

**Duquesne Light Act 129 Industrial Subgroup Meeting
April 22, 2009**

Good morning, if you could take your seats please. We have a small group today and some of you were here yesterday so thank you for coming again. On behalf of Duquesne Light and Michelle Sandoe, director of customer care, we'd like to thank you for coming and welcome. Today we're going over the Act 129 collaborative exchange with the industrial subgroup. I'm Colleen Mackin, a residential supervisor in our customer care call center and I'm also part of the Act 129 team here at Duquesne Light.

Today for those of you in the room and also on the phone it's very important for you input and your feedback as we are building these programs from scratch so we look to work together and have some good dialogue today.

So if we could do roll call, I'd like to open it up to see if there's anyone on the telephone?

Good morning this is Adam Benschaw on behalf of the Duquesne Industrial Interveners.

Good morning Adam.

Last call for any others on the telephone. Okay it's just you Adam so please speak up anytime, feel free.

Will do thank you.

The presentation that those here in the auditorium have received will be posted on our website on Friday. That's www.duquesnelight.com and on the bottom of our front home page on the right hand side is the link to get to this presentation. Also, on the last page of the presentation, we would very much appreciate your feedback, your comments, anything at all about what you've experienced here this week with us and that would be to Act129feedback@duqlight.com. So at this time I'd like to introduce Cindy Menhorn, she is a consultant with us and she is part of MCR Performance Solutions. Cindy?

Thank you. We're going to go around the room and quickly let you know who is in here with us. So if we could –

This is Barry Kukovich. I'm a manager of customer relations for Duquesne Light. Larry Barrett with MCR Performance Solutions. Jim Conner with CES Incorporated. Richard Taylor with Imbue Technology Solutions Tech. Fred Sargent, Sargent Electric. Frank Craig with MCR Performance Solutions. Tammy Shuman with Duquesne Light. Tom Crooks with MCR Performance Solutions.

Okay, for your benefit Adam I'm going to go through some overview but we're not going to go into as much detail because it was basically designed for a review and everybody in the room has heard this at least once if not twice and it's basically going through the

provisions of the act. So, if it's okay with you, we'll probably go ahead and skip through that component of the presentation?

That is completely fine.

Okay now the way we have this structured is we had the industrial group set up and Pam sat in on the call yesterday. To talk about the programs, talk about the forecast, but then basically to put out some programs so that folks could start a discussion around some specifics related to some of their concerns, some of the comments, some of the thinking that they had already had at their establishments with regard to programs. So one of the slides that you're going to see in the presentation when it's posted is the potential and the budgets that we have and let me just mention something as far as cost recovery. As you know the Act will set up a cost recovery mechanism and the programs within a class will be paid for by the customers within that class, and there will not be any cross-class subsidization. So, in other words, industrials won't be paying for residential programs, residential won't be paying for commercial and so forth.

So with that I'm going to turn it over to Tom Crooks to talk about the specific industrial market segments in some high-level program descriptions.

Thanks Cindy. This is a fairly intimate group. There's just handful of us here and I feel a little funny at this podium, but I can give kind of an overview of the industrial market segment as we defined it and then I really recommend we stop this and sit down together and discuss some of these programs and get some give and take and I think that we can provide Alan you know the phone will be well positioned in our working group so you can join that working group if that's all right with everybody.

Just to kind of lay the groundwork, we did a market potential analysis, which showed what kind of potential for energy efficiency existed within the residential, commercial and industrial customer class sectors. Then within each of those sectors we broke down and drilled down and did some analysis of the customer base. In the industrial segment we're addressing today or the sector; industrial sector that we're addressing today there are 16 market segments that we address and this is the classic SIC, NAIC code breakdown of industrial types. We can see that the major hitters in this are primary metals market segment, and chemicals. And so between primary metals and chemicals we have about 75% of the energy consumption in the industrial sector. There was at our earlier outreach session we had interest and concern that we were just providing services or targeting services for just those 2 large sectors and so based on that feedback we created a third; a mixed segment program approach and we'll talk a little bit more about that. And the mixed segments of course cover the balance of around 20%. Like the residential and commercial sector programs, all of the sub programs will be organized underneath umbrella programs and the umbrella programs put in place the structure, incentive levels, terms and conditions whereby the sub programs will operate. They also ensure

that anyone whether regardless of the market segment can receive the benefits of program participation in the broader umbrella programs.

So basically the analysis looks at where is the energy used, if you're not using energy you can't save energy, so where are the potentials for gain and then constructing sub programs that can help those segments overcome the natural barriers that exist unique to each of those segments to participating in utility energy efficiency programs. So I've got a slide up Alan that describes the industrial umbrella program, recites what I just said and then identifies that the sub programs are primary metals, chemical and manufacturing, and mixed segments. At that point we go to break out sessions.

So if it's all right with folks, I'd like to kind of change the venue a little bit and get together in to working group and we'll carry the box around Alan to make sure you're included.

Adam, we're just rearranging tables.

All right. Well let's get started a little bit. Again it's just us 4 or 5 people here so let's just make this informal. You can look at the handouts. You can see that the industrial sector from an energy consumption standpoint consumes about 21% of the energy use in Duquesne's service territory. Just as a beginning approach, we've allocated program funding consistent with energy consumption, so around 20% of the funding goes to, will be allocated to the industrial sector programs and that's estimated based on the regulatory requirements of 2% of Duquesne's annual revenues. The total program budget for energy efficiency runs just under \$20 million and that would provide an allocation of funding to the industrial segment just under \$4 million. So right now we've got Adam-

Yes.

Okay and you're representing the industrial interveners.

Yes.

Okay so and then we've got-

Industrial Intervenors, Duquesne Industrial Intervenors?

What do they do?

Can you explain what you do?

Yeah. We are a conglomerate of a number of different industrial users on the Duquesne system. We've been active throughout the years in Duquesne's POLR

filings, various filings that go on. I apologize, I don't have the list in front of me right now of who all of our members are, but we represent roughly half of the industrial load that Duquesne has. So it's really just kind of a group of a large number of different industrial users in the service territory.

Is that like a corporation like Allegheny Technologies, PPG, companies of that nature?

Yeah that's correct.

Okay.

Excuse me, whenever we're talking Tom's miked but the rest of us are going to have to use this, okay.

Is a list of the members of your group available on your website or anything?

We don't have one. Let me see if I can pull one up real quick. I can certainly get one by the end of the call for everyone.

Just I want to know who's represented.

That's not a problem at all.

And we have 3 contractors that are interested in implementing energy efficiency measures, an architectural engineering firm, a lighting specialty firm and an electrical contractor. So that's who's here and a whole bunch of consultants and utility people. So with that I'll move through, kind of talk about some of the programs, the ideas. These programs are generic framework for the programs that are patterned after other programs serving industrial sectors in other utility territories that have been successful over years of serving different sectors. So the structure is built around energy audits, recommendations, commitments on the customer to install, commitments on the utility to pay, incentives to offset the incremental cost of higher efficiency equipment. Installation contractors install the equipment, the installation is verified, the savings; estimated savings are confirmed and calculated and incentive payments based on those savings and qualifying equipment are issued on the part of the utility. So it's a basic audit, installation, verification, incentive payment program. It is anticipated that the sub contractors that would get this work would be specialized and have extensive background in working with the targeted segments. IE: if we have a chemicals program, we're looking for people that have done chemicals programs. I know several of them that have done this successfully over the years and have significant savings for the industrial processes. Probably as we talk about industrial programs, some 80% of the savings that typically comes from industrial programs are from the processes. Very small part of the savings usually comes from a prescriptive savings such as dollars per light bulbs, widgets kind of a thing. I liken the story where we have a series of pumps

filling a tank up on a hill and the prescriptive measure goes in and replaces a motor for a high efficiency motor so you can get some savings. Then the process part of this is to move the tank. So the bulk of the savings in industrial processes is in moving the tank. So especially in few of the minimum federal standards for _____ premium motors that came into play in 2010. So, anyway, Houston aside...

So it's industrial processes is really the majority of the savings is from industrial process recommended by specialized contractors that know these processes and have experience. So we'll be looking at contractors that have done such as some projects that I've been involved in, you know, on the West Coast where we've seen 30 and 40% savings out of steel plants. These are the kind of people we'll be looking forward to carry out this program. Industrial programs from a cost split standpoint spend a lot of money on studies, more so than other programs. So we might see upwards of more than 50% of the program money going to vendors that can create comprehensive process studies and recommendations versus paying for the incremental cost of higher efficiency equipment because that's not the case. It's the process improvement. So once the customer sees the business case, they go and there are very strong business cases. Industrial programs for most part usually operate and can be as cost effective when compared to industrial commercial programs often we run half or a quarter the cost per unit of energy. They're very, very cost effective programs. So this is a specialized program approach and we'll be looking for that kind of, you know, implementers to pursue the implementation. Having said that this is not an expansive budget, we're talking about 4 million dollars a year and so this will be quickly subscribed so we're all going to be looking at recommendations about how to go about best spending that money. We'll be looking at program proposals based on the vendors, contractors past performance and innovation and ability to implement. So that's kind of the spiel on industrial programs. So we'll be looking at the umbrella program being about 8% of the focus of funding and this will put in place a structure that everyone can play, metals, primary metals will get – so far as we're looking at this, you know, around half – 54% of the funding, chemicals 20% and mixed segments 18%. When we had our original breakout session there was concern that, well, yeah, well these, you know, the primary metals and the chemical folks use the preponderance of the energy but that doesn't necessarily represent where the savings might be. These are fairly sophisticated folks and they may already have – have done a lot so there might be a lot of opportunity for savings in the smaller sub segments within industrial. And so we created a mixed segment program that would focus on that where we get some outreach for smaller industrial type customers. In the handout material I have some beginning incentive levels associated with prescriptive incentives for lighting, heating, ventilation and air conditioning, refrigeration and office equipment. We've got some custom incentives that pay on a kilowatt-hour basis, annualized kilowatt-hour basis. These are forecast numbers, these are basically the numbers we use to forecast the potential and not indicative of where a program, or final program designs will be.

Tom, I have a question.

Yes?

What is encompassed by prescriptive incentives, what is the definition?

It's in Attachment 13 to our report, Potential Forecast. But this is – which is still in draft form but the prescriptive programs pay a dollar per unit of measure. A certain dollar amount per square foot of insulation, a certain dollar amount per lamp, a certain dollar amount per fixture as opposed to a dollar amount for energy saved, for performance. That's kind of a menu type approach. Even in commercial or industrial this is useful, often the contractor is late, dealing with industrial customers and their particular barriers. You know they have a high level of technical competence but they don't have the time, they don't want to deal with utility programs, it's not a priority, they're focused on quality and production. And so to get into these – you get these customers enrolled, often take a nose under the tent approach where the contractor will want to use some prescriptive programs. And then based on that success and they see how easy it is, then they allow the contractor to move forward into the more, into more of their process or their main line consumption. So prescriptive incentives have a role in industrial programs. Did someone join other than Adam? Still there Adam?

Yes, I'm still here, that's not coming through my phone.

So that's kind of the idea we have, there's some incentives laid out here, it's in the material, these are planning, these are preliminary numbers, shows that we're looking to offset a certain portion of incremental costs associated with the high efficiency equipment. You know, implementation will be really based on the – we'll look for a marketing plan to be submitted in the proposal by prospective contractors, so we'll be looking at their knowledge of the segments and their marketing plan as part of a proposal. But these include such things as door-to-door outreach by implementers, you know often trade association, working through trade associations past experience with customers outside the service territory. Direct mail. Internet. The usual outreach approaches. So in the industrial segment and flipping the page, Adam, that talks about how we go about implementing these and we show a core team would handle the umbrella program as it has with the other umbrella programs and then we would subcontract primary metals, chemicals and the mixed segment program to potential subcontractors. Next I provide a measure list of all the kinds of different stuff that, you know, based on historical programs where we find people are playing and what kind of technologies are involved, a lot of compressed air, fan systems, pumping systems and there's just a laundry list of different kind of measures for different specialty processes. In the industrial program we're looking at breaking up the 4 million dollars so far by consumption of the subsegments primarily. Primary metals is looking at a budget of around 2 million dollars, 2.1 million, chemicals of around 800,000, mixed segments of around 700,000 and then the umbrella program would be funded at around 300,000.

Again, these are preliminary numbers. But this represents an equitable spread of funding based on energy consumption within the territory.

Do those projections appear in the handout?

Yes.

Okay. You don't really have to go through it all. But once we have a chance to look at it on Friday, you said it would be posted, we can certainly, if I have questions or Pam has questions we can be in touch about any of that. Just so I don't hold everyone else up so you feel the need to walk me through.

Okay. I've broken up these costs by admin and incentives for the first full funding year 2010. So these are estimates but I think they'll give you kind of a baseline look at what this program looks like from a bigger than a breadbox prospective. It runs about 80% incentives, 20% administration – sorry wrong sector. As I said we're heavy in administration round about 50%, over 50% in admin and incentive running a little bit under 50%.

I'm trying to follow the admin dollars. What's your definition of administration?

That would be any activity other than incentives to offset the cost of equipment, installed equipment. So that would include all those audits we're talking about and special reports.

I understand the incentive portion is the actual cost of the PFD or whatever.

Right. Whatever is required to perform the optimization of the process that's identified.

That's the key and is it time for discussion?

It is time for discussion.

Because I've already run, we're in the middle of a process right now where the customer is an industrial and it's really a _____, it's a chemical company. And one of the things that we proposed to them, is we've done an energy audit and found that what they were planning on doing is trivial compared to their energy losses. It requires a much further detailed analysis and the low hanging fruit is really insulation and not windows. But they are aware and we are involved with all types of funding, this is just a very – the Duquesne Light portion and Western PA is just a very small portion of the potential funding which is millions and potentially billions over the next x number of years to do all the energy, whatever it might be. The customer has been very resistant to even discussing anything about any of the funds. Because they believe it's just not worthwhile. This is

probably a 3-4 million project. However, by doing the detailed analysis, which may be - the infrared portion for example I'm guessing it's going to be like 10,000 dollars, it's going to take a better part of a week just to do these three buildings. And then by the time we're done with reports and if we go further throughout the study and use like ultrasonics then that _____ test state where we're going to have go into certain sections of the building where we don't know what's there. They don't want to disrupt anything inside the building. They're going to replace the windows. Guess what? You can't keep people working inside of that room while we're replacing the windows, it's not safe. OSHA would be all over us. And so they don't want to shut down business and so it's the sequencing where all the savings and everything is. So the study money will show them for the study, will show this client, where he should be spending his money and what's wise and you know the architectural, the pretty picture, the new windows are just one thing but the real ___ of money saving and these buildings probably have a couple hundred thousand dollars worth of energy associated with them in operation for a year. So with all that said, these guys aren't interested it, but we're going to try to force them to take some of this money or at least apply and at last do the study, whether or not they get any money or whatever, it's like they thought they wanted triple paned glass. They don't need it. Double pane is fine, take the difference in that money and throw it into insulation or replace some wiring or breakers and lighting or you know, where you've got low hanging fruit, it's got real dollars associated to maximize the real return. Now this is a chemical company, what you do this _____. And I've had a lot of experiences in steel mills and everyone of these categories, I've done research in, chemicals, steel, whatever. But we had programs that for example, this goes back to a – there's a Wheeling Pittsburgh Steel facility. I confirm what you said, it was annealing furnace that was making galvanized or tin plate, I forget. And we were running 13 or 17% scrap, we had pretty much on off controls and this was a gas fired furnace and we were just blowing energy up all over the place. During the winter you go up in there with a tee shirt, the doors were open, that type of thing. But what we found out through very minimal testing was that we were totally out of control in each side of the furnace so we were going to use infrared pyrometers to get control of the furnace so we control exactly where we want to be. Not from 16 to 17 hundred degrees we wanted to control 16-53. We modulate that down. There was – and guess what scrap goes down. So the process, we were going to get down to less than 2% scrap and save something like 70,000 dollars a month energy for 100,000 dollar project. It never went. Okay. So with this kind of program if you can get industry and that's just one example. If you can bring industry to do the study and if the ROI is 30 days, which this one was, it's totally insane that we discussed this for 6 years.

That really –

That's the mentality.

The things that you identified are the very barriers that we've identified in these program designs.

Well that's what this incentive money, I think, can do for this study. To put it out there and make them see. And as long as, when we go in for a lot of the high level stuff, if we're not, we don't even want to talk. Chris is one of my partners, he doesn't even want to talk to facilities and engineering and that. He wants to talk to the money guys. So that they understand that if they do this and buy into this, then you will see the savings. And if it's implemented properly with documentation, accountability and all that – that it's real.

Right. Working with folks that know how to sequence work and work with operations where they're down to do a retrofit or a cleaning or a maintenance, wait for those times to do your upgrades. Working with trade associations, where they have some influence, where you can show the successes with their industry counterparts, giving some credibility to what you're saying. Not only does it save energy but other of your ilk are saving this energy by taking on these characteristics. So having program design along that capture those approaches ____ will be important.

We've just done one with Sargent and it was actually this exact program which was the first one that we _____. I'm working with it, I'm not ready to talk to him yet. Because they have an international group okay which is part of Sargent that wants – because they have the skill set with the infrared, they've got the best technology out there, they're not familiar with utilizing it for building and stuff like that. They're primarily electrical, okay, where they go into industry and look at all the electrical stuff. Well that's a known because steel mills for example – if you've got a motor that's a medium voltage motor that's a 1000 horsepower and that thing goes down, you've got unscheduled down time that can cost hundreds of thousands of dollars an hour, you shut down the whole steel mill. Because on the motor you have to wait for 6 mos. So it's imperative that they do that kind of preventive maintenance on an ongoing basis. But taking the same technology and teaching them how to utilize it in buildings, in residential and stuff, there's a ton of people run around with cameras doing this residential stuff and I found that they really don't know what to do. And I found it was easier for us, we tried to buy the service that we could take not only the infrared, that we want to take it into the BIM, building information models, right in the _____. So we can do the energy analysis along while we're doing the design on an existing building, new buildings and all that. We tied those links together and we know how to do it now. It's taken us months to do this with a lot of consulting. But to take all that information and get it into a format that now I can walk into the money guys and show them a couple of pretty pictures and somebody that's got to – who can read, can understand, Whoa, look at this, we're missing the boat. It's that simple. Now the conservation rate on each one of these proposals is to be determined but we're

going after every market sector and we've already targeting like hospitals and certain buildings and industrials. And the study is the key portion of this and I see that that's where you're going to fit. Because this other money, industrially is going to be trivial because of the incentive money.

Right. So you'll see we're heavily funded on the study side.

Once they see what the administrative shows them, they're going to be going to the bank if they don't the cash to do it because the payback like you said is phenomenal.

One of the things you talked about was - you described a project, which essentially is a building envelope project. And I think the structure that we have of the umbrella program both commercial, industrial is you get the same approach for umbrella upgrades in the industrial building as you would get in the commercial building – so it's that consideration.

Let me back up. A building is no different than _____ except the return. It's ten-fold what it is for the reheat furnace than it is for a building. And that's what I've been doing with all of our, my team, that is all commercial. Which commercial does not work, I'm primarily industrial in career, we don't play these games, back and forth. We go out to do a job, the team gets together, we do it. We run into a problem, we go to a trailer, make a meeting, and we get it done. But the reheat furnace was a big box that's got heat in it and you're trying to make, keep something happening in it, that's the same thing. Lot of _____ keep people happy in a building are still happy in a furnace. But the building's energy bills are 100,000 a year and the reheat furnace is a million a year, the potential savings and actually on a reheat furnace, on a building you might get 20%, a reheat furnace like you said 40%. I've seen industrial processes at 60% - you know you look at the numbers when you're done with your study and you go wow. Where did I screw up, this is not possible, to save that much money.

It is possible, isn't it.

I know.

And that with a market segment that considers itself technically astute. So – and we've seen this time and time again where there's been huge barriers based on this, look, we know what we're doing, we have technical competence, we would do it if it needed to be done but time and time again we found that that's not the case. And so we can provide benefits to this segment and the folks that participate in the programs are the ones that are going to get the benefit, those who don't will just pay for it.

Well, when I was doing like that furnace that I told you about for 100,000, my time was free because I was a sales engineer. Okay, so the project never went even though their engineering kept spinning it upstairs, engineers _____ but budget _____. But as a consultant if I charge them 250 an hour, then they listen. That's _____.

Yeah, I was a sales engineer once.

And you know lighting guys have the same problem, you guys have the same problem. When you're like, you're offering these services for free, like many of the lighting guys go out and they'll do your audit for free just to sell the lights.

So what I hear you saying is that the emphasis on spending in the study side is a correct one.

I totally, especially when you got this many dollars because you've got 4 million dollars or 2 million dollars?

It's four million a year.

You break that out and like this one building study, let's just say it's 20,000 divided by four million. But some of these studies, like we're working on some university work. Universities that know they want to upgrade this building and we're saying when we go in let's do an audit, an inventory of what you've got, then come in and do a quick infrared, just have a couple of guys walking around for one or two days, just looking around at the outside of the buildings. Like you go to the Cathedral, every time I've done an infrared shot, I've seen something I did not know was there. So you go to the Cathedral of Learning and I'd be shocked if there's any heat that's escaping through the bricks in the middle of those walls. And I don't know that, are the windows good? I don't know. Where's the energy loss? I don't know. But when you go through a campus like that and we just did Sargent's building and this is just a quick picture but this was an addition, nobody knew that was there, that's leaking like a sieve. This is what I was trying to teach these guys, how to use their cameras.

Your building?

See that right there. That's being sealed. So when you go through this campus you're going to see new buildings and old building that – I have tons of this stuff. I just threw some of this together if you guys want to take it. When you look at the pictures some of them are, you can tell a good infrared guy can look at it and say yeah, that's real temperature, that's an emissivity problem, whatever. But when you go through this campus, what we're going to do is go through and just shoot, look at everything that's involved and then focus on the buildings that they know

they want to upgrade. Now they will do details on that but we may find things that change the priority of what they want to do based on where the real savings are. Now if they have a building that they know has to be done, what do you really do to it? I mean typically I was talking to some guys yesterday and I asked them how do they do it? Well we do a walk-by. Well that's great. I cannot walk by any building. A lot of architects and stuff, engineers, who have a lot of experience in buildings, can walk through these buildings and know the year of it, say that's leaking, that's leaking, that's leaking, I don't have insulation there. But even like the one study we just did we saw areas that nobody had any clue.

You do retro commissioning?

What do you define by that?

As opposed to new construction commissioning, where you commission a building. Going back into a building and see that it's operating the way it was designed to.

Yes. That's a primary business. That's one of the main areas. Anybody can go out and build a green building right now. To go back into an existing building or a facility, and you're calling it a retro, that's where we excel.

Right,

Because you don't know what you've got until you analyze it and you can second-guess it and there's more money wasted by not – by doing things that may or may not need to be done and you just don't know.

So a comprehensive whole building approach.

It's like controlling _____. The Japanese came out with a program called Six Sigma 30 years ago. And GE bought it. Are you familiar with it? The Six Sigma, you know everything you can, control it to the nth degree and everything is at the highest efficiency that you possibly can.

What do you think about this Sargent?

Tom, this picture was taken right outside my office, I was inside working at my normal pace.

So that's your head that not spot.

That's my head.

Well you know what, you know why that heat is there? Look at the – that's the window, do you know why that heats, it's so hot there?

There's a light there.

No. You have a heating vent right in front of the door that is baffled to shoot right at the glass. All you need to do is go in there and throw a baffle up so it doesn't shoot right at the glass, shoot it down or out, in toward the building and you'll save a tone of money. For a 10-dollar piece of plastic that deflects the hot air.

Tom, this is Fred Sargent. I have a question. Is this the point where we should be maybe be talking a little bit about some behavioral economics because we're looking at an industry segment, we're looking at trying to make some significant impacts. And so the question is how do you make it happen? I'm reminded of an example that may even be a little bit more vivid than Jim's. Because Jim was telling a story about calling on an industrial company and telling them how they could basically get their money back in a little over a month and the guy said thanks but no thanks. After 6 years of talking to him.

Excuse me –

We're all buddies.

We're making a 4% or a 16% hurdle rate, we're not interested in a 4000% hurdle rate, thanks.

Yeah, exactly.

You're looking at a 30-day payback.

Yeah, and it's not atypical of some industrial segments like you know – we know everything thank you very much. And it was just a few months I was standing on Smithfield Street and people from Dollar Bank were actually trying to hand out real 2 dollar bills as an incentive to get people to open up an account. And they weren't getting the kind of hit rate you would think for people standing on the corner handing out real money.

Where are they?

And so there is this phenomenon that we have to deal with. The question is, if you want to lump it in to the whole – if you want to walk out of the engineering building and go across campus to the economics building and not only talk to the economist but talk to somebody that's involved in behavioral economics, how do we get them to buy this stuff? And perhaps one of the things that we can work on

is the phenomenon that sometimes in a group they'll do things that they won't do singly when you're in their office sitting across making a point with impeccable logic that the guy just doesn't want to do. It's a little bit like free form dancing in the gymnasium. Nobody wants to be the first one to get up on the floor, etc. But once you get the whole group there they go crazy. And so the point I'm really getting around to is, that I think we have to give some thought to the technique and how we get it done. And we've alluded to this a little bit before and that I through associations or whatever. But I think you get a bunch of guys in a room and you'll have a different phenomenon when you come to decision-making. And the question also is who do you get in the room.

I think at one of the outreaches that I've seen – folks, I can see a few vendors that I've seen do this, whether it's _____ or Lockheed Martin or Global Energy Partners, some of the folks that specialize in industrial process, they'll provide workshops which are sponsored by trade associations where they've got people in the room and they bring these things out where they can be influenced by it and hear the comments of their counterparts and it is very informative. We have a discount, a huge discount, we call it Aware and Willing. And there's a communication part that's aware and there's that willing. Some people just aren't willing. They don't believe it. They don't care to hear it.

Say thank you very much and go find so somebody that wants to listen.

This was something that came up in the discussion yesterday that I think is relevant to all of the customer segments in going to your observation about behavioral economics and it's the issue of free audits. You know when I was in law school I had a professor who made clear to me, you know, don't do free work for your family because people will value the work you do based on what it cost them. And I, you know, we found that in our business to absolutely be the case if there is – so even when you produce analysis that demonstrates a compelling payback, the value of the analysis is discounted because it didn't cost them. And then there's an inherent suspicion that if the analysis is too compelling it must not be real. For example, we just converted the lighting in the Allegheny County Jail to LED lighting. In the preliminary discussions with the county, the County man, County executive, the Warden, we're letting them know that on average you're going to see an 80% reduction and at the press conference when we finished the job the Warden said, oh, you know we just thought it was too good to be true until we put up a fixture and they put a meter on it and he saw it was 83% reduction and then everybody was scrambling all over themselves to hurry up and get the job done when they had been dragging their feet for 9 months. So my point is when it didn't cost them anything to get the analysis to show you make this investment, you've got a 6 figure net present value on the investment. They didn't believe it and part of it is because they valued that analysis based on what it cost them. And one of the concerns I have in terms of the overall effectiveness of the program is that in all of your customer segments, I think that's going to become a

very real dynamic, you're talking about residential, you're talking about commercials, like you say industrial sophisticated customers who have a high level of analytical capability in the organization. So everyone is going to be skeptical of what's being offered without having skin in the game but you've got the issue of – if you require the skin in the game is that a barrier to people participating in the program. So I'm not sure, I don't have a solution but I really want to highlight the challenge and get us all talking about it and thinking about together.

Yesterday in the commercial breakout session I think we all agreed, we received guidance and input that there was a need to have the customer have some skin in the game. That maybe you remove the first barrier, cross the barrier by actually providing the audit at no cost unless they don't move forward with the recommendation and under which case they had to pay for the audit.

That's an excellent idea. Because one of the things that you've got to do, once you've got an audit and prioritize the quick return on investment, then yes, the audit is X dollars and let's just say – Well if we're talking industrial, residential it may be a thousand, let's say an industrial 10,000. We do an industrial audit or commercial, industrial it doesn't matter, numbers or whatever. Say 10,000 dollars and you come up with they don't have the capital because of the economy and stuff like that but the stuff that has one year ROI or less, that it's mandatory to do our you pay back 25% or 50% of the audit price if you don't do at least something. Because the one thing that you find in all these energy audits is that the highest return on the dollar is tightening the building envelope or the furnace envelope. You know I don't care if it's the brickwork in the furnace or you've got leaks here and there and the insulation, the insulation is almost always the highest return, for almost everything.

I just heard you say one year ROI, which I really like.

I've seen 30-day.

But at the same time industry tends to speak in terms of one-year payback or two-year payback, which is ridiculous. When they make every other decision based on return on investment and the present value. So when you said one year ROI, would you really present that as ROI?

Well I'm just being extreme there, to say that yes, you've got to do this. Okay? Because realistically most things, if you can get a 3-5 year it should be a go, okay. 15 years, depending on who you are and what your long-term goals are, may be fine.

A 4-year ROI has about a 30% reception rate on industry.

Okay. One year, what's the perception?

It runs about 80%, 75-80%.

Okay, so now you've got lighting, which almost always has what – 2 ___ lighting. Two year, three-year payback right. So you do the study and you come with all this stuff that has been ___ all our lives but worse case say I don't want to do this for you because it's a 5-year. But you got to do the lighting otherwise you're pay back part of the study.

Oh, I see.

Follow me. You've got to do something.

So hook that to the measures that pass the ROI participation of the program, we're actually –

So that we're not out there doing all this stuff for free.

And not be valued.

And not get many – they're not doing it, you know, this is great.

But raising that, just one more point, drilling down on this concept, it's the second time we've talked about it in group, okay, so that means you would have to approach a customer and get them to sign or approve the paperwork in sales parlance, before you move through and do the –

See we do it – we go in and charge to do all this but we're doing a lot more than just getting their energy money. Now if we can get somebody to pay for the energy portion of this overall project that we're doing, you know, and like we may be doing a lot of other things, above and beyond just energy when we go into a campus, a university. I mean we'll be looking at all types of things. I was just reading today that the EPA just gave an award to Dow or Dupont because they now have new architectural coatings that you can apply to the exterior of buildings that scatter infrared radiation. So this is leading edge stuff now. Man, can that be cool. There's not many people that know about this right now. But all these projects I'm working on right now, that you want go out and you go oh, my God, look at the heat I'm absorbing at this point. Well, now I've got something that's really cost effective that I can shed a ton of BTUs on that building by painting it with this stuff. And oh, by the way I can make it look good, that yellow brick with – I'm just going to spray this stuff all over the place.

Brings new meeting to cool roof doesn't it.

It's like doing a white TPO, it's like a no-brainer. Everybody should go do it. It pays.

You're talking about paybacks. I want to be sure I understand going back to an earlier slide –

I get worried when you're confused. Go ahead.

The TRC. Can you help us understand a little more completely what the TRC is and what it's telling you and how it is driving the proposed program.

The TRC is a cost test or cost effectiveness, it's used as a go, no-go assessment on whether a measure or a program is cost-effective. The public utilities commission has adopted the TRC as its enunciated in the California Standard Practice manual as the cost effectiveness of threshold tests and the total resource cost test as described in the Standard Practice Manual is – we take the forecast marginal costs, which are avoided cost for energy efficiency and that means utilities forecast for energy on-off summer-winter energy and capacity costs going forward for 20 years. I say 20 years, really you're applying that stream or those projected costs against the estimated useful life of the technology. So in the case of insulation, typically is treated as a 20 year measure although it probably is in reality a 40 to 60 year measure, the life of the building. But a refrigerator would be treated, get an 18-year useful life and a washer or dryer maybe a 14 or 11 year useful life. Based on the useful life of the given measure, we project forward what the cost of energy that's avoided, going forward to a number of years and then we net that out using a discount rate and we say okay, here's the net present value avoided cost. We divide into that avoided cost the cost to implement the measure according to the TRC test, it's the cost of the measure plus the utility program costs. The incentive is not counted, it's treated as a transfer cost to society. It's taken from the ratepayers and it's given to the ratepayers. TRC treats incentives as a transfer cost. So essentially the cost element of TRC is the cost of the equipment, installation, and the administration of the program that made that happen. So cost plus utility admin.

Divided by?

Divided into the avoided costs, net present value what it costs.

So this is call TRC? What's TRC stand for?

Total Resource Cost Test Ratio.

It can be expressed in various ways but it's a ratio. It's the net present value of avoided generation and capacity for the utility, supply side resources and the present value of

that life cycle avoiding life cycle avoided cost associated with implementing the measure divided by the cost of the measure and the administration of the utility program.

I'm not familiar with that term.

So it's an EE utility power _____.

I've been, I was project manager of the last three L.A. Fitness that were built in Pittsburgh and we did some very intelligent things and some very stupid things. And a lot of the stuff that we wanted to do, we weren't allowed to do. It's like switching all our lighting to LED. Especially our exterior side was like a no-brainer. I mean the cost to repair on that stuff, you can't afford to _____, every time a neon bulb burns out. LED lasts forever or ten years, what's an LED?

Minimum life on our product is 20 years.

Twenty, you know, people avoid that so just talk ten. You know it's still cost effective.

Actually the 20-year –

Is conservative, I know. It's like that 100,000 dollar payback, it was really quicker but we couldn't tell anybody it was going to be two weeks.

It's important I think as new technologies come about to be working with the folks that maintain the technical reference manual for the state. Because therein lies how these are treated, how many, what there estimated useful life credits? And what the deemed savings are. So you know typically lighting quite often can be driven by deemed savings or kilowatt hours per unit of measure in this case lamp or fixture and so you want to make sure that the technical reference manual which to a greater degree as you move forward will tend to influence what's allowed to be reported in the programs, includes those technologies and accurately reflects their cost and savings.

Well that's actually why I was drilling in to what the TRC is. Because when I'm looking at commercial 2.2, what that says to me is there's an expectation under the program that there would be the go, no-go decision on whether or not a measure would be allowed under the program if it has a payback of 2.2 years or less. Okay, that's not what that's saying.

What is the maximum years that we're allowed to use or is acceptable?

For payback?

Yes. Is it like 15?

Payback is not a constraint.

Okay. But when people are doing this analysis and you know I've been involved in all types of industries over the years and some people will look at something that's going to last 20 years and some people say forget it, like you know it's got to be 5 years –

These are really behavioral things, and we capture those in payback probability acceptance.

Which were the funding aspect to this. There's no cutoff or – so that if we show something that's going to last for 20 years we can throw that number into our calculation?

As long as it passes the TRC test, then it's effective use.

Well and LED passes the TRC test right.

I have to see it, but I assume it would yes.

Right?

I mean I can – it's not hard to do. I can show you how to do it but –

If I'm going to insulate a building it's going to last 20 years. You know I'm going to use – depending on the client, we'll use green or nongreen depending on –

Just as a point of information we need you to kind of think about and although the TRM disagrees with this, it conflicts with its – with the enabling legislation – cost effectiveness under the legislation is mandated at 15 years max.

Fifteen?

Yeah, and so – now if you look at the TRM which is also cited as the guideline for participation of measures and use of – or estimating savings, they have many 20 year estimated useful life measures so they – there's a conflict or inconsistency between the state documents. But just going to throw out, there's a place where, be aware there is on the record in the act a mandate for a 15 year maximum cost effectiveness test.

Where would find the TRM, what sector do you go to pull this up?

It's in the decision, the January 16th I believe decision –

Page 72 of article –

You know, are you asking about TRC?

Well, TRM, the technical reference manual.

Oh, TRM. Gee, I can email it to you at least in the draft version. But – and it is in the draft version. It was being updated from 2005. It was redrafted in January of 2009. There was comment sought, they received multiple comments, including from Duquesne, and after receiving those comments, they basically – my understanding is – is they said just make your point and as long as it's reasonable you can do what you propose. Because they were fairly well beaten up by the Department of Energy and all of us. By the time we got through it was a kind of melee. So they kind of backed off. I would assume as they get that document together, as it moves from draft, redrafted form that it will again, because there needs to be a guideline in the state but it needs to be a guideline in the state but it needs to be restructured so it is applicable to energy efficiency.

I have multiple questions. You said to me, I don't know where you got it but –

Yeah, this was put out for comment so here's the January draft version. That's a technical reference manual.

Two questions. You're dealing with an industrial client and we have one right now that needs process work. Fred, I would like you in on this because you guys are involved with me on this. We've got an industrial client that has buildings that they're getting ready to renovate and so there's going to be architectural work and all this other stuff. Engineering will be involved on the buildings and there also will be an energy audit associated with that.

More than 50% renovation?

I don't know. Can't answer that.

_____ Fed standards?

I don't know if its applicable, we may go green, and I don't know if there's any value to this company politically, and what you call public perception? There would be serious value for them to at least get basic green or green silver. Because of the pollution and environmental problems they've experienced over the years. And the vice-president of this company is an old friend of mine, we grew up together, modernizing furnaces and things like that. He's now vice president of engineering and was director of the environmental stuff for the last 20 years. But anyhow, they're going to do their office buildings, now Sargent, this is,

they also have tons of motors and electrical stuff. They have their own group internally that does infrared and electrical maintenance. As far as the process goes, it doesn't matter, you're the ones that needs to know. So the electrical aspect, I used to sell them the thermal imagers. And the utilities, including Duquesne Light, used to offer that service industrially for free and then a lot of them, this is on all your switchgear and custody transfer and all that kind of stuff. We did the same thing with the gas because we actually for large users, we used to go in and measure the BTU content because people didn't want to pay per cubic foot. I want my true BTUs and guess what the utilities were also on the skinny side of BTU.

Is that with or without water content?

Right. Same thing with power factor correction is – you can spend all four million dollars just going around and doing that. We'll go around and do 4 million dollars worth of lights. I mean – that's the real low hanging fruit. But so, now we're going to go in and this is multiphased because I want to get involved in the industrial processes at the same time. Because we used to do that, now their research group has been disbanded, because they just buy research. Follow me? And so they don't have the technical expertise anymore, I don't know their state of the union on internal electrical maintenance and I know that they're building new things all the time and like you said change the process not the prescription. And they're doing that constantly and all type of industries have analyzed this and obviously the ones that have survived were the high tech specialty type metals in this area. And they would take and you know upgrade their processes, approach Six Sigma, make good product and all this other stuff. Now from the process end, I really don't want to get back involved in that but I will if it's part of a program. But my groups right now do not have that expertise. I'm going to have to partner with another company and I can supervise that and manage it but I don't want to get involved in doing control systems on a furnace.

I think that's real common and I've seen a lot of proposals from companies where they will partner with a specialty firm, like air compressing systems or –

Exactly. So what I want to do is do the industrial process energy savings, like go in and take a furnace for example and do an energy audit on that furnace. And see what kind of payback there is and it may be just insulation or you know changing some process within that. But then I've got the building portion of it and then their electrical internal portion to go in and do an audit, I guess we'd qualify correct? And then so – now when you go into an industrial like that are you going to separate the building from the process?

No.

So the industrial client could, we could go in and do both –

Yes.

And say hey, we're going in and do this audit, by the way we'll go through and do your process.

That's really – what you're hitting on is exactly the reason why we want to set up umbrella programs and the CNI umbrella programs are identical so that you're not going to have some guy in an office building, at a steel mill saying I can't get commercial sector benefits.

Right.

Because it doesn't make any sense. So we created these umbrellas, that way we make sure they're consistent so that if you go in and do a building shell upgrade inside of a primary metals facility, you still are dealing with the same programmatic access that you would if you were in commercial.

And so anything can overlap.

Right.

I mean you're not going to have residential typically –

Right. The utility will be indifferent because we've taken that into consideration, the application of the technology.

Now are you familiar with what all services Duquesne Light is internally offering to industrials?

I'll leave that to Duquesne to respond.

We don't have our, one of our industrial reps here today. I mean I think they would have gotten, there would be some type of audit, some type of walkthrough the facilities.

Are you guys currently doing the energy audits?

I don't know that.

My understanding is –

They used to. Allegheny did.

My understanding is that right now from a staffing standpoint, from just our organizational standpoint those things have not been, have been supported.

It's a serious need and I know in talking it's the same, I don't care if it's Sargent or lighting, I'm intimate with Sargent. There sales force goes out and they go after light commercial or light industrial is their primary focus and the question is should they be going after big, the heavy industrial, but they go in and all these budgets are being cut and the last thing you want to cut is something that's going to cause catastrophic problems in production or within that manufacturing facility. And this infrared stuff and the ultrasonic testing and that is critical, and a lot of these guys are cutting those programs, and I'm not sure how to get them to listen and reinstate this stuff. And I don't know whether you could – you know a lot of what you do is first pass. And we can go in do the whole thing and go through our verification and certification, but then what happens when the programs over, everybody's got their money and says see you later. Who's going to maintain that? Is there any provisions? And I'm trying to think outside the box. Like you go in and do all these fancy RTU and building environmental system, state of the art, but if that thing is not maintained and filtered. For example, something as simple as filters. L.A. Fitness, we do all this great stuff and then we turn it over and the Kidz are Us to run it and 2 weeks later I got a paper filter and 6 months later I got paper filter in there and it's not changed for 3 years. And then I got bacteria growing everywhere, my balancing of the whole system went south and now I'm putting pool water, chlorine –

I think it begs the question. This is a workshop matter of record and I think it begs the question and it's a good question. You know we have programs mandated and there's rules obviously for CSPs under the order and the act, what is the role for the utility? And to what extent can utility provide these things without a CSP. So there is certainly a role for the utilities and to what extent can utilities take that role, so let's get it on the record and say, here's a question that came up in this workshop and the question is what role, please confirm for us the role that the utility can play in implementing these programs without support by subcontracting services.

Right, exactly, long term.

So – now that will answer the question and it says okay can we afford a field sales force?

Well it may be more simple especially on – maybe not a huge steel mill but on buildings and stuff like that. You know what the energy use is today before, you're going to know what it is after and then look at Delta KW over time which you guys send that out your monthly bill anyways. And flag it if it starts increasing.

I think benchmarking is one of the prominent aspects of all the programs I've been seeing in really primarily commercial segments but most folks are going through and screening using utility bills first and looking for a per-square-foot energy intensity, then when they see something then they go in. and so they're using these as target screening.

Yeah, that's one – my mechanical guys are doing all that and I'm aware of it, I try to stay out of things if I don't need to get involved.

And that benchmarking, I mean that energy intensity is really high. What about forecasting new energy potential in this territory for the commercial sector. We know those things and –

A real serious question is whether you're to take an application for the first one? I got some that I'm ready to present tomorrow.

Okay, so we have on the record the question of we have – we would like to participate in projects, we need your assistance and guidance in knowing which projects and we have – when could we, when could the utility assist us and when could get a commitment on the part of the utility to assist us in implementing this projects. Does it have to be after approval of the programs by the PUC or since we have such a compressed time frame, can we move forward. Did you get all that?

I got it all. We're actually going to be _____ this afternoon, so we have to move forward quickly and we have a lot of interested people that are ready to go now and –

I'm not, we've got multiple ones right now, within a, even as early as a week or so – I would not mind. The one thing that I may suggest is when we're doing these meetings is, if you would, we'll invite you to come along and listen in and see how we present to our client and their concerns. Because the program, the rules and regulations aren't set yet and if you sit there and hear it first hand and what we're doing, your input would be welcome and obviously you'd hear it right from the horse's mouth as to what their concerns are. Because I don't see –

Can I confirm quick, who is that speaking right now.

Jim Connor. CES.

And where are you from Jim I'm sorry.

CES.

CES, thank you.

All right, are we getting to a point where we need to wrap up?

If you're ready to. It's 11:30.

And we were scheduled?

Until noon.

Since we got some vendors here, let me ask a question, this is Larry Barrett, also with MCR solutions. We've been talking about paybacks, how lots of projects have very favorable paybacks often less than one year, they don't get funded. I've been associated with some performance contracting programs that will, their objective is to maximize the dollar value of the project. So they'll take the small payback stuff, they'll load that in with long payback stuff and then end up with a project that's much bigger but has an average payback that's maybe in the tolerance range of the customer, 3 or 4 years perhaps 2 or 3 years rather than just propose the small payback stuff alone. Would you guys care to comment on that, start here with this side maybe, I saw Richard was raising his head.

For a lighting provider, oftentimes the lighting upgrades are the shorter payback stuff that subsidizes longer payback investments. And for us being specialized in energy efficient lighting, in this came up in a form in our discussion yesterday with commercials. It really is not in our customers' interest to bundle as a general matter to bundle lighting as part of a broader energy performance contract scheme because the customer end ups paying a premium to cover the reserve that's necessary to account for the risk of the performance guarantee being triggered. Because there's a fairly high degree of certainty as to what the level of savings will be. Because you know what the before energy draw is, you know what the after energy draw is, the existing technology and the proposed technology. And so the customer is really paying an unnecessary premium to fund that kind of an investment in the context of a energy performance contract. So we really encourage our customers to think, to do different kind of financial analysis on how to make that investment. If the customer and sometimes customer for a variety of reasons still want to do it that way, that's fine, we'll work with them in the context of a performance contract. But as a general matter for lighting it's not a prudent way to find that kind of an investment.

If we're not talking about performance contracting, if we're talking about just an energy efficiency incentive program, we try to avoid cream skimming, because we strand assets where we can't get back out to that facility for the cost and affect those upgrades. So we end up stranding those assets because they become hard to reach from a programmatic standpoint. So to go out and just –

Can you explain that a little –

Okay. Let's say we have an HVAC measure which has a 4-1/2 year payback. And it's going to have you know marginal savings, it's cost effective from a TRC standpoint but just barely. You know it's going a low cost effectiveness. And so you go out or it might not even be cost effective unless it's bundled with other stuff. Okay, so you go and just do the lighting and there's this HVAC measure that's left standing there. It can't be done. Now, it's a non-cost effective measure. We cannot reach it, it become stranded. So by going and just hitting the tops and doing the cream skimming, we have discounted the impacts the program could have had, discounted the benefits to the customer, certainly discounted the benefits to the utility and discounted the benefits to the state -- the reason this whole initiative is taken place. So cream skimming is something that we try to avoid.

The challenge – my initial sense about the challenge of addressing that is the whole issue of free will for the customer. Unless you, you know we talked about some thoughts about this around creative ways that have, having skin in the game on the audit. Unless you provide some kind of mandate to a customer in the program structure that that not happen, that if in an audit, if there are certain paybacks that are indicated, you have to make those investments, I don't really know how you get around it because the customer is going to do what is in the economic rational self-interest of the customer, which may or may not necessarily align with the programmatic objectives of the statute.

Because the main issue here lighting for example is like the low hanging fruit. But going in and doing the insulation or some other aspect of the program, lighting is a lot easier to do then going through and start drilling in walls and spraying insulation. But, the real bang for the utility and energy savings is the insulation and/or whatever energy aspect may be there. And one of the things I've done throughout my career is we've sat down and analyzed, for example, that furnace I was talking to you about. That was phase I. That was a no-brainer. Once I had all that done, then I've got documentation to go to Phase II, which was 1/2 a million which had a 2-year payback. Okay. So that was the bait to get this program moving and to prove – but without having data and accountability which is where we were shooting from the hip when I said the payback was 30 days, we didn't even tell engineering, we told them it was 60 days. So we went from that point and I found that where we're headed with this is we want to really save as much energy as possible and the big bang energy. You want to do better than your minimum that we're mandated to do. And if you start encompassing too much into a project and you get too far out and it gets too expensive, then your client who is all in upfront, forget that – table that whole thing.

We try to address these things in lighting for example you see where – these base keys forecast which is just based on historical program incentives. We're offsetting about 33% of the incremental costs. Well in refrigeration we're offsetting over 60%, so we're trying to build this in to program designs so that we're paying more so that they'll go and do

these measures. If you're not even offering those measures and communicating that opportunity, then we're missing, we're missing that coverage.

Just to camp on to your thought, any of us who have ever fed a baby know that sometimes you have to hide the vegetables in the applesauce. And as contractors, if we can have a little bigger sale, the incentive is for us to do it. So we certainly wouldn't push back any idea to add something else in and at the end of the day if the return is better because of the lighting and diluted somewhat because of the other, we're going to do it because there's more to do. The, I believe, that the people in Harrisburg did not get into Act 29 because they felt like pulling up all the utilities fingernails just a little bit. There's a higher purpose here. And there's a bigger purpose here to do this and all the things we're trying to do. And to that extent one of the things that we think is very compelling about leading with the lighting is – it's instructive, there's a lesson in lighting. If you go in the kitchen to get a glass of water during the commercial on a TV you won't leave the water running but you might leave the kitchen light on. And there's something very instructive, incidentally if you tried to do that in France, they'll raise hell with you. Because it's just our habit. And what I am saying is – there's a lesson in it and to the extent that we're kind of zooming back with Google Earth and looking at the bigger, bigger, bigger picture. And to the extent that we create some analogies for people with – you wouldn't leave the lights on when you left the room, so to speak, which could become a future saying, so to speak, I think it's a good thing. And incidentally, there's huge opportunities in the industrial sector with lighting. Just silly things like having the lights off in the aisle that nobody has walked into for 4 hours but have them go on as soon as they do. It's just one of those silly little things that can make a difference. So I'm saying 2 things at once and I realize that but we really think there's just a powerful and compelling case to – to really focus on lighting for all the above reasons and in the course of doing that we can certainly bring along other things, and incidentally, being businessmen we're going to try to bring along as much as we can.

I think there's some new opportunities out there, especially in computer networking technologies.

The EMS systems that are available today and the cost –

Well we're seeing half a year paybacks in networking PCs and workstations. So it's not just lighting, but if they don't know about it...

You can start tying all the lighting control systems into the EMS systems. Even the monitoring, heat and energy monitoring virtual management is a big deal. But you got to watch, everybody is selling EMS but is it really management or is it strictly monitoring on-off and timers, you know.

I'm sorry, did you get your question answered, Larry, on this?

Yeah, let me ask a follow-up though. I was using the performance-contracting model as an example of a way to make the point about how small payback projects get combined with longer payback projects to come up with an average. But I didn't really mean to suggest that we were focusing on performance contracting, and as I'm listening to the responses I'm thinking well maybe we've got another challenge in this and that is that the electrical lighting contractors they're going to focus on lighting systems, the mechanical folks are going to focus on mechanical systems, and the plumbing and heating are going to focus on their systems and it really won't, and often HVAC kinds of things have longer payback, lighting has shorter paybacks. So are we going to see when we implement these programs, customers and their vendors coming in with just lighting projects by themselves, just HVAC projects by themselves, just process projects by themselves? I guess I'm wondering what your experience has been, do you partner? If you're a lighting person do you partner with HVAC people or that kind of stuff? Do you see what I'm trying to get at? I'm trying to see how comprehensive or how narrow these applications may turn out to be.

When we go to a client like whether it a building in the City of Pittsburgh, University we don't care. We encompass, we suggest that we look at everything about their whole business, architectural, structure, energy, the whole bit. What are you doing and why? And once you understand that you just want to go in retrofit this building and make it whatever. Then we go in, but we suggest in that scenario, when we go in to any given building, we suggest a thorough analysis of the whole building. Or do you want green or don't you want green. It's nice to do green but some people could care less. And it's the cost of green, to get regular green certification, today it doesn't cost anymore. To get platinum, costs. But when you go in and do a building like that when we go in to do the analysis we analyze everything. We recommend analyzing everything, like the roof, like the lighting, all the insulation, the energy, best practices, what do you do to save water and any aspect of the building. Like this first project that we were looking at, they were like, they wanted to make the whole campus look the same. That was the start. You've got to make this look like all the new buildings, and oh, by the way, let's replace the windows. And we did the audit for free just to prove we're try to differentiate ourselves and the architects that are competing on this job to say you really should look at what we are doing because we're going to do it right and you are going to save a lot of money. And oh, by the way, we want all your business for the future. And oh, by the way, there's free money out there, too. We don't care about the free money. Well, you should. I mean I want \$20,000 to tell you where all your problems are, and get you that for free. And then, guess what, then we incorporate that into the program, which some of it's the cheapest part of the whole project, which is the insulation. And you know it's just real common sense. And if we and my team can get in front of the right people, we're going to do it, and, guess what, they could care less about lighting, but they

probably should look at it, what do you think? Da? Anybody home? I mean anybody that doesn't use LEDs today is like we've tried to get LA Fitness to do it, they don't even want to hear it.

Larry, there's an aspect that was characteristic of – and always has been a characteristic of performance contracting I'd like to throw out because I think it's something that provides another incentive for people to do something. And that is in a way of speaking almost every performance contracting deal I've ever come across basically was a leasing deal underneath it all. In other words, instead of paying upfront at the completion of the installation, people paid out over a period of years against savings. And in that space like it was a proposition, and it's eminently doable, we do it all the time, and you can roll lots of things together into it. And so as unlikely as it may seem for some people to believe that you could go in a building and put in their lights, or their lights and other stuff and then actually lease it to them. We do it all the time. And so it's an incentive in itself, and incidentally it would be – it wouldn't cost Duquesne Light or anybody else who was an EDC to do it. It's just that incentive of the stream of payments.

I've done those cost by dollar lease term leases, yeah.

This probably isn't the answer you want, I can share with you what the experience has been for my company. We started out doing a lot of what you are describing, looking at the entire building envelope and taking a comprehensive view of energy usage in all of the major systems of a facility and the envelope. And what we found is the customer didn't care. We gave them a lot of analysis, a lot of information, your story, showed them the thermal infrared images and at the end of the day they didn't care. All the customer cared about is, can you save me some money? What's the ROI? Where can I get a return on my investment? And so you know for us, I'm glad you've been able to stay in business doing it, because it is the – from a customer service perspective it's much more valuable service, but we wouldn't have stayed in business if we continued to try and provide that kind of service. What we understood from the feedback we were getting from our customers was in most instances lighting is what gave the most bang for the buck. That was where there was a clear understandable return on investment for the customer. They can see it. They can touch it. You know, it's straightforward analysis. What's the wattage consumption before? What's the wattage consumption after? What does it cost to do it? How long does it take me to get it back? You know, where are you projecting energy prices going over you know that investment period? It's pretty straightforward analysis and the customer says okay that makes sense.

So in the context of Act 129, for customers you know it depends on what kind of provider you want. If you are looking for a provider to give you everything and to drive rational decisions, you've got to structure the program and the payments of

the incentives in a way that you only get customers making rational decisions. Experience teaches us though that customers don't make rational decisions. They just don't. You know, you've got a 30 day payback on something where you are – you know your internal rate of return on directing your capital there is much higher than opening another facility, or opening another office, and you say well, you know, this is you know our plan and we're going to spend the money there, although we'd make more money by investing in plant and equipment or energy efficiency investments. So I can tell you, it wouldn't make sense for a company like us to try to and offer soup to nuts because the customer is not going to want it.

There's all the potential customers out there, they are from you know A to Z. And one of the things that is driving a lot of this is a lot of this stimulus money and green and all this other stuff, it's not optional. If you want some of these federal funds that are going to governments and universities, school, hospitals, you have to do the audit. So it's not if you want your funding, you have to do this. So it's no longer optional, where in the past, yeah, if you try to get it too big, but there's a million people out there that would like any one of these programs for any portion. It depends on what your product is.

There are a lot of customers that have mandates, multinational customers have mandates to have an internal greenhouse gas reduction plan. It doesn't matter what our government does. As I said yesterday, as these folks attempt to sell into these foreign markets without these things in place, they are going to start cutting off markets. So they are, you know, there's a broad range of customers needs and it's going to take some specialization, I think including all of the specialization that's sitting here and a lot more, and to be able to provide all the customers the things they need and really exercise a potential here. It's been a small intimate working group, and I really appreciate your time and being here today. And it's been very valuable to me. I've taken a lot of notes. I think we've got some good things on the record. Larry, do you have anything to add as we wrap up?

No, it's been very productive I think.

So we are going to start taking applications?

Thanks a lot.

Thank you guys very much.