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Energy Conservation 101

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Tetra Tech EM Inc.
135 Main Street, Suite 1800
San Francisco, CA 94105

Viccy Salazar
United States Environmental Protection Agency

Tommie Jean Damrel
Tetra Tech EM Inc.

SPEAKERS:

Melinda Latimer
U.S. Department of Energy

Robert Westby
National Renewable Energy Laboratory

Cheri Sayer
General Services Administration

Steve E. Butterworth
National Park Service

VICCY SALAZAR:

Welcome to this month's Green Challenge Web Academy. We are really happy and excited to have you participating. And I'm very excited about our topics today, which are energy and energy conservation. This is the first of the topic-specific Federal Green Challenge Webinar. We've actually had two already, which if you need to listen to them you can let us know and we can get you the recordings of those. Today, we start and over the next month we'll be talking about energy, transportation, waste, and water as our topics. As we really try and green our own footprints as federal agencies. So before I get started and introduce our speakers, let me turn it over to Tommie Jean to go over some of the call logistics, Tommie Jean?

TOMMIE JEAN DAMREL:

Thanks Viccy. Welcome everyone thank you for joining us on the webinar today. I just want to let you know a few logistics. We encourage questions on the content of the webinar, if you have a question, at any point, during the presentation, you can use the question button on your control panel for the webinar and type your question in there. We have four speakers and at the end of each presentation, we set aside some time for question and answer and then at the very end, we'll also answer some more questions if we have some time. This is a recorded session today, so we are recording all of the voice activity, which is one of the reasons why we ask you to type in your questions and your lines are muted. We are also moving the slides for you, you may experience a 10 seconds delay between the time the presenter moves their slides and the time you see it. You may download the presentation as well. In the chatbox you'll see the website and I'll send that out again, so that you may download these to follow along if that works better or to have them for future reference. At the end we'll also give you some information about a survey and we'd really love you to take a minute or two to give us your feedbacks on these sessions so that we can continue to improve them. So again, if you have questions on the content or if you're have some technical difficulties, please go ahead and use the question button and we will answer your question. Viccy, I'll hand it back to you.

VICCY SALAZAR:

Great, thank you Tommie Jean. So before we get started, I want to actually say "thank you" to Karen Klass from the Seattle Federal Executive Board Associates Programs, who has done all the works in terms of putting this all together and bringing our great speakers on today, so thank you very much Karen for your contribution to this great series

of webinars. So today, we actually have four terrific speakers who, at quick adding, have over a 100 years of experience in protecting our natural resources onto the conversation of energy. And energy is something that we use everyday at work and home lives and using that more effectively really allows us to make great strides in our environmental in our protection and reducing our climate footprint. So I will introduce our speakers and they are going to be talking about, everything from current legislation and executive order, and how we as federal agents have responsibility in terms of conserving our energy—it's a real nuts and bolts of how to do that. So first up we have Melinda Latimer from the U.S. Department of Energy, and she's has worked for the Department of Energy for about 20 of those 100 years that I was talking about in the energy efficiency and renewable energy programs. She's been with FEMP (Federal Energy and Management Program) working with agencies on technical systems for renewable energy and sustainable design projects, as well as keeping up to date on new legislation for federal agencies. She will be giving us a brief overview of the Energy Policy Act of 2005; the Executive Order 13423, which the Federal Green Challenge Program is based on; and also the Energy and Independence Security Act of 2007. After Melinda, we will actually have Robert Westby with the National Renewable Energy Laboratory, and he has 30 years of experience working in the energy field, including the private sector, small businesses, corporate level, public sector, at the local, state, and national level. He comes with a wealth of experience and he is currently the principal manager for NREL, Federal Energy Management Program's and the sustainable NREL lead. After the two of them, we will be having Cheri Sayer, she's with the General Services Administration. And she's the regional energy coordinator for GSA Northwest Arctic Region, which is in Auburn, Washington. She has worked with GSA for 3-1/2 years and then previously worked with the Department of Energy and Federal Energy Management Program, as Federal Energy Management Program Coordinator for the western region, so lots of experience directly related to our region. And then finally we have Steve Butterworth and currently serving as the Regional Energy Program Coordinator for the Pacific West Region of the National Park Service, which covers 60 parks in seven western states. He comes in as the winner with 40 years experience. He has supported energy conservation, waste management, fleet management, and a whole host of other sustainable practices and really apply them directly to the national parks service and their facilities. So welcome all four of you and thank you very much for willing to share your experience with us today. Melinda, we'll turn it over to you.

MELINDA LATIMER:

Thank you. As I said, I'm Melinda. **NEXT PAGE**. And I am going to talk about EPACK 2005, give you a brief overview of the Executive Order 423 and EISA 2007. I'm going to start out with the Energy Policy Act. **NEXT SLIDE**. Section 102 on Energy Management Goals, when this came out, it started a new energy reduction goal from what it previously was to 2% a year from FY06 to 0215 and it changed the baseline to 1985. Also under this, we came up with the retention of energy and water savings for the agencies to use. And this also gave DOE the authority to make new requirements starting in 2016 to

2025. **NEXT SLIDE** Under Section 103 on Energy Use and Measurement Accounting, it requires that the federal buildings start having electric metering so that they can actually see their energy reduction and record it. I put two websites on here for you to go and look at, that talks about the guidance and some advanced metering also to go with this. **NEXT SLIDE**. Section 104 of EPACK talks about the procurement of energy-efficient products. I think if you're from GSA or with the federal agency, I'm sure you're required to buy these most efficient, unless they're not cost-effective, or they don't meet your agency's needs. Once again, I've put out another website on procurement of these products. **NEXT SLIDE.** Section 104, of the Energy Efficient Products Catalog talks about requiring, and requires a listing of the energy store products. Once again, I have another website—these first lines I'm going to go through kind of quickly because there are some more information I think you need on some of the other stuff on EISA, so just bear with me. **NEXT SLIDE**. Under the Energy Policy Act, also from Section 105, at one point, the energy savings performance contract re-authorization was stopped, so under Energy Policy Act of 2005, this was re-authorized to go through 2006. Keep that in mind because when we get on farther, you're going to see that this is has changed under one of the other energy policy acts, all under EISA. And also under this section, Section 109, telling federal agencies that when they build or do major renovations that they need to be using federal building performance standards and that these designs need to be 30% below the already established [inaudible] rate. And then under Section 11 was the enhancing energy efficiency through management of federal lands. **NEXT SLIDE**. Under the Energy Policy Act of 2005, 2003, I'm sure that most of you are aware that you need to be looking at and using renewable energy preferably on your buildings and your lands, and this gives you the percentage of what you need to be using in the specific years. Under the Energy Policy Act, it also defined these types of renewable that you can use, and it also provides double credits if you are using renewable energy, either on your site, on another federal land, on a Native American land, and I have this website listed here below, and this talks about, gives you the final guidance that incorporates EPACK 05 and also the executive order. So keep this in mind, I have this in a couple different locations. **NEXT SLIDE. [10:37]** And then we also talked about under EPACK the types of renewable energy sources that are allowable biomass, waste, energy, landfill, gas. Most all of these are all electric types of renewable. **[10:56]. NEXT SLIDE**.

Next we are going to talk about the Executive Order; I have two sites listed here, one is the actual executive order, the first one, and the second one is the instructions. Since it was such a brief executive order, it took another 48 pages to give you the instructions on this. **NEXT SLIDE**. Section 2 under the Executive Order talks about the goals that agencies are supposed to be doing. Once again, we have changed the energy intensity reduction from 2% to 3% and to 30% total; baseline has also changed to 2003; we also talked about using renewable energy from new sources. We actually provide you the percentage of water reduction that you need to be looking at annually or by 16% by 2015. It gives you a baseline, the executive also talks about acquisition of goods, renewables, recyclable energy efficiency; it talks about reducing toxic and hazardous waste;

it gives you the complying with principals for federal leadership and performances in sustainable buildings, you know, how you need to construct design, site your buildings for a major renovation in order to reduce energy and then also with the executive order came the reduction of consumption of petroleum by 2%. This part in the executive order it actually says in place of 20 vehicles or more. **NEXT PAGE**.

Also in the executive order, they did develop some guidelines for how do you establish a baseline for metering water. I've given you two sites also with documents in there that tells how to do this. **NEXT SLIDE** And then under the, I go through and I have this next slide and we talk about the renewable energy again, and once again I've put the website for the EPACK and for the executive order and how that works together. The difference between the executive order and EPACK is that EPACK looks at renewables, getting electricity only, where under the executive order, they look at being able to meet some of your goals with solar thermals, domestic hot water, such as solar, ventilation, pre-heat, ground source e-pumps, use of geothermal, some of the ocean resources for a thermal-type application. **NEXT SLIDE.**

I wanted to let you know, I put this slide up, and this does come from the renewable energy requirement for EPACK and the executive order in case you didn't know, in the future you are not going to be able to buy renewable energy credits or use your renewable energy to replace your energy intensity that you need to be reducing, and this slide has how much that you can use towards your energy intensity goals till 2012, when you will no longer be able to use your REC's or renewables. **NEXT SLIDE**.

Next, we are going through the Energy Independence and Security Act. I have, of course, another link for you. I figured these links will help so if you have additional questions and you can't reach anybody that you can go to these documents directly. **NEXT SLIDE**.

There's quite a bit in the EISA, once again Title I we are talking about federal fleets, we're talking about federal agencies having to reduce 20% of their petroleum consumption. This again is different from what it was on EPACK, I don't know why they keep changing it, I don't write the rules. But we also talk about not only do you have to reduce your petroleum consumption but you have to increase your alternative fuel consumption, so you just can't by hybrids to reduce your petroleum, you also have to look at using other sources of fuel, natural gas, electric vehicles, propane, biodiesel, ethanol, I guess hydrogen would be another available fuel, probably not economical at this point. And once again, I have that text in there so you can download the whole EISA document in case you get bored.

NEXT SLIDE is subtitle c.d., we're going to talk about the high performance federal buildings again, once again, I just highlighted these sections in their, 431, is the total

energy use, your reduction again; section 432 talks about energy managers having comprehensive energy water valuations. This is supposed to be done once every four years for your buildings, 25% then going to the next building, this has to be done every four years so that you can actually see that you are reducing your energy and water consumption. Section 433 talks about once again federal buildings, building new buildings and major renovations and your reductions, your sustainable designs—you're eventually at some point are going to be out in the future where you are not going to be able to use any fossil fuel for your buildings. And then another important section is Section 435, if you're leasing your buildings after three years after this date of when this was enacted, you're going to have to be looking at spaces that are at least energy star label. So if you lease, you're going to have to work with your agent, your leassor, to look into getting an energy-star building. **NEXT SLIDE.**

TOMMIE DAMREL:

We're going to have 4 minutes until we start taking Q&A on this, so if you have questions, please go ahead and type them in for us.

MELINDA LATIMER:

In subtitle 4, we're talking about the high performance buildings again, we're going to talk about greening the federal green building performance, talks about the storm water runoff requirements, cost effective technology acceleration program that is looking at new technology and how the federal government is always been a leader in getting new technology out there and using it in their buildings. **NEXT SLIDE.** Then Title V is energy savings in the government institute. This goes back to that ESPC (the Energy Savings Performance Contracting), which permanently re-authorizes the ESPC's. This also defines how the energy savings are determined. It also goes through and says, that yes, DOE, Department of Energy, is going to provide training for the contracting officers to negotiate the energy efficiency contracts. We going to look at 518 on the energy cost and savings; 523 it looks at requiring 30% of new buildings and new renovations have solar hot water applications, and then Section 425 discusses minimizing standby energy use and equipment and of course, there'll be the annual reporting that will discuss how you are progressing on the goals. **NEXT SLIDE.**

This **NEXT SLIDE** is probably going to be one of the most valuable to you. On the left hand side, it talks about legislation and policy where I have EPACK, the executive order, the renewable energy guidance and energy independence, and then across the top I put energy reduction goals, renewable energy requirements, the fleet requirements, the water reduction goals, and the federal building performance standards. This goes and kind of gives you a glance of what you need to do. So it tells you what has to be done for EPACK

under your energy reduction. It tells you that 2% a year, baseline of 2003, and then we have the executive order, renewable energy intensity 3%, baseline 2003, and when you go down to the bottom, at the energy independence and security, it tells you have to reduce 30% by 2015, but your baseline is 2005. So this should give you a kind of a glance of what everything is. I've got the websites on there for you. If there's anything else, you can always contact me. You can find me on the FEMP websites. And that's all I have. **[20:33].**

TOMMIE DAMREL:

Great, ok, thanks. We have some questions that came in too if we can ask you some of those right now.

You talk a lot of goals, are there any sources of funding to assist agencies in meeting these goals?

MELINDA LATIMER:

Not right now. At this point occasionally DOE does have funds for technical assistance. I know a lot of agencies are looking at doing projects, we cannot provide funding for actually doing the projects, say GSA or DOD was looking to do a large-scale solar energy project, a PV project, there have been funds in the past that we have used to have a contract or even one of the labs go in and do a feasibility study that will tell them you know the return on investment, paybacks, what it would cost, give them some options of what they might want to look at for funding these. **[21:46]**

TOMMIE DAMREL:

Ok, another person asked, how is conformance to the executive order and to these different acts being measured.

MELINDA LATIMER:

Well, they're being looked at. Every agency is supposed to do an annual report. They are probably looked at on an agency-by-agency basis rather than a facility-by-facility basis. But these are being looked at by headquarters and probably by their own people with their headquarters. As I said, they're supposed to be filling out an annual report what is being done.

TOMMIE JEAN DAMREL:

Ok. Under Section 433, is there a more clear definition for major renovation, under the Energy Savings Act, and if so, is there guidance for facilities and can you provide an example.

MELINDA LATIMER:

I did not when I was reviewing to see what they said about major renovation was. I'm sure that there will be guidance that comes out on this, as to what is a "major renovation" is.

TOMMIE DAMREL:

You also talked about people who lease most of their space and someone says that their agency does actually lease most of its space and mentioned that their glad to see what's in place for new leases, but how do certain things apply to people who are already leasing or how does it work with procurement of recycled products green energy, water conservation, does that all apply to people who are leasing.

MELINDA LATIMER:

It is going to depend on whether they pay for their own utilities or if its under their contract. If their lease is all one price, you know their monthly rate is one price, they're not going to be able to say how much they're reducing. There is another document that talks about exempted spaces, part of that criteria under an exempt space or being able to say how much reducing water and energy is a criteria is if your leased payments pays for all of your utilities, then that would be exempt—you know, you wouldn't have to try to make your lease or, you know, or your company, whoever you get your building from do that you know, you can't make them reduce their energy.

VICCY SALAZAR:

This is Viccy Salazar and regarding the Federal Green Challenge Program, there is kind of a similar issue with leased buildings. And I don't know if Cheri Sayer is going to be coming up in a few minutes who will be talking about this, but we've actually been working with GSA to address the issue of how do we get information from our, you know, the building owners, so that we can actually track and reduce our energy waste, water, consumption, and many of these things are wrapped up into, you know, one kind of bill that

you get from renting the space. So that's something that we're working through and if you're interested in giving somebody from the Federal Green Challenge or Sherry from GSA a call, I'm sure we could help you walk through some of those issues. But it is something that they're dealing with, kind of on a at least a region-wide basis for how we can get that information, because really, we all want to reduce our energy consumption, not just for reporting purposes but because we want to be using less energy.

TOMMIE JEAN DAMREL:

Melinda, I think maybe we have time for one more quick question. You were talking about the 20% fuel reduction requirement, will GSA be reducing the mileage requirements that less use must be in place on their vehicles in order to maintain their fleet. Do you know anything about?

MELINDA LATIMER:

I don't know anything about that if they would be reducing that. I at point did work on clean cities and I know that the GSA has purchased a lot, you know, most all of their vehicles were alternative fuels or as far as for them reducing their miles. I don't know how they can justify that in the future, even if you reduce your miles and that comes up not knowing how they're going to report this, but if you have report the miles besides the consumption of fuel, it seems to me that would be caught up within a couple of years, and okay, not only are they not reducing, well their reducing their consumption, but they're reducing it as a way of not driving their vehicle as opposed to actually reducing the consumption by way of a hybrid electric vehicles or alternatively fueled vehicles.

TOMMIE JEAN DAMREL:

Ok, great, so keep on sending in your questions if you have more questions from Melinda Latimer and we are going to go ahead and move on to our second presentation Bob Westby; Bob, I'll pull your presentation up. And Bob, the floor is yours. **[27:32]**

BOB WESTBY:

Can you hear me ok? Ok, good. As you might imagine NREL, its mission being renewable energy has been about being sure that we demonstrate some leadership within DOE in terms of implementation of on site renewable energy projects. So specifically what I want to do is share our experience in that area and to take off from a comment that was made earlier about where are the dollars going to come from to implement these projects,

what I want to focus on here is how you can use state renewable portfolio standard, incentives, and private sector funding and how you can leverage those resources into doing projects. So this is going to be very much a nuts and bolts kind of presentation. I've got one key slide in the middle that if I got no further than that I'd be very happy because I think what I want to do here is at least give you a first run understanding of how you can make some projects happen in a funding environment where there are not appropriated dollars. **NEXT SLIDE** please.

Contents, I'm going to present my information in the context of our first project called "The Mesa Top PV Project." This was a project installed under a mechanism called a power-purchase agreement, I'll tell you more about that in a moment. But it's a way of leveraging state-incentive and private sector funding in order to implement, in these cases, large potable tanks projects. I'm going to talk about the state incentives and the deal structure and agreements and if time permits, some of the follow on considerations. **NEXT SLIDE.**

This is a picture of the MESA Top PV Project, while I'm on this slide, I would just have you note that this is a single axis tracking system so that in the upper left hand side of this slide is south. So these collectors and single axis tracking rotate east to west. **[30:05]. NEXT SLIDE.**

It turns out that the Mesa Top was about 3/4 of a megawatt, producing about 1,200 megawatt hours annually. It's a grid connected system on the end rail side of the meter and will be in operation this weekend, formal commercial operation. **NEXT SLIDE.**

I'm going to spend one slide of the state's incentives. These are the incentives for Colorado, administered through our IOU, Excel Energy, and they call it their "Solar Rewards Program." Here's a few words about that. This will be different in every state, but if your state was a renewable portfolio standard, these incentives exist in some form. In Colorado, we were driven by state statutes that said that said that 20% of the power produced by investor-owned utilities would come from renewable sources by 2020, so a percent renewables by some date certain. Within that 20% there was a 4% carve-out for solar. Most of the renewable energy will be re-generated by wind, but to assure that there was some, part of that for solar, there was a carve-out. The way that he utility administers providing the incentives is through a bid process, and it's a very simple bid process, that is you have to place a bid for what you sell the renewable energy credits for your system, at what price you would sell them for, and they'll pick low price. For those of you who are not familiar with the renewable energy credit or REC, that's simply the environmental attribute of a megawatt hour of electricity produced. The Solar Rewards Program comes in three tiers. The one that we care about is the system size between 100 kw and 2 megawatts, the larger non-commercial, non-residential types systems, and you can see the rebate and the

20-year incentive financial stream are the two financial incentive components. **NEXT SLIDE.**

To make a little clearer what that state-incentive looks like, coming from the utility here's a sample bid sheet. This is the bid sheet submitted to the utility. If you look in this example, it's a one megawatt system, its gets a rebate of such and such amount, and you can see over the 20-year term of this agreement, under the REC's column the number of megawatt hours that are being produced in this particular bid sheet. The bid went in a $100.00, the megawatt hour and you can see then an annual amount of money that's flowing into the project from this state-incentive. If you go down to the bottom, you can see that over the life of the system, we're talking about a total of like $1.6 million coming from the state. **NEXT SLIDE**.

Here's the diagram I wanted to spend the most time on. When we first took this idea to our director, he asked that we provide a wiring diagram so that he could understand what was going on, so I'm going to share that slide with you. This is the wiring diagram for Power Purchase Agreement. This is how it works. This is the guts of the deal. Let's start by looking at the three black boxes, these are three central players, Excel is the utility, the developer is a private sector company, in our case, it's a company called Sun Edison, and of course the user of the power is DOE and NREL. I want to talk about the deal from the developer's standpoint. Remember these folks are in it to make money, and if they can't make money in it, they're going to do these kinds of projects, so let's understand their economics. Three revenue sources for the developer: 1) under the developer box, they will, since they have a tax appetite to be able to capture the federal investment tax credit, that will accrue to them, along with that comes an accelerated depreciation schedule, what that means is that instead of being able to depreciate from a tax standpoint, a system over 20 years, they are on an accelerated basis can depreciate over 5 years, so that's a net present value of money benefit to them. In total, those two incentives are about equal to 45% of the capital cost of the system, so right off the top in year one, the developer has a tax credit of about 45%, and that's credit, not deduction. The second largest revenue source that I talked about on the previous slide that the developer will sell the REC's on their environmental attribute attached to the megawatt hours of output to Excel, so Excel can meet the 20% by 2020 requirement. In return, Excel provides revenues to the developer on an annual basis over a 20 year period. So if you think back to the previous slide that's at least some sense of the relative size of that incentive quite substantial and it's what makes or breaks these power purchase agreements. Your state must have an RPS and there must be adequate incentives flowing from the utility or these projects really don't work. The final revenue stream coming the sale of power, you can see the arrows, the developers selling the power, in this case to NREL, NREL sending money back just like they would have bought that power from the utility. So three substantial revenue sources that make these projects go, the state-incentive piece is key. Check your state to understand what your deals might look like.

I'd like to go to the **NEXT SLIDE** to talk about the agreement. This is a lawyer's dream. There are one, two, four major agreements involved here. The first agreement is bullet number 1 is called the Power Purchase Agreement and it's the agreement between the developer and the purchaser of the power, in our case, there was an intermediary called Western Area of Power Administration, but I don't want to take us there at this point. Western served as the contracting agent for the 20 year deal for the sale of power. And we when we bought the power from our developer, Sun Edison, we did not pay an electricity price premium, what that means is that we bought the power at a price that we would have paid the utility if we're buying from them, if not, less. So from the standpoint of the user of the power, good deal for us. These deals also require some kind of land use agreement. If you're going to allow a system to be built on your land or your roof top at a federal agency, there has to be a lease agreement or easement agreement, and this kind of arrangement, again, I can't get into the details given our time, you could actually charge the developer for using your land, there could be a lease renumeration provision.

TOMMIE JEAN DAMREL:

And we have about four minutes until we're going to start taking your questions, so you can go ahead and send in your questions and we'll take Q&A in about four minutes.

BOB WESTBY:

Ok, thanks. The third agreement is the agreement between the developer and the utility for the sale of the REC's, typically called or in Colorado called, the "Sole REC Agreement." Two heads up under "other," if you're going to do one of these kinds of arrangements with the private sector, be sure you got your NEPA requirements in line and behind you for siting a system on your land or on a rooftop and third from a standpoint of counting towards your EPACK goals, since the REC's get sold to the utility under a Power Purchase Agreement, you're going to need to buy replacement REC's in an open or voluntary REC market. **NEXT SLIDE**.

The Mesa Top was our first project. We have since signed up for an additional and have been awarded three further power purchase agreement type projects. Given time, if you have questions about how we selected our developers, I'd be happy to answer those, we received our awards for these three additional projects in the middle of this year. **NEXT SLIDE.**

Our three projects are a little over a megawatt and our national wind technology center, a rooftop system on our soon to be net zero energy facility, the research support facility, that's about a 200,000 square foot office building. It will be net zero, and it will

have about over 700 kw of PV on its roof and our current lead platinum building of science and technology facility is getting a retrofit of PV. **[40:08]**. The wind site and SNTF facility projects are June 2009, RSF is June 2010, a couple of quick comments, high level comments to take away on what's going on in the incentive market place, regardless of the state. When we were awarded our incentives for the Mesa Top Project, a year and a half ago, they were awarded of something in excess of $225.00 of megawatt hour. When we got awards for the most recent projects just a year later, the market pressure on those prices have gone way down, there were far more people trying to receive these awards, it was a seller's market from the standpoint of the utility. The price had dropped into the $150 to $160 megawatt hour range, and we were not able to buy electricity in Power Purchase Agreement at a price equal to or less than we currently are paying the utility. A premium was required. And I think you'll see that in your markets. **NEXT SLIDE**.

Here are some tools. Here's a website for a tool that will help you model these agreements. You need to be an informed buyer when you enter into these kinds of arrangements. The SAM kind of advice model will be useful to you. And in addition, although we can't help everybody in the world, we have the ability to do custom solar spreadsheets for your projects like these. If down this road we can put on a track so that you can make the kinds of assessments of these projects that will leave you comfortable when entering into a Power Purchase Agreement. **FINAL SLIDE**.

Here's how to reach me if you'd like to have a conversation. So I'll turn it back to the organizer.

TOMMIE JEAN DAMREL:

Great, thank you, so we did have some questions come, we have time for a few of those. The first, have you considered concentrated solar thermal for electrical generation, rather than direct PV generation? And you can you clarify for those of us who don't know PV, is that Photo Voltaic?

BOB WESTBY:

I'll start with the last part of that, yes "Photo Voltaics" sorry about the acronyms. We did not consider concentrating solar power in here because, let me pause and answer this at even higher level. Concentrating solar power gives you the opportunity to have storage, electrical storage, and it's more typically used in applications where you're a utility scale project, where you're going to sell that power back to the utility, not exclusively, but that's typically the way that that technology is used because it has the storage component. So for us, just trying to offset our behind the fence, or behind our meter power, photo

voltaics made a lot more sense, we didn't have to go to the incremental expense of having storage as a part of the financial arrangement. So the difference is if you're going to sell to the utility, not for your own use, you might want to think about concentrating solar power, if you're just trying to offset your own use behind your meter, photo voltaics probably makes the most sense.

TOMMIE JEAN DAMREL:

Ok great. What lessons learned from the Mesa Top Project would be useful for others to begin to implement similar projects?

BOB WESTBY:

There were a lot of lessons. And one of the outcomes or one of the results of our projects since we were working hand in hand with DOE Federal Energy Management Program was that we would take our lessons learned and best practices and transfer them to [inaudible] and in turn, through their outreach mechanisms provide those lessons learned on a broader scale. So the first part of the answer is check in with the Federal Energy Management Program. They are part of the energy efficiency and renewable energy folks activity, Melinda is a part of that as well. I think the most significant lesson or lessons that we learned **[44:50]** were that you really need to be an informed buyer in these deals. You're really negotiating with private sector folks who will let you leave as much on the table as you would like, and you need to inform yourself about the economics, the technical capabilities of these systems, such that when you go to the negotiating table, your position your facility or your agency to get the best deal and that really requires, I don't want to say sophisticated in a sense that it discourages you, but you need to be able to do pro-forma spreadsheets on the finances of these projects to really understand, and that's the help that I alluded too in my second to last slide.

TOMMIE JEAN DAMREL:

Ok, great, time for just a couple of more questions here. Does NREL use all the energy from the project?

BOB WESTBY:

We do. To put things in perspective, the annual energy use for NREL is something in the order of 18,000 megawatt hours. The four systems combined, provide megawatt hours to offset that 18,000 at about a quarter of that, so a quarter of 18,000 is what's being offset, so we all of the power that we produce, no problem there. The issue you will find in terms of use of power at a facility is typically, you don't have enough land or roof space to

put in these systems to get you to 100% of your annual electrical use. We are tapped out, we have no land left, and only marginally numbers of thousands of square feet of future roof space. So understand that the key that you hold as a federal agency or a facility is that the absolute leverage point you have is you have the land, you have the roof space that the developer wants to use to install these systems. That's what they don't have is roof space or land, so that's kind of your ticket to this game. In addition, you also represent, if you're going to use all the power, an absolute market that's produced by the system, so understand that it's a very collaborative, mutually beneficial relationships when you enter into these PPA's. They have something you want and you have something they want.

TOMMIE JEAN DAMREL:

Ok great. If you have more questions for Bob, go ahead and send those in and if we aren't able to get to your questions today we'll try to get to you within the next, and we have some Q&A at the end, but I want to make sure that we get through all of our speakers, so we're going to go ahead and move to Cheri Sayer. And Sherry I'm pulling up your presentation now. And Sherry the floor is yours.

VICCY SALAZAR:

Sherry are you on mute? Tommie Jean, why don't we go on to Steve Butterworth if he's on and we'll come back to Sherry.

TOMMIE JEAN DAMREL:

Steve are you available?

STEVE BUTTERWORTH:

Yes I am.

TOMMIE JEAN DAMREL:

Ok great, let me pull up your presentation here.

CHERI SAYER:

Hi, I'm back here. Sorry about that Steve.

TOMMIE JEAN DAMREL:

Ok Sherry whenever your ready, the floor is yours.

CHERI SAYER:

Hello everyone and sorry for that little lapse. First I want to give you some background on our program and our region, it's GSA Region 10, of course, which is Northwest Arctic Region. We have four states, the three northwest states are again Idaho, Washington, plus Alaska. We have about $10 million utility budget and about 10 million square feet that we manage and that is mostly the owned space, there's also a lot of lease space that we manage. As far as the owned buildings, we have about 40 key buildings that we work with, primarily we work with our top 20 buildings; they represent about 80% of our energy use, but the second tier of buildings is very important also. **[50:02].** And we pretty much operate our program under a formal energy management program that's very comprehensive. It was actually developed in partnership with GSA and National Renewable Energy Laboratory back in 2004, 2005 timeframe, that baby there in NREL helped us put together that plan, it was slightly before I came here, but at the time I was working with DOE and was slightly involved in the plan, even at the planning stage. So there are six key areas of the program. **NEXT SLIDE**, which are these, and again we tried to be really comprehensive in terms of looking at energy efficiency. These areas are probably pretty standard for most stage of the program, there's nothing real different about this, it contains all of the requirements that we get from energy policy, executive orders, all of those guidance documents. Each year we put together an action plan for each of these areas and that outlines our goals, and about once or twice a years, we update, then we represent the results to management and let them know how we're doing in terms of meeting our goals. So for each of these, operations and maintenance, utilities, we, in our group, actually do the utility estimating for the whole utility budget, plus for each building's utilities, on a 10-year cycle, we renew their agreements with our serving utilities.

Building evaluations is kind of a nomenclature that came out of EISA 2007, those include energy audits, retro-commission studies, water audits, all of those types of evaluations that we would do. We try to get involve in the major prospective projects in terms of making sure efficiency is addressed and that typically comes out in terms of lead points and GSA has a goal of being lead silver on our new construction of major remodel projects. We also get involve in minor projects that might be replacement of an air-conditioning unit or a boiler, something like that, and of course, the awareness side of the program in terms of having events for energy awareness day month or Earth Day. Tenant education is important and evaluating the program and reporting annually to the department of Energy, up through the GSA chain. **NEXT SLIDE**.

So in terms of how we got involved in the federal green challenge, of course, we were all aware when the challenged came out in our region in April, around Earth Day, and so we were looking at that, and then in June, the Federal Environmental Symposium was held in the west at Big Sky Montana, and at that point, EPA pulled some agencies together just to talk about the approach they would be taking and how we could all partner together to make this a success. So GSA at that point decided that a good role for them would be trying to coordinate getting some information on baseline data for leased facilities, because

we knew there would be a lot of agencies signing up who were in our leased facilities. I wouldn't say that was a real successful effort because it proved pretty difficult. We sent out letters to agents to managers of buildings and we got some responses, but it wasn't as widespread as we had hoped. Another supporting role we thought we could have is to help agencies in our owned buildings which really is a lot easier. So we helped the Fish and Wild Life Service at 911 building in Portland with purchase of renewable energy certificates and also for carbon offsets for their natural gas use. And HUD is in our federal office building in Seattle. We helped them some with their energy baseline because they don't have the whole building so we needed a methodology to figure out what their space was using. And U.S. Army Corp of Engineers is at federal center South Complex, and with them, really we were more in a learning role. They took off before we did and they have a great committee so we were trying to learn from them. And somewhere along the line it became pretty apparent that we needed to sign on a GSA building. We were seeing the list of all but participating agencies and our name wasn't there, so we solicited the support of our field office manager, all the usual people that we would need involved, and **NEXT SLIDE**.

We signed up our regional headquarters which is our Auburn Administration Building, it's actually on a complex with many other buildings out here just south of Seattle about 25 miles, and we started the process of getting to sign off on the form that we had to send to EPA, that was fairly easy, and then we started putting together our goals form with our baseline information. The baseline information for us on energy was very easy because we could just take it off utility bills. I mentioned waste, waste was not easy at all, and probably will be talking in future webinars on waste, so I won't go into that, but compared to waste, the energy baseline was very simple. The water originally we had wanted to sign up water, but we discovered that our water was on the same meter for this building as it was for other buildings and in the end we couldn't unravel it at all so we can track it and decided to skip water for this first round. **NEXT SLIDE. [57:10]**

So our energy goals, we signed up for the typical 5% reduction which of course is, if you look at it on a building by building basis, it's still above the 3% that is part of EISA and the Executive Order, so it's very aggressive, really. So we are tracking our utility embraces gas and electric in energy star and that kind of serves a dual function because one of our goals is going to be to get energy star for the building, so we are gathering our information there and it's proving pretty easy to do. Some of the tools that we have around operation and maintenance so the Operations Manager at the building and at the whole complex what we call a building Energy Action Plan." It has about 12 actions that are all intended to improve efficiency under the operations of maintenance, kind of heading or focus area, so that's one tool that we have in place, and another is a building energy reduction score card, that little one towards your left that we put out quarterly to show the property manager and the operations manager how their building is doing against our annual target. So we have pretty good tracking mechanisms in place. **NEXT SLIDE**.

The renewable energy goal actually, I made it 10%, and that was because by the time we were submitting our form for the baseline, I already knew that we were able to

purchase 57% of our usage. What we had going on previously was we had a lead building on site, or SSA, Social Security Administration building, and we had been buying green power for them under the lead points where we could get credit for that. The two years was up and so I took that allotment and switched it to the Auburn Administration building. So we're purchasing for a period of at least 12 months with no doubt renew from our local utility—Puget Sound Energy and we pay about $500 for that a month. And this Hopkins Ridge Wind facility is where our power is coming from. **NEXT SLIDE**.

So as we were starting out the Federal Green Challenge for the Auburn Administration building, we kind of got off to a slow start. We of course had put together our baseline information, but we didn't have our first meeting until November, which considering this started in April, that's pretty late. But we put together tracking spreadsheets for that first meeting and we outlined some goals, which I'll show you in a minute. The primary one was of course reduce energy by 5% and so we needed some actions to actually make that happen. And so we also put who's responsible for the target completion date, how we were going to measure it, and then we'll have a status update. And we might update this tracking spreadsheet a couple of times during the progress. And we are planning to have our meeting in January, we had hoped to have one in December but that just isn't coming about, too many people off right now. **NEXT SLIDE.**

TOMMIE JEAN DAMREL:

And we have about 3 minutes until we take your questions from this, so go ahead and send your questions to Sherry.

CHERI SAYER:

So I took this Start Where You Are from the forest service and I loved it, and Anna Crabtree-Jones uses this in hers, and it really makes a lot of sense. We just kind of came up with the items we had in place that were going to be easy for us, you see those under the positives, and we put down some challenges. We are in 1964 building with single paned windows. Our current energy use according to Energy Star is only 65, so we need 10 points just to be able to get Energy Star rated, and we only have like 7 months left of this challenge, so we've got some work ahead of us. **NEXT SLIDE**.

So that "do what you can" part of it is our action items out of our meetings, these are some of the things we thought of that we could do and I have more on the energy projects we're doing on the **NEXT SLIDE**, but we had already awarded a task order under an agreement that we have with Bonoco Power to implement an energy project here at the building that came out of a 2006 audit, so we were kind of ahead of the curve on having projects in place. You see here some other things that we think we can do. We signed up to participate in Puget Sound Energy Load Reduction tests so during the winter when there's a cold spell, they will call on us to reduce energy, and they'll be able to measure how we do.

And advanced metering, we don't yet have that available in our buildings, so that's one of our goals this year, to get the 15 minute interval data in place that's part of the Energy Policy Act requirement. We have been working on that on other buildings onsite so that probably will be fairly easy. And the **NEXT SLIDE**.

The projects that we are planning to do, and actually most of these are already in the works, are upgrading the lighting control system, we find that needs to be done every 10 – 15 years or it just gets too far out of date and things don't work right. We are putting variable frequency drives on the condenser water pumps and the ventilation fans and we are doing a lighting upgrade. We already have T-8's for the most part but we want to make sure that we find all T-12's hidden in electrical closets and data center and all of those and really make sure when we come out of this project there are no T-12 lights left. We're replacing some motion sensors and putting in some new ones and we're trying daylight dimming around the perimeter of the building. So we really want this building to be kind of a lighting showcase when we get done with the project. So that's our approach to the Federal Green Challenge and meeting the goals, and **NEXT SLIDE** is just questions.

TOMMIE JEAN DAMREL:

Ok, well we have some of those for you. Let's see in general do you know if other GSA offices have similar plans and goals?

CHERI SAYER:

Other regions? Or other offices? Each of our offices, I'll say, we have four service centers in the region, and are involved in like our energy action plans, and all of our regions is very invested in the goals, and across the U.S. every region has a really viable, robust approach to energy efficiency. We have monthly conference calls, our goals are tracked and sent out, our progress towards goals are sent out to all monthly from headquarters, so each region has a program. It may look a little bit different, but each region has a program.

TOMMIE JEAN DAMREL:

Ok, great, so some of us aren't exactly familiar with T-12 lights and what the problem is with those, and can you just talk about the lighting control you were talking about.

CHERI SAYER:

Well T-12's refers to the diameter, 12 millimeters maybe, Steve will probably correct me on this, so the standard of today's technology is at least T-8's, which are smaller, use less energy. The T-12's are really technology of the 1980's and it's time to make sure that none of us have that kind of technology left in our buildings. There's actually a newer

generation of a T-8 lamp that is even more efficient than the standard T-8 lamp. So T-8's is just a lamp designation, so is T-12, and they're much more efficient.

You had mentioned the lighting control system and that's just a system that's sometimes connected energy management system and sometimes standalones that let's you sweep off all the lights in the building at a certain time and bring on all the lights in a building at a certain or keep one section on and the rest of the building off, so it controls the lighting.

TOMMIE JEAN DAMREL:

Ok, great, we have a couple of more questions here. Do you know, are GSA property managers encouraged by their supervisors to assist participating FGC agencies?

CHERI SAYER:

Yes they are actually and we have property managers, like I said in three buildings that I know of that are participating in our region and the property managers are very involved and probably our operations managers or assistant property managers are very involved in helping those groups or Federal Green Challenge Teams in our buildings. I heard from all of them so I know that they're participating.

TOMMIE JEAN DAMREL:

So if someone is in a leased building, for establishing their energy, water, and waste baselines, should they work through GSA or directly with their landlords?

CHERI SAYER:

I would say directly with their landlords because it depends upon what percentage of the building are occupied, how their utilities are paid, and it's a way to engage with their building manager to let them know that energy efficiency is important to them as their tenants, so if they need help from GSA they should let us know too. I really encourage people to go to the property managers in the building.

TOMMIE JEAN DAMREL:

Ok, we're just about out of time, but do you have any quick tips for getting local and state level staff enthused about energy conservation that you could share with us?

CHERI SAYER:

Local and state staffs you know, for the most part, I would think they're already fairly engaged if we're talking about City of Seattle, or Portland or any utility, they already have conservation on their mind—if there's a region or section of the country that's really kind of in tuned with this, and we happen to be in the northwest, so we're in good shape here. Other parts of the country may have a difficult time and I'd say then just pay attention to what's on the state's website or the local jurisdiction's website, try to find a contact who's involved in what you're interested in and make contact with them.

TOMMIE JEAN DAMREL:

Ok, great thanks, if you still have questions for Sherry feel free to go ahead and send those in, but we're going to move into our fourth speaker, Steve. Steve let me pull up your presentation. **[1:10:02].**

STEVE BUTTERWORTH:

Well good morning everyone. To answer the question about T-12's, we're talking about the 4-foot long fluorescent lamps, and T-12 stands for 12/8th of an inch in diameter, so it reference an 8th of an inch not millimeter. So a T-12 is 1-1/2 inches in diameter and T-8 is 1 inch in diameter, so the thinner the diameter, the less gas inside, the less electricity it takes to excite the light, but that information is printed on each and everyone of those fluorescent lamps, it's an S an number, it tells you how many watts it uses so take a look at your lamps it will tell you whether or not you're efficient, you should be down to a 30 or high 20 per lamp range, not the 40's like the old T-12's were.

Starting off here with a picture from Mt. Rainier National Park, it shows the old paradise visitor center. One of the ways that you can conserve energy is to get rid of inefficient building. This was built back when the Seattle World's Fair was underway in 1962 and it involves a lot of floor space, it involved fuel oil powered ice and snow melt systems, they melted snow off of a pathways by circulating hot water, they melted snow off the roof by circulating hot water. That building is now being torn down; it's being replaced by a new visitor center that has the energy load of only 1/5th of what this building took. So a good way to improve your energy footprint is to downside. The new visitor center will provide all the services and space necessary for people who come to paradise to enjoy the part. It doesn't have to be as edifice as this one was back when it was built. We have a different perspective on how to match our facilities to the needs of our visitors in parks, and parks are about preservation of national resources and so it's important for us that America does improve its energy management because it so directly relates to carbon greenhouse gas emissions which we're finding impact the natural resources of our parks. If you haven't heard the glaciers in Glaciers National Park are receding and by 2030, if everything goes the way it is, there'll be no glaciers in Glacier National Park, so we might have a contest as to

what rename the park. The same thing is going to happen to the Sequoia's and the Redwood's as the climate changes, these little plants just can't move fast enough to keep up with move in temperature and humidity conditions of changing climates, so it's very important for us to stabilize climate change for the preservation of many of the things these national parks were set up to protect.

As you might well guess our national parks are remote. They're distributed. Hey, we pay our own utility bills, and sometimes we are our own utility. The Parks Service has over a million acres of land, I manage the energy program for over six million square feet of facilities in our national parks here in the west, that means offices, that means houses for employees to live in, hotels for guests to stay in, restaurants for visitors to eat in, curio shops, waste water treatment plants, outdoor lighting, indoor lighting, the whole kitten caboodle, and the most important thing to recognize about energy conservation is that if you haven't been talking to your transition team about your needs for sustainable practices or greening up your energy management in the new administration, you have some catching up to do. Our regional director has challenged all of us in our national parks here to be carbon neutral by 2016, so if that doesn't catch your attention, you have a lot to do in energy management. Energy is where the easiest task to take advantage of today. We can move on to the **SECOND SLIDE**.

What I want to talk about today are three approaches that you can do, you can educate and motivate your employees, you can pursue energy efficiency projects, and you can pursue renewable energy projects. On number one, or educate, if your organization doesn't have a green team established, think about doing it, think about getting ideas from the people who work at your site brought up to people who manage your site. Your green team can be large as a region or as I just said, focused down to your local site. We motivate because our parks do have to turn in an annual energy report. That annual energy report is turned into scorecard that the regional director chats with the superintendent about to se how well they are performing their management of energy consumption practices to meet the energy act or the executive or EISA. And we motivate by providing awards to those who do well. Awards can be site, regional, national. There's a wealth of awards out there today to recognize high performances in folks who take on energy management and exceed. In energy efficiency, if you haven't looked at your lighting, you should do so now. If you haven't looked at what your temperature is set out to buildings or cool your buildings, you should do so now. It's a contentious item between employees, some feel warm, some feel cold, but it is all part of energy management, and since we're using computers today, one of the things that you have to understand is that computers are new plug loads into energy management. Just on the scene in the last decade and we're still making how to make them more energy efficient. The computers today come with power management software. If you haven't gone in there and managed how your system manages power for you by turning off the monitor or shutting down the hard drive or going into sleep mode. When we started first having a computer on every desk in this office, we had to leave them on 24/7 because the IT folks had to do upgrade at night. Well we've learned that by putting in a larger bandwidth, upgrades can happen while people work. We can turn the computers off

at the end of the day, they don't have to be on over the weekend. All the updates and necessary things from the IT people can be handled while we work and you notice only a slight difference in the speed of the computer.

Renewable energy as was mentioned has over 50 parks, well a few years ago, only handful of parks had renewable energy systems activated and at any scale within the parks. Today there's only a handful of parks that don't have renewable energy systems activated, so in the past eight years, there's been a dramatic increase in the number of renewable energy systems that are in our parks. In fact, this last end of the fiscal year was the first time that we actively went after purchase of renewable energy systems using end of year funding sources, so as money was left on the table, it was converted into photo voltaic systems for our parks. We purchased over a half million of photovoltaics systems for parks just using end of year funding opportunities that opportunistic money that's left over at the end of the year doesn't have to go to furniture, it doesn't have to go to computers, it can go something that pays you back to reduce energy bills over time. **NEXT SLIDE** please.

Under educate, "motivate," we have the sustainability tip of the month; we post this on our agency website page every month for folks to go in and take a look at not only talks to things that they can do in the office, but also things that can help at home. The Green Voice is a publication that we print electronically that captures success stories out of our national parks and shares them to others that helps challenge folks to learn what others are doing and emulate them or it also challenges them to do something new and get recognition in our Green Voice. And our maintenance people put out a magazine called the facility foundations which talks to operation of our facilities, the facility management approach to energy management and energy management is one of the more typical articles that we will see. Also shown here is the new name of what we use to call our Green Energy Parks Program, recognizing a whole new initiative and the carbon neutral we now call it our Energy Smart Parks Program, and it's, as you see there, it's a co-venture between our department of the interior and the Department of Energy. First Lady Laura Bush just announced this Energy Smart Parks Program just about two weeks ago. **NEXT SLIDE** please.

TOMMIE JEAN DAMREL:

We got about three minutes till we take your questions.

BOB BUTTERWORTH:

Everyone here in the northwest has free access to the lighting design lab here in Seattle. Free services that talk to you about lighting and lighting products. It's all paid for by the utilities that serve customers throughout the northwest. If you haven't taken advantage of their services online or their educational opportunities, this is an excellent place to start. **[1:19:38].**

Load following utilities, this is something you have to learn; if you're served by a load following utility for the Bonneville Power Administration, you can access the energy efficiency opportunities funded by Bonneville. Load following means that your utility purchases all of its power from Bonneville, therefore, if Bonneville invests the dollar in efficiency at your site, they know that that efficiency will come back to them in a way offsetting their generation needs. So the first thing you do is find out more about your local utility because it'll open the door to your understanding as to how you can partner with them or Bonneville to provide services to your areas. About seven years ago, Bonneville installed over a $1.5 million worth of energy efficiency products in parks at load following utilities at absolutely no cost to the park. They bought the equipment and installed the equipment. There are self funding actions that you can do, I talked about use of end of year money, but at the beginning of the year, if you buy a compact fluorescent bulb and replace an incandescent bulb chances are that one action will save you enough money over the course of the year to have paid for that compact fluorescent bulb. One of the things that we we've done here in our building is that we've removed the battery backup emergency power for our LAN servers. We just hooked up to the building generation for backup power, so we're going to save all that energy that took to keep recharging those batteries and maintaining them over the years, just by taking advantage of another service that was provided by the building owner at no extra cost to us and therefore eliminating a secondary consumption of power that was not needed right here.

How do we fund things? We fund it by policy; we require all major projects to have an energy efficiency component, a sustainability component program managers who manage these funds, are required to review all requests to make sure that there are projects are covered by energy efficiency. And that the carbon footprint will be lowered after the completion of the project.

On the last page, I give you an example of a renewable energy project that was put on by our maintenance areas in one of our small parks. It reminds the staff that comes to work everyday that we are truly honest in how we go about acquiring renewable energy projects for parks because of the advantages that they have, but this shows an interesting little example. The system on the right provided enough in financial incentives and rebates to pay for ht system on the left at no extra cost. So if you leverage your financial opportunities, these systems not only pay for themselves but they can also pay for enlarging the system with no additional investment dollars needed. Passive solar is always the first thing you want to look at. Do you draw your shades to keep out unwanted heat? Do you have design features meant to maximize free power from the sun and reduce the need for manmade power? Do you even you orient your buildings from the get go to make sure they passive activity quite well. Active solar is shown for the PV system there, and some of our more remote areas, we are into micro-, hydro- and wind power activities. I hope that gives you a little example of how a small agency—remember energy and GSA are two of the largest federal agencies that we have, Park service is a very small one but we try to be very active in this whole field of energy management, and I'd be happy to take questions.

TOMMIE JEAN DAMREL:

Great, keep sending your questions in, we did get a few. You were talking about computers being shutdown at night, and someone wrote that their IT security infrastructure still requires them to keep their computers on at night. Do you have any suggestions for them?

BOB WESTBY:

It all gets with education and comfort. Our folks were reluctant to do it in the past, but once they experimented with it, they found that there were no problems with it. It's just a matter of accepting new ways of doing business, but again it was the bandwidth that was causing the problems, once they installed better wire technology and servers, then the problem went away and they are more comfortable that way.

VICCY SALAZAR:

This is Viccy Salazar and one of the other options is to work with your agency in terms of putting system-wide energy management software on; if you go to the energy star website there's example of that software available for free on the energy star website, and there's private sector providers of similar software, and that has helped many organizations move from having their computers left on all the time, because it allows, at the network level for the network administrators to turn on and off computers.

BOB WESTBY:

One of the other things we've done is pretty much gone to all laptops. We've gotten away from the large desktop units. What that allows us to do in a theoretical future if there's rolling brownouts or blackouts here in Seattle, we can agree to go offline at 3 p.m. and everybody's laptop will work for the next few hours and allow people to work locally without the need for grid power. So choosing the right type of computer is another option in energy management in allowing your building occupants to be more flexible in their need for outside power.

TOMMIE JEAN DAMREL:

Ok, we can ask one more quick question before we have to wrap up. Maybe anybody can answer this, are federal agencies required to submit energy reports annually, and at what level national or state? Are all federal agencies required to have a provision to manage energy, being the regional energy manager?

BOB WESTBY:

The answer is yes, yes, yes, yes, yes. Remember that an agency as defined by the law is what we call a department, so the Department of Interior is considered an agency, and as I remember the law, is that each agency has to have a senior federal energy manager, how far that comes down within the agency, within the levels of the offices and agency, what not, is a choice. For our agency and our service, most of the regional energy managers are collateral duty activity.

TOMMIE JEAN DAMREL:

Ok, I hate to end it here, really interesting, but we are about out of time, so thank you for joining us today. I want to remind you that the go to webinar service will email you a very quick survey so that we can get your feedback on the content and the medium. If you would fill it out for us, we would really appreciate it. I will hand it over to Viccy Salazar to close the session.

VICCY SALAZAR:

Thank you very much Tommie Jean, and thank you very much to our speakers: Melinda, Bob, Sherry, and Steve. The session was great and I know that you've given us a lot to think about and a lot of places to go in terms of our energy management. And also again a special thank you to Karen Klass who is with the Seattle Federal Executive Board Associate who was instrumental in planning this session. So our next session is coming up one month from today, and that will be on transportation and if you would like to participate on that and you've signed up for this, you will automatically get a notice about it, and if you did not signup originally through the online signup, signup and you will get notices about that session and future ones. So everyone has a great holiday season and we'll talk to you in the New Year. Thank you very much. **[1:27:37]**

Transcribed by Monina Gamboa
Tetra Tech EM Inc.