the developer all the way from design through construction and that partnership among GSA, EPA, and the developer was, I think, critical to our success. I will also mention that from a cost perspective, our developer says that it cost them less than 1%...

[00:56:07] to add the "green" features into the building. And that's just first cost. That's not taking into account the savings from operating.

TOMMIE JEAN VALMASSY

[00:56:37] Wow, okay. Well, thank you very much. If you still have questions for Joni Teter, go ahead and type those in and you'll see her e-mail address there, as well. But I wanna make sure we have plenty of room for our third speaker. So Denise Broskey, give me a second, I'll pull up your presentation here.

DENISE BROSKEY

[00:57:07] Okay, hello everyone. My name is Denise Broskey, as Tommie had mentioned. And I'm with the GSA Office of Real Estate Acquisition. And today I'm gonna be going over "Green Lease Policies and Procedures for Lease Acquisition" with a view towards the customer.

[00:57:07] I will be focusing on--next please--I will be focusing on GSA vision for green Leasing, why it's necessary, and when GSA actually began to incorporate energy efficiency and sustainable design into

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its lease policy. Green leasing for the GSA - Real Estate division is embedding sustainable and energy efficient practices into the lease procurement process. This is done in compliance with required laws, executive orders and regulations in an effort to save natural resources, reduce energy...

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and fossil fuel consumption, conserve water, protect the environment, and provide a healthy work environment for our federal customers. We actually began to incorporate energy efficiency and sustainable design into our lease policy in July of 2000. Next, I will also address recent sustainable, energy efficient and environmental policies and legislation, how these apply to real estate acquisition, solicitation development requirement relative to green leasing, the submittal process during...

[00:58:07]

the lease procurement process, and I will explain how GSA applies these new policies on behalf of our customers. Next, as I had alluded to earlier, GSA issued sustainable design and energy efficient policy via real estate acquisition letter, PX-2000-02. This is in accordance with very specific executive orders at the time that Don had mentioned, Executive Order 13101 and 13123. This policy required GSA...

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to issue new solicitation paragraph to address, for example, building materials reuse, indoor air quality maintenance during construction, the use of recyclable and recycled content products, and the use of environmentally friendly and environmentally preferable building products from materials similar to what Don had mentioned earlier. Next, the policy issued by that real estate acquisition letter stood in full force in effect for approximately seven years until...

[00:59:07]

it was revised via Realty Services Letter 2007-12. And this is the "Green Lease Policies and Procedures for Lease Acquisition." And this RSL incorporates provisions based upon applicable portions of the Energy Policy Act of 2005 and 2007, the Federal Leadership MOU and the Guiding Principles, Executive Order 13423, and--

[00:59:37]

that's it. Sorry. Next, this next slide shows a summary of the-- some of the most recent subject matter that we've already kind of gone through between Don and myself. The Energy Policy Act, the Federal Leadership MOU and Guiding Principles, and Energy Independence & Security Act. Interestingly enough, GSA was the

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first federal agency to actually join the U.S. Green Building Council. And for those who may not be aware...

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the USGBC is actually a nonprofit organization dedicated to sustainable building design and construction. And the USGBC developed the LEED building rating system that GSA recognizes as our official rating system. One of the other requirements that we did not mention yet is the Office of Management and Budget scorecard that was issued for environmental stewardship. This scorecard actually instructs GSA to institute sustainable design...

[01:00:37]

in contracts and leases for all federal agencies. And last but not least, we have the Energy Independence and Security Act. Next. Very briefly, EISA is an energy bill passed by Congress in December 2007 which set aggressive energy targets for all federal agencies. This establishes an office of high-performance green buildings, and it reviews and contains information for federally-owned buildings and...

[01:01:07]

federal leases. With regard to federal leases, effective December 2010, EISA requires that all federal leases be awarded an ENERGY STAR rated building with a benchmark score of 75 or above. It applies to all leases at or above 10,000 square feet, and it requires applicable leased space to receive an ENERGY STAR rating of 75 or above.

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For buildings that don't necessarily meet the ENERGY STAR rating, we will have a few of those based on market conditions. Lessors will be required to make upgrades that are lifecycle cost-effective. And for prospectus-level leases under EISA, it requires an evaluation factor which will have to be added to the solicitation for offers that will consider the extent to which the landlord provides energy-efficient upgrades. Next.

[01:02:07]

Most EISA provisions applicable to leasing or incorporated into GSA lease policy through the Realty Services Letter, RSL 2007-12, as I've mentioned earlier, this policy implements energy efficiency requirements for leasing; provides green lease solicitation language for all lease types; incorporates modified, additional green lease language into the standard solicitation. In other words, there's no separate green lease. It's one lease and we cover all aspects of...

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greening our space within the confines of that lease. The award

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factor requirement for prospectus-level leases was actually addressed in the Realty Services Letter 2008-04 which was revised, which is called the Revised Solicitation for Offers Template. So although that's an EISA requirement that may have not been contained in our original lease policy dated in 2007, we have covered that in the new EISA requirements. Next.

[01:03:07]

Although I have essentially addressed the information contained in this chart, I thought you might appreciate the chart as essentially a green lease policy cheat sheet, which covers policy requirements for new lease construction, 10,000 square feet or more; leases in space for 10,000 square feet or more; or leases in existing space and prospectus-level leases. One item I did not cover previously is that all of GSA's new lease construction projects for 10,000 square feet or more...

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must achieve a LEED new construction silver rating. Now, GSA's current policy encourages--our current policy--encourages or allows for us to achieve an ENERGY STAR rating of 75. Now, that is not consistent with EISA, but we are working towards mandating that and doing an upgrade to our lease policy to cover that. And in our new lease policy, we will cover additional EISA provisions, one of which will be concerning ENERGY STAR...

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so that by December of 2010, with very few exceptions, when we lease 10,000 square feet of space or more for our customers, we will award to buildings with an ENERGY STAR score of 75 or more, within a year of occupancy. The exceptions that will be granted would be, for example, when there's no such space available in the market; when a tenant agency remains an existing space, and that's important to note; when a building is of historical, architectural, or cultural significance; or when we...

[01:04:37]

lease space that's less than 10,000 square feet. Again, to review, although our Realty Services Letter of 2007 did not include these EISA requirements, our Realty Services Letter in 2008 included the renewal energy provision for prospectus-level leases so that our solicitations now include minimum performance requirements with an evaluation factor that considers the extent to which landlords will promote energy efficiency and the use of renewable energy.

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Next. With regards to applicability, Green Lease Solicitation Paragraph applies to all real property leasing activities. The

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solicitation provides specific text to cover LEED requirements for new lease construct projects, and it also provides specifications for LEED commercial interiors or LEED-CI and that can be incorporated into the solicitation upon customer request.

[01:05:37]

DENISE BROSKEY

Next, please.

DENISE BROSKEY

Currently, GSA is required to include Green Lease Paragraphs and solicitations for any leasing activity that involves significant alterations or improvements. All these can start a project at 10,000 square feet or more, minimal alterations and improvements and, as I had stated earlier, all new and continuing new projects at 10,000 square feet or more. Now this typically will encompass the majority of...

[01:06:07]

our TIS affairs that are in excess of the simplified lease acquisition threshold. As a result of our most recent real estate housing concerning green lease policies and procedures, there were 12 Green Lease Paragraphs in our solicitation that were incorporated untouched from the original real estate acquisition letter. We added new subparagraphs to 11 solicitation paragraphs and 39 solicitation paragraphs were revised...

[01:06:37]

to incorporate sustainable design and energy-efficient text.

DENISE BROSKEY

Examples of sustainable and energy efficient practices that are incorporated into the solicitation include--indoor air quality, for example, we encourage sequencing--right now, we encourage sequencing installation of finished materials that are high emitters of VOCs, volatile organic compounds, until a period of time.

[01:07:07]

DENISE BROSKEY

And we provide for flush-out period of 72 hours minimum of interior space after installation of interior finishes prior to government occupancy.

DENISE BROSKEY

And we mandate a recycling of materials during demolition and construction and a minimum of 16 designated categories. We address proximity of public transportation. We encourage

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pedestrian access so at least 10 basic services and amenities and so on.

[01:07:37]

DENISE BROSKEY

Next, please.

For projects requiring minimal alterations and improvements, these five paragraphs, existing setup, indoor air quality, recycle content, environmentally preferable building products and janitorial services are required to be incorporated even for a simplified acquisitions or succeeding leases or renewable...

[01:08:07]

options or lease expenses and temporary leases, including short-term disaster leases which many are not aware, where minimal or no alterations are anticipated. However, market conditions, especially for renewable, extensions and the temporary leases like the FEMA leases, they require the contracting officer to adjust which Green Lease Paragraphs are included in or removed from the solicitation for offers. Next.

DENISE BROSKEY

With regard to the submittal process. GSA...

[01:08:37]

actually clarified its SSO document submittal process when we revised and updated our solicitation for office form in August of 2008. You can actually check our Section 3 of the solicitation entitled, "How to offer and submittal process." And our new Section 3.7 Green Lease submittal pre and post award. Some submittal examples include product data sheet for finishes, reuse plans...

[01:09:07]

CPG product labors, that's Comprehensive Procurement Guidelines, building recycling plans, just some commissioning plans and concession waste management plans. Once submittals received are leased in the realty specialist and then seek assistance from their individual regional building coordinators. And these coordinators are available to provide technical assistance typically concerning Green Lease SSO building requirements, lease certification questions...

[01:09:37]

ENERGY STAR questions, CPG guidelines and Green Lease submittal reviews. Next.

DENISE BROSKEY

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Now, how is GSA applying these new policies on behalf of our customers? GSA is actually a committed environmental steward. We are committed to providing first class workspace...

DENISE BROSKEY

...that could be used safely by our customers. In our environmental policy statement, we actually aim to--and I will read this, because it's very important--

[01:10:07]

"Continuously strive to prevent waste and pollution, and adopt practice that minimize harmful effects of our operations on the natural environment." And most importantly, maintain transparency by consulting with, listening to, and being responsive to our customers and others. Through the executive order, EISA, the OMB scorecard, and all of the other laws and policies, we've been able to--

[01:10:37]

GSA has actually taken a stand to review all of these policies, executive orders and regulations relative to environmental sustainability and energy-efficiency, and interpreted the portions of those laws and regulations that are applicable to leasing and develop lease policy on behalf of our customers to cover the requirement--all of the requirements, actually. Our solicitation for offers includes all applicable green provisions necessary...

[01:11:07]

for our customers to comply properly with all of these laws, regulations, and executive orders, with the sole exception of EISA just now, because our policy was--our original policy was published just prior to the issuance of EISA. GSA's now in the process of updating our policy, as I had mentioned earlier, to incorporate those elements of EISA that are applicable to leasing. And another important interesting comment is that during the actual transaction management...

[01:11:37]

process, discussions are held covering customer, environmental, sustainable and energy-efficient needs for inclusion in our customer program of requirements or special requirements. During the requirement development process and prior to issuing the SFO, GSA will have discussions with our customer. We are supposed to do that with our customers to clarify their environmental needs. Our base SFO will assist our customers in complying with required sustainable and...

[01:12:07]

energy-efficient provisions. However, if your agency is required to

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go beyond general compliance with the laws and regulations, then GSA can add energy and sustainable requirements to our base SFO as an agency-specific requirement. Next, this is just a basic chart that kind of--it probably bears updating, actually. But it kind of gives you a good idea with regard to--

[01:12:37]

or a snapshot concerning the number of LEED buildings in our inventory which is ever-increasing. Next, you may have all seen this next slide from time to time and, again, it probably bears updating but again, it gives you a snapshot by state concerning all of the GSA inventory LEED buildings, and as you can see, we are on our way but we still have a long way to go. Next...

[01:13:07]

now these are some just very interesting statistics basically, basically, for your--just for you information. GSA actually offers over 10,000 green products and services through our Federal Acquisition Service schedule. And some of the next statistics that I'm gonna provide to you are actually--come from certain studies that have identified this information. And most of these studies are either through [PH] CoStar or BOMA or the U.S. Green Building Council, and some of them have identified...

[01:13:37]

a five-year payback on green investment. Essentially, there's a 20% return on investment and that should bode well for us when we're negotiating on behalf of our customers. We are seeing some cost premiums and this is through those studies, but to be perfectly honest with you, with regard to GSA, as Don had indicated earlier, most of the time for GSA and in GSA leases, since we are getting competitive lease bids and rates, we are not actually seeing a true cost differential...

[01:14:07]

between an ENERGY STAR building or a LEED building, so to speak. But what we are realizing are energy cost savings and these are valid dollar values up between \$1 and \$1.30 a square foot in operating costs for ENERGY STAR buildings and improved worker productivity. Next--

DENISE BROSKEY

In summary, I just like to add that leasing and Building Green...

[01:14:37]

is and should be a priority for all federal agencies. GSA's Green Leasing and Building practices have set the standard for the federal government and we've also raised the bar and set the standard for the private sector. Lastly, as we all know, the market

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for green buildings and healthy workspace is growing. In fact, a lot of the studies have shown that LEED buildings cost about the same, as we had mentioned earlier, as conventional buildings to build...

[01:15:07]

but they cost less to operate. They result in greater occupant productivity, as Don had mentioned earlier, and are increasingly better investments for the private sector, and we should be receiving the benefit of that. So most important to note though, however, is that GSA is available to assist our customers to smoothly transition through the green lease process. And next, I've just provided a few resources in addition to what Don had provided earlier that may be helpful...

[01:15:37]

to you. Although, I do have—Ann Kosmal listed as a resource on this list; she is no longer available. But most certainly, if you have any questions or concerns concerning green leasing and real estate with regard to GSA and what we're here to do on behalf of all of our customers, feel free to contact me, Denise Broskey, at [denise.broskey@gsa.gov](mailto:denise.broskey@gsa.gov). Thank you.

TOMMIE JEAN VALMASSY

Great. Thanks, Denise. We did have a few questions come in. One person writes, "GSA furnishes some of our space...

[01:16:07]

but does not provide us any data in terms of our energy usage or anything like that." Should they review their lease?

DENISE BROSKEY

Well, if you're talking about energy usage and providing space--if it's in a leased facility where we do not have separate meters, then GSA is not--we're not obligated. We cannot mandate. Let the lessor provides us that information. We're working towards better language including our solicitations for offers that could request that information. But unless we're fully...

[01:16:37]

metered or separately metered I should say, it's very hard for us to obtain that information just yet on leased facilities.

TOMMIE JEAN VALMASSY

Okay. So to clarify. Is it a GSA requirement or a federal requirement that all leases 10,000 square feet or greater be green, moving forward? And then a second part to that question is, does that apply to laboratories which are known to be more energy

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intensive?

DENISE BROSKEY

It's a federal requirement; it is not a GSA...

[01:17:07]

requirement. In fact, nothing that I have discussed today is a GSA requirement. All of our solicitation requirements that are in the realm of green sustainable design and energy efficiency are based on all of these requirements that comes from--most specifically now, even ESA, the guiding principles, and executive orders and such that are out there and that we are mandated to abide by per the Office of Management and Budget scorecard for environmental stewardship, which makes us responsible...

[01:17:37]

to lease space that meets these requirements on behalf of our customers. And what's the second part to that question?

TOMMIE JEAN VALMASSY

The laboratories...

DENISE BROSKEY

Oh, laboratories.

TOMMIE JEAN VALMASSY

...which are usually a little more energy intensive.

DENISE BROSKEY

Right. Laboratories are still obligated because they're part of the space that we're leasing...

TOMMIE JEAN VALMASSY

Okay.

DENISE BROSKEY

...or building or constructing.

TOMMIE JEAN VALMASSY

And so one person writes that their federal building is managed by GSA. It was built kind of in the late 1990s. So are they required to meet the leased-building...

[01:18:07]

criteria for energy and water use now?

DENISE BROSKEY

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No. If it's a federal facility, the federal-facility standards are a little different than the leased-facility standards. Because in leasing, we're leasing space from the private sector, so we can only mandate certain things to such a degree. But then the federal requirements differ and I believe they probably could be addressed more specifically through Don's group.

[01:18:37]

TOMMIE JEAN VALMASSY

Okay. And someone asks--you mentioned a 50% energy reduction requirement, so that was a federal requirement put on GSA. And have you met that requirement?

DENISE BROSKEY

There were several percentage reduction requirements issued through ESA, and we also have some targets that we're trying to reach. I had talked about us encouraging using renewable resources...

[01:19:07]

in our solicitation for offers. We're moving toward--we're moving in the direction of that, but we have not reached that yet. No.

TOMMIE JEAN VALMASSY

Okay.

DENISE BROSKEY

At least not that I'm aware of anyway.

TOMMIE JEAN VALMASSY

And then someone mentioned that there could be a 1% to 3% construction cost premium for LEED. Does that include design and LEED consultant costs...

MS. DENISE BROSKEY

No.

TOMMIE JEAN VALMASSY

...that are required to meet LEED?

MS. DENISE BROSKEY

That's strictly construction cost.

TOMMIE JEAN VALMASSY

Okay. And then...

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[01:19:37]

this one I believe might be for Joni. Joni, what was the square foot allowance per person in your EPA building there in Denver? You have to un-mute yourself.

JONI TETER

Thanks. I have double--thanks, I have double mutes on here. I'm not really sure what the square footage per person is. I know we were using the OMB guidelines, but I can't remember...

[01:20:07]

what those were now from two years ago.

TOMMIE JEAN VALMASSY

Okay. And a couple of few of you--I just wanna mention that links to the slides can be e-mailed if you would like to see those links. And, Denise, can you tell us your e-mail address just one more time?

DENISE BROSKEY

Certainly. It's Denise, D-E-N-I-S-E, Broskey, B-R-O-S-K-E-Y, @gsa.gov.

[01:20:37]

TOMMIE JEAN VALMASSY

Okay, great. And so just by means of wrap up, I just wanna kinda go around the table to each of our three speakers and ask if you have any--one final tip, one take-away point that you want everybody to get today. So, Denise, can we start with you?

DENISE BROSKEY

I guess my one tip that I would like everyone to take away from today is to know that GSA is not imposing our own regulations or requirements on all of our customers. All that we're doing is we are...

[01:21:07]

working to support those requirements that are out there, that are mandated for all federal agencies, and to kinda collect that information and keep it within the realm of our leasing when we do lease space for our federal customers so that they're covered.

TOMMIE JEAN VALMASSY

Okay, great. And, Joni, what about you?

JONI TETER

Well, I would just like two quick comments. One is that GSA can

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[01:21:37] be a great partner. If the agency is very clear about what your goals are and GSA understands that, they...

[01:22:07] can be very, very helpful in helping us get to where we need to go. The other thing I would say is that it's really important to be as flexible as you can. There's a tension, I think, between the kind of legal certainty that we all need in our contracting, as Don talked about in his presentation and Denise touched on. But also being able to respond in a market that is changing very quickly, we used performance contracting throughout the design and construction of our building. It was a design-and-build process. And I think...

[01:22:07] that was a critical part to how we were successful in getting as much of a building as we were. In terms of LEED points, we actually accumulated enough points that we were only three points off of platinum. And that flexibility was key.

TOMMIE JEAN VALMASSY

Okay. And, Don, did you have a final tip or take-away point?

DON HORN

[01:22:37] Sure. Actually, that's a great point that performance specs should be used where possible. I think a lot of the private sector...

[01:23:07] we need to challenge them to do better and do more. Sometimes they're willing to go that route, but if we're limiting what we're asking from them, they'll only deliver what they're asked for. And that's the point I've been delivering or pushing hard lately is that we need to exceed most of these targets. We have a federal requirement to reduce our overall energy consumption by 3% per year to reach 30%...

[01:23:07] by 2015, I believe it is. But the only way to do that is to make sure that every project we do, no matter how large or how small, that we are exceeding the goals that are set. We have buildings and spaces that we are not touching that are using great quantities of energies. We need to reduce our consumption. So whenever we are doing a project we need to make sure we're doing the best we can striving for energy efficiency and environmental performance.

TOMMIE JEAN VALMASSY

[01:23:37] Okay, great. Well, thank you so much...

[01:23:37] and thanks to everyone if you're still typing in questions. Go

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ahead and do that. And we'll make sure that we forward those on to our speakers. Now I'm gonna turn it back over to Vicky Salazar with EPA Region 9 to wrap us up here.

VICCY SALAZAR

Thanks. Great. And thanks Tommie Jean and special thank you to Don, Denise and Joni. I learned a lot today. Actually I've learned a lot about what happened in our own EPA Region 8 Building. So thank you very much and appreciate it. Thank you to everyone who's participating...

[01:24:07]

in the Federal Green Challenge Web Academy and particularly to Melissa Winters for coordinating this session for us. We'll have our next presentation again on waste prevention. It's gonna be more in-depth than our 101, our 202 version on July 8 2009, again, at 10:00 am Pacific time. We have three more sessions coming up in the Federal Green Challenge Web Academy series. And so, we're actually looking also for what topics would you like us to cover...

[01:24:37]

as we move into that next series. And so, in your comments section, when you're giving a feedback, we'd love to also hear what would be useful to you to get more information about. And then I will disclose it with--don't forget to give us feedback on this session. We do read it and appreciate it. And hopefully we make our sessions more useful to you by responding to your feedback. So thank you very much and thanks again to our speakers. Bye-bye.

[TECHNICAL]

[01:25:16]

END AUDIO