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February 5, 2009

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VIA FEDERAL EXPRESS

Public Utilities Commission of Ohio
Attention: Renee Jenkins
Docketing Division
180 E. Broad Street, 10th Floor
Columbus, OH 43215

RE: DP&L ESP Filing, Case No. 08-1094-EL-SSO et al.

Dear Ms. Jenkins:

Enclosed are: (1) fourteen (14) copies of The Dayton Power and Light's Notice of Filing Depositions; and (2) deposition transcripts of:

a. Gonzalez, Wilson
b. Ibrahim, Amr A.
c. Duann, Daniel J.
d. Yankel, Anthony J.
e. McClelland, Barry E.
f. Pullins, Steven W. ✓
g. Fein, David I.
h. Woolridge, J. Randall
i. Bowser, Joseph G.
j. Sawmiller, Daniel J.
k. Murray, Kevin M.
l. Dickstein, Shelley J. (awaiting transcript)
m. Frye, Mark R. (awaiting transcript)
n. Higgins, Kevin C. (awaiting transcript)

Very truly yours,

R. Holtzman Hedrick

R. Holtzman Hedrick

RHH/tes
Enclosures

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BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of The Dayton Power and Light Company for Approval of Its Electric Security Plan	))))	Case No. 08-1094-EL-SSO
In the Matter of the Application of The Dayton Power and Light Company for Approval of Revised Tariffs	))))	Case No. 08-1095-EL-ATA
In the Matter of the Application of The Dayton Power and Light Company for Approval of Certain Accounting Authority Pursuant to Ohio Rev. Code Section 4905.13	))))))	Case No. 08-1096-EL-AAM
In the Matter of the Application of The Dayton Power and Light Company for Approval of Its Amended Corporate Separation Plan	))))))	Case No. 08-1097-EL-UNC

DEPOSITION of STEVEN W. PULLINS, called as a witness at the instance of Dayton Power and Light, taken pursuant to Notice, on the 3rd of February, 2009, at Horizon Energy Group, 2126 Southwood Drive, Maryville, Tennessee, before Thomas J. Dorsey, Registered Professional Reporter and Notary Public for the State of Tennessee.

APPEARANCES:

FOR DAYTON POWER AND LIGHT:
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(VIA TELEPHONE)
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FOR THE OHIO CONSUMER COUNCIL:

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ALSO PRESENT:
Daniel Duann, (Via Telephone)
Stacia Harper, (Via Telephone)

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STEVEN W. PULLINS,
having first been duly sworn, was examined and testified as follows:
EXAMINATION BY MR. FARUKI:

Q. Good morning, Mr. Pullins, how are you?
A. I'm fine, thank you.
Q. My name is Charlie Faruki, we met by telephone a few minutes ago, and we're doing this deposition by telephone, so if you have any difficulty understanding any of my questions either because of the phone connection or because of the way I word them, I want you to let me know; is that agreeable?
A. That's agreeable.
Q. Have you been deposed before?
A. No, I have not.
Q. Very briefly, I want you to make sure to articulate your answers verbally so the court reporter can get them and the people on the telephone can hear them. If you don't understand any of my questions, please tell me, and I'll try to rephrase it. And if you need a break at any time, let me know. Is that agreeable?
A. Yes, that's agreeable.
Q. Tell me your full name and where you work.

A. My name is Steven W. Pullins. And I am the president of Horizon Energy Group.
Q. Would you tell us what that is?
A. Horizon Energy Group is a small consulting -- energy consulting firm focused on Smart Grid technologies and strategies and integration, as well as the integration of renewables into the grid.
Q. Are you an owner of the firm or the owner of the firm?
A. I am one of the owners of the firm.
Q. When was the firm founded?
A. The firm was founded in 2005 and registered in November of 2005.
Q. Can you describe your customer base for us?
A. Our customer base is primarily electric and gas utilities in the United States and Europe, plus the Department of Energy at the National Energy Technology Laboratory where I lead the nation's effort to modernize the grid under the modern grid strategy team.
Q. I see a reference on your testimony to that. I think it's as a consultant with the Department of Energy; is that correct?
A. That's correct.

Q. So do you consider your full-time job to be with Horizon Energy Group?
A. Yes. My full-time work is with the Horizon Energy Group.
Q. Okay. Before we go further, tell me what materials you have in front of you.
A. I have my direct testimony in front of me, and I have some draft answers to questions that were asked over the weekend by Dayton Power and Light. And I have book 2, the customer conservation and energy management program, book 2 under the filing. I have that in hard copy.
Q. Right. Okay. Tell me the second item you mentioned, draft answers to questions, I'm not sure what those are.
A. You're asking me about the questions that I mentioned. On Friday night, we received or I received some questions from Dayton Power and Light about some of the answers in my direct testimony, and I spent some time over the weekend working on answers to those questions. And I have those written down, so I've got those in front of me.
Q. I see; okay.
MR. FARUKI: I'm getting a little feedback. Are you, Mike, getting that?

MR. IDZKOWSKI: Yeah, I'm getting something. It's almost like an echo.
MR. FARUKI: If that becomes a problem, maybe we'll have to redial.
MR. IDZKOWSKI: Sure, let me know. I mean, it's not bothering us to the point where we can't hear everybody, but it sounds almost like it's a repeat echo.
BY MR. FARUKI:
Q. I'm going to ask a few more questions, Mr. Pullins, about page 1 of your testimony if I can.
Your engagement here is with the Office of Consumers' Counsel; is that right?
A. Yes, my contract is with the OCC.
Q. And do you have an hourly rate you're charging them, or a flat fee?
A. I have an hourly rate that I'm charging.
Q. And what is that?
A. That's $180 per hour.
Q. When did your engagement begin?
A. My engage -- our engagement or our company's engagement, Horizon Energy Group, began with the Office of Consumer Counsel on December 12 of 2008.
Q. On page 1 at lines 15 and 16, you say you've worked with more than 20 utilities. Do you see

that reference?
A. Yes, I see that.
Q. Over what period of time are you talking about there?
A. In line 15 and 16 and then on to 17, I have worked with more than 20 utilities in the Smart Grid strategies, renewable strategies, power system optimization, operations transformation, RTO/ISO, operational processes, AMI, Smart Grid technologies, strategic and resource planning. Those 20 utilities, that would be from 2002 until now.
Q. How many of those utilities were ones in which you've worked on AMI and Smart Grid technologies as opposed to other subjects?
A. So you're asking me how many of those utilities I've worked with over the last several years are directly related to AMI and Smart Grid?
Q. Yes. That is, how much of your work with those 20 -- or let me phrase that a little better.
Of the 20 utilities to which you have referenced, how many of those were engagements that were directly related to AMI or Smart Grid technology?
A. Okay. I'm going to -- the list is a little long, so I'm going to write it down as I go.
Q. That's fine. If it's easier for you, you

can take a minute and write those down and then tell me. Whatever's easier.
A. That would be easier. I'll take a minute to write those down.
Q. Okay. I don't have a problem being quiet, so I'll do that.
A. All right. I think I have the complete list here. All right.
Q. Okay. Go ahead.
A. Of those utilities that I've worked with over the last several years, the ones where I've worked with them directly related to AMI/Smart Grid technologies and strategies are San Diego Gas & Electric, Southern California Edison, Puget Sound Energy, Consumers Energy, Entergy, American Electric Power and Allegheny Power as part of the West Virginia Smart Grid implementation plan. Tennessee Valley Authority, Salt River Project, Taiwan Power.
Q. Sorry, what was that one?
A. Taiwan Power.
Q. Oh, T-A-I-W-A-N?
A. Yes.
Q. Okay. Thank you. Go ahead.
A. And Great River Energy. And Scottish Power.

Q. Were the last three that you mentioned foreign companies?
A. Taiwan Power -- two of the last three are foreign companies. Taiwan Power is in Taiwan, the Republic of China, and some people have referred to it as Formosa in the past. Great River Energy is in Minnesota. And Scottish Power is in Scotland.
Q. And the Salt River Project is where?
A. Salt River Project is in the central Arizona area near Phoenix.
Q. Consumers Energy is where?
A. Consumers Energy is in Michigan, south central, west central Michigan.
Q. Entergy is where?
A. Entergy is in Louisiana, Arkansas, Texas, and a little sliver of Mississippi.
Q. Then you have told us that you worked with AEP and Allegheny Power as part of the West Virginia Smart Grid project; is that right?
A. That's close. The West Virginia Smart Grid implementation plan is a project that I am leading with the State of West Virginia energy office, the West Virginia University, Allegheny Power, and American Electric Power, RDS which is Research and Development Solutions which is the contractor, the prime technical

contractor, to the National Energy Technology Laboratory. And the National Energy Technology Laboratory is part of that team as well as the Department of Energy's Office of Electricity Delivery and Energy Reliability.
Q. Do you have an engagement with AEP apart from the West Virginia project?
A. I do not have an engagement with AEP apart from that West Virginia project.
Q. The same question, sir, about Allegheny Power, do you have an engagement with them apart from or separate from the West Virginia project?
A. I do not.
Q. Have you done any Smart Grid work for a utility in Ohio? I don't mean to ask if you've been engaged by a utility in Ohio, but, rather, separate from this engagement, have you done Smart Grid work in Ohio?
A. Our modern grid strategy team, which is, as you can see on page 2 of my testimony, that the Ohio -- or the Public Utility Commission of Ohio in 2007 asked our team to participate in a series of workshops on AMI, and my business partner, Joe Miller, who is also on the modern grid strategy team, he was our -- the modern grid strategy team's lead person on

that effort with the Public Utility Commission of Ohio. And through those series of workshops on AMI and partly on Smart Grid, Joe had the opportunity to interface on AMI/Smart Grid issues with all four of the investor-owned utilities in the State of Ohio, as well as other interested stakeholders in that process.
Q. Did you come to Ohio to work on that project?
A. I did not participate in that effort in Ohio; however, I did indirectly participate, since being the team leader, it's my responsibility to assure that Joe Miller and Bruce Renz, who was also on that effort who's a former American Electric Power executive, were meeting the needs of the Public Utility Commission of Ohio, as well as making sure that the advice that we gave or that the team gave to the Public Utility Commission of Ohio was consistent with our modern grid strategy goals and the Office of Electricity Delivery and Energy Reliability, which is part of the Department of Energy.
Q. Can you tell me how much time you spent approximately on this engagement for the Office of Consumers' Counsel?
A. You're asking me basically how many hours that we have spent on this, that I have spent on this?

Q. Yes, sir.
A. Approximately 120 hours.
Q. Were other people from your firm involved, or was it you alone?
A. There were two other people involved in the research and dissecting various work papers from our firm, one was Joe Miller, and the other is one of our engineers, Alex Zheng. And they worked under my -- they provided draft input to me as I developed the testimony personally.
Q. Can you tell me Alex's full name again?
A. Alex Zheng, Z-H-E-N-G.
Q. Okay. Thank you.
Would you turn to page 24 of your testimony?
A. Okay. I'm there.
Q. I'd like to direct your attention, sir, to lines 19 and 20. I see it runs over on to 25. You have a statement that says, "The DP&L AMI/Smart Grid program as filed has most of the merits of a good, cost effective AMI/Smart Grid program that addresses the program characteristics of a Smart Grid commonly envisioned by industry, policy and technology leaders."
I'd like to ask you a few questions about that statement. When you say it "has most of the

merits of a good, cost effective AMI/Smart Grid program," can you elaborate?

A. I'm sorry, I think your flipping of the pages -- I didn't catch all of your last part of your statement there.

Q. Oh, sure. That wasn't me flipping, but I'll be glad to read it. I focused on 19 and 20 in this statement. And my question is, when you refer to "most of the merits of a good, cost effective AMI/Smart Grid program," I'm asking what you mean by that.

A. Okay. What I mean by most of the merits or the merits of a good, cost effective AMI/Smart Grid program, would be consistent with the principal characteristics of a Smart Grid that the modern grid strategy team has developed over the last three and a half years. And those seven principal characteristics you can read in more detail about on the modern grid website which is part of the NETL website.

But basically those seven characteristics are that a modernized grid or a Smart Grid, which includes AMI as a part of it, will engage and motivate the consumer to participate. It will accommodate a wide variety of generation and storage options. It will provide the power quality necessary for a digital society in the 21st century. It will --

Q. Let me interrupt you. Tell me that one again.

A. Provide the power quality for a 21st century digital economy.

Q. Okay. Thank you. I interrupted you. Go ahead. That was number 3, I take it?

A. That was number 3.

Number 4 is enable markets. This is being able to enable markets whether they're regulated or unregulated or competitive. Whether they're wholesale or retail. In other words, it provides infrastructure and fundamentals for the proper operation and/or enablement of a market or several markets.

It will resist attack, both natural events and man-made attack.

It will operate assets with higher asset utilization and operate more efficiently.

It will self-heal; in other words, anticipate and take action to respond to events or impending events. So we normally refer to that as self-heals.

So those are the seven principal characteristics of a Smart Grid that have been forwarded to the nation and through the industry by our

modern grid strategy team over the last three and a half years. And we have worked for and gained consensus across the industry on those seven principal characteristics.

And those characteristics of a Smart Grid are really a vision and a set of functional qualities that are necessary to put a Smart Grid in place in the nation so that we can reap the benefits both from operational efficiencies and new services, as well as reducing the cost or mitigating the cost to the consumer, and providing some of the benefits to the society at large that we need to provide or be part of in the energy space.

So my point is, is that the DP&L AMI/Smart Grid program as it's filed today has most of those merits.

Q. Okay. Thank you for elaborating on that. I understand.

A couple of questions about these functional qualities that you mentioned.

You said accommodate a wide variety of storage options; is that right?

A. Not quite. What I said was it accommodates a wide variety of generation and storage options.

Q. Thank you. And will you elaborate on that, tell me what you mean?

A. Okay. I'm happy to elaborate on that.

What we mean by that is that in the future and actually even today, there are more and more generators being attached to the grid in the form of wind and natural gas-based generation, coal, and in even some -- well, and some renewables like wind, also geothermal, and now some solar plants.

In addition, there are also many, many backup generators available at commercial and industrial sites in the United States, roughly 78 percent of all businesses in the United States have a backup generator. And that's an additional, pent-up capacity that is waiting to be exercised. And the Smart Grid needs to be able to recognize that there are options and programs that are going to -- that are happening today and will grow over time across the nation to utilize those idle assets in the generation of electricity. And those are primarily at the distribution system level, electrical distribution system level. And the only way to move those resources into the grid and provide benefit, not only to the utility, but also to the consumers, is to make the grid more intelligent and more nimble to be able to

accommodate that. And we're talking about from a national perspective, moving from about 30,000 generating nodes on the electric grid, to probably a half a million or maybe a million over the next decade. So it's a substantial change. And today's grid is not capable of handling that level of complexity and sophistication. And the Smart Grid will be able to do that.

In addition to that, we have new tools that can help us reshape the load, especially the peak load, and one of those tools is storage. And by -- for the same reason as we need to put more intelligence into the grid to accommodate backup generation that's out there at the commercial and industrial consumer sites, that same reason exists for storage. As we put more and more storage on to the grid such as industrial scale storage; for example, American Electric Power's chemical substation battery in Charleston, West Virginia. And taking a look at plug-in hybrid electric vehicles which are also, when connected to the grid in a vehicle-to-grid mode, have storage capacity that can be beneficial to, not only the person who owns that particular vehicle with its storage capabilities, but also beneficial to the utility and taking advantage of that storage capability.

Q. With regard to the first of the principal characteristics or functional qualities you listed including AMI and part of the grid so as to engage and motivate consumers to participate, is it your view that the utility needs to have a Smart Grid in order to enable consumers to participate in controlling their own energy usage?

A. All right. There's a -- there seems to be a couple questions in that. Can you maybe break those thoughts out for me a little bit so I can grasp them a little bit more cleanly?

Q. I'll try.

A. Okay.

Q. Let me ask it this way: How does a Smart Grid engage and motivate consumers to participate in controlling their own energy usage?

A. Okay. A Smart Grid and AMI, advanced metering infrastructure, as part of the Smart Grid, because it's a subset of the Smart Grid, that's a necessary element for -- let me say it again. AMI is part of the Smart Grid. The Smart Grid engages and motivates the consumer in a few different ways. And it requires technology introduction, and integration in a smart way to make that happen.

So here's how a Smart Grid, you know,

with AMI as part of it, enables or engages and motivates the consumer: If you want to engage the consumer to be aware of their energy usage so that they can take action themselves, then you need to be able to provide that consumer, not only information about their usage at particular times of the day, but also what that energy costs at particular times of the day. That information is also valuable to the utility for load planning, load research, helping to or providing that information into demand response programs such that those programs can be enacted when we approach a peak on a particular hour of the day, and then action can be taken as far as curtailing or moderating some energy usage in a broad spectrum of homes or commercial businesses or industrial businesses who have decided to participate in such demand response programs. So that's the second way.

So the first way is through better information, and making that available to people so people and businesses can make decisions.

The second way is through enabling programs that allow the utility to take some action that has minimal impact on the consumer, whether it's residential, commercial or industrial, but enables a large, positive impact on reducing the peak.

The third way of engaging this consumer and motivating this consumer by using a Smart Grid strategy with AMI included, is the ability to address outages and power quality events. If you have a more intelligent system and you have the information flowing from that more intelligent system back to the utility's network operations center or system control center, how ever you want to define that point of decision-making within the utility, we can take that information and anticipate. We can trend certain information and anticipate certain outages that are impending. And therefore take action, because now we have information that tells us something, we can take action before that outage actually occurs. But let's say an outage -- so that would be the third way.

Let's say an outage occurs anyway for some reason, even in like the wind storms that came through Ohio as a result of the hurricane last fall, Ike I think it was, having more intelligence in the grid allows the utility to understand exactly where the outages exist as opposed to having a general sense of where the outages exist. And that's important, because the utility can say I know that that line is out between, you know, point A and point B; therefore, all of the rest of the segments of that particular

distribution circuit and other distribution circuits that are on that particular distribution substation can be reenergized, because there's no fault there. And a Smart Grid knows that there's no fault on these other sections.

So it's a matter of, you know, clearing some relays, and putting those nonfaulted sections of those distribution circuits and substations back on line immediately, where in the past, that's taken hours and probably days to fully investigate and understand that before that decision can be made.

So that's the fourth way, which is the ability with a Smart Grid, we have the ability to, when an event happens, an outage happens, we can better isolate the outage and restore everything else that's nonaffected. And that is a great improvement on the system average interruption duration index, a lot of people call that SAIDI, and that's what -- that's a major area of benefit, not only for the utility, but also for consumers.

The fifth area, and I can go on, but I'm going to stop at number 5, the fifth area is when you have a more intelligent grid, you're able to understand power quality events. I have more details coming from the smart meters, I have more details and data of

interest coming from the distribution, the relays and smart switches out on the distribution system, and the smart relays that I have in the substations. And that information properly flowing up into the utility's data management and decision-making processes can enable a utility to understand where the power quality issues are more completely and more directly. As opposed to waiting for customers to come to them and tell them there's a power quality issue, the utility knows it in advance, and can take action that minimizes that effect on the consumers on a daily basis or an hourly basis or whatever, whatever the particular power quality issue happens to be.

So those are --

Q. Would you agree --

A. Those are examples of how engaging and motivating the consumer to participate in the Smart Grid program generates benefit for the consumer, and, additionally, for the utility.

Q. Would DP&L's proposed Smart Grid have these benefits for consumers?

A. Well, what I've said is that as filed, they would have most of those benefits that's been described. And that's potentially a very good step in the right direction. There are some specific areas,

and I'm pointing -- I'd like to point you to page 25, there are some specific areas such as the cost data and analysis and benefits adjustments that still need to be addressed before the Public Utility Commission of Ohio approval can be recommended and the program proceed. And there's a list of what I think are -- and my analysis shows, are some areas that need to be improved to enable, enable this program to be acceptable, in my opinion.

Q. Do you agree that the last three of these benefits that you mentioned, the ability to address outages before it occurs, being able to isolate the effected event and restore service to nonaffected customers, and understanding power quality events, do you agree that those are benefits that go to improved reliability for customers?

A. If a utility puts the right Smart Grid strategy and implementation together that includes those technologies, those key technologies that support the principal characteristics that I mentioned earlier, the seven principal characteristics, and if, you know, those things are done in a correct way consistent with the vision that we see for a Smart Grid, then it's -- and those things are, you know, reviewed and approved by the commission, then I think we're -- I think it's

possible that Dayton Power and Light could generate lots and lots of benefits for themselves in the operational area, as well as the consumers.

And we'd have to explore that whole rollup of and list or portfolio of consumer benefits and the operational benefits, or, I should say consumer/societal benefits, you know, that would come out of that particular program to see if it is indeed generating the benefits that were planned or estimated in the front end.

Q. You referred to identifying or providing information to consumers about their usage at various times in the day and their costs at various times of the day.

Is the provision of that sort of information to customers essential for the customer to be able to exercise some control over their own energy usage?

A. You're asking me -- I think you're asking me if the AMI and Smart Grid are necessary to provide -- are necessary technology elements to be installed to enable consumers to take advantage of usage information and varying rates at different times of the day. Is that what you're asking?

Q. That was going to be my next question,

but go ahead with that one. That's fine.
A. There are several -- well, first of all, we're talking about -- I don't want to get into the discussion of energy efficiency programs and demand response programs, because that's not what I've researched in this particular filing. But from a general sense of enablement by AMI and a Smart Grid, the AMI and the Smart Grid, if done in a way that meets the seven characteristics of a Smart Grid, will provide that information to the consumers about their usage and about the time, the pricing at a particular time of day.
Q. And --
A. And many people --
Q. I'm sorry, go ahead. I thought you were done.
A. And many people refer to that as time-of-use rates.
Q. And what is the purpose of providing that type of information to the customer? By "that type," I'm talking about the items you mentioned, their usage at various times of the day and costs.
A. Well, both the theory and the experience in other parts of the country is that when people -- when consumers -- and this is residential, commercial

and industrial consumers have access to their energy usage information in near realtime and they have access to the time-based rates in realtime or near realtime, they modify behavior. And that results in an overall reduction of usage.
Now, again, that's from a general perspective. This is learned information and observed information through our work with other utilities or through my work with other utilities, and my work on the modern grid strategy team. I haven't looked at that particular aspect in the DP&L filing, basically chapter 2. I've only focused on chapter 3 and 4 and the executive summary, chapter 1.
Q. Well, you saw in portions that you read that there are certain statutory targets or goals that the legislature in Ohio has set forth? Did you see reference to that?
A. I'm sorry --
MR. IDZKOWSKI: Where are you citing, Charlie?
MR. FARUKI: I'm not citing a page, it's all over the company filing.
BY MR. FARUKI:
Q. I'm asking you, Mr. Pullins, if you have seen the references to the goals or targets set by the

law in Ohio that the utility needs to meet?
MR. IDZKOWSKI: Well, I'm going to object to the general nature of the question. He's being asked to find or remember specific cites or references in very extensive filing. If he can answer questions about specific references, I think that's appropriate, but you're asking him to comment on whatever he remembers about the filing and certain references in that filing. Can you be a little more specific?
MR. FARUKI: You're either misunderstanding or mischaracterizing my question.
MR. IDZKOWSKI: Well, I'm not trying to mischaracterize it, I'm just trying to get to what you want.
MR. FARUKI: Let me finish.
BY MR. FARUKI:
Q. My question is, do you remember seeing references to the fact that the law in Ohio has set targets that the utility has to meet? I'm not interested in whether you know the percentages, I'm just asking, do you understand that the law has set targets that the utility has to meet?
A. I understand that the law has established targets for certain aspects of performance and

enablement of new services.
Q. Okay. And you -- I'm sorry, I'm getting a lot of feedback. Can you understand me okay?
A. I can understand you perfectly.
Q. Okay. Thanks.
MR. IDZKOWSKI: We're getting some of that feedback, too, Charlie. It's almost like an echo a second or a couple seconds after you state something. So if that happens, it may go away.
MR. FARUKI: Maybe I'll speak more slowly.
BY MR. FARUKI:
Q. Mr. Pullins, you're aware that the legislature in Ohio set various targets or goals for the electric utilities to reduce energy consumption over a period of time and that fact regardless of whether you know particular percentages; is that right?
A. Yes, I am aware of that, but I am not -- I haven't studied that in detail. So I'm just not familiar with the details and the requirements, and, you know, the levels and the prerequisites to that.
Q. Yes. I wasn't going to ask about that level of detail.
My question is, do you have an opinion on whether Smart Grid technology would be of assistance to

an electric utility in trying to meet such goals?
A. I have an opinion based on my experience with other utilities who are -- who have developed, and I have led efforts to develop those Smart Grid strategies, including AMI, to address state-established goals around renewables and energy efficiency and conservation and demand response and things like that, all of those tools that we try to instill to improve the grid situation. I am aware of those and have an opinion about that based on those other places.
And that opinion is that a Smart Grid is essential to realizing those goals. But I haven't looked at the DP&L case specifically around the question of whether or not DP&L, if it puts in place a good AMI/Smart Grid program, can actually achieve those -- any of those state mandates. I have not looked at that.
MR. FARUKI: Charlie, I wondered if somebody joined. Did anybody join our conversation? I guess not. Are you still there? We've lost them.
THE WITNESS: This is Steve and Tom. We're still here.
MR. IDZKOWSKI: Okay. Good.
MR. POULOS: Charlie?

MR. IDZKOWSKI: Charlie, are you there?
MR. FARUKI: This is Charlie. My line suddenly went blank, so I had to dial in.
MR. IDZKOWSKI: Okay.
MR. FARUKI: Are we all still here?
MR. IDZKOWSKI: We are here at the OCC. Steve, are you still there?
THE WITNESS: Yes, we are still here.
MR. FARUKI: Okay. Off the record.
(Discussion off the record.)
(Recess taken.)
MR. FARUKI: Okay. Let's go back on the record.
I had asked the court reporter to read back to Mr. Pullins your answer before our line disconnected, and then my question is going to be whether you were finished or not.
(Requested portion of record read.)
MR. FARUKI: Thank you, Tom.
BY MR. FARUKI:
Q. Mr. Pullins, were you finished?
A. Yes, I was finished with that answer.
Q. Okay. Thank you. Would you look at page 2 of your testimony?
A. Okay.

Q. On line 14, you say that you have conducted four Smart Grid studies in the U.S.
Can you tell me when and where those were?
A. Okay. I've conducted four Smart Grid studies in the U.S., three of which I led, and I'm currently leading the fifth.
The four is the Tennessee Valley Authority System Optimization Program, that was early, that was 2002-2003 before we attached the label called Smart Grid.
Did one for the San Diego region which is called the San Diego Smart Grid Study. And I mentioned that earlier, that's -- that was -- or maybe I mentioned it earlier, I'm not sure. But that study was commissioned by the University of San Diego's Energy Policy Initiative Center and co-funded by San Diego Gas & Electric and the Utility Consumer Action Network, the local intervenor, who co-funded that project, and I led that effort.
The third was the Puget Sound Energy Green Enabling Grid, it was a Smart Grid program focused on how to enable renewables and more green type strategies within the Puget Sound territory. That was in 2006.

The San Diego Smart Grid Study which I failed to give you the time there, the timing on that, that was also 2006.
And then the fourth one was working with San Diego Gas & Electric specifically on their Smart Grid plan underneath their utility of the future initiative, and that was focused on specific Smart Grid application, a suite of applications, and planning those implementations and developing the business cases and the requirements around that. And that started in 2006 and carried over through much of 2007.
So those are the four.
And then last summer we began the West Virginia Smart Grid implementation plan. And we should be finished with that probably April of this year.
Q. The four Smart Grid studies, to make sure I have them right, that you reference on line 14 are briefly TVA, the San Diego region, Puget Sound Energy, and San Diego Gas & Electric which was related to their or accompanied by their utility of the future? Are those the four?
A. Yes.
Q. Okay. Thank you. Have you led to completion any Smart Grid project?
A. Led to -- are you saying led to

completion as far as fully implemented Smart Grid?
Q. Yes, sir. Yes, sir.
A. No, I have not led to completion any Smart Grid effort.
Q. Have you made a study in any of the work that you reference in your testimony of variances between initial estimates and final expenditures on a Smart Grid project?
A. Can you ask that again, please, rephrase?
Q. I can have the reporter read it back for you, that might be easier.
MR. FARUKI: Tom, would you do that.
(Requested portion of record read.)
A. I understand the question now. No, I have not.
Q. Let me ask a question about the utilities that you have worked with, and I'm still on page 2, Mr. Pullins.
Are any of these utilities ones that you consider similar to DP&L in size and service area?
A. All of these, the utilities that I've worked with that's in this list or, I'm sorry, related to these Smart Grid studies shown in line 14 and 15, are larger than Dayton Power and Light. And similar is a very hard -- hard to quantify. I would say in many

ways they're similar, but, I mean, they're different parts of the country, so, that has an effect. I can't really offer an opinion on how similar they are.
Q. Let me ask you whether economies of scale affect the costs of implementation of a Smart Grid. I can give you an example if you'd like, but let me ask the general question first.
A. Well, in general, economies of scale when you're doing a hardware-software integration project do matter. It's typically though not -- if you're looking at it as a cost input, it's not necessarily tied to how many meters and how many customers there are in the particular service territory or a particular utility. Sometimes it matters more how many things you're rolling out. Am I doing --
Q. Let me ask -- I'm sorry, I thought you were finished.
A. Go ahead.
Q. When you did your work in this case, did you make any attempt to adjust the utilities' costs, the instances that you were referencing, to account for much higher meter density than DP&L has?
A. We or I looked at that not in detail, but I looked at that compared to data that I had about AMI, the typical costs of an AMI program from several other

utilities that I have information on, and what -- you know, if there's an economy of scale, you would suspect that the larger number or the utilities that have a larger meter count would have a lower cost than those who are lower. And that's -- the data does not support that.
Q. Not just a larger meter count though, isn't an important economic fact the density of population in a service territory?
A. Most of the utilities that I've worked with in AMI and Smart Grid, they all have a mixture of density, they all have vertical urban, urban, suburban, and rural areas. So I haven't -- I wouldn't consider that a differentiator for Dayton Power and Light.
Q. To give you an example, if you have a hundred meters in a square mile versus 3,000 meters in a square mile, do you agree that economies of scale would dictate that the cost per meter in the 3,000 per square mile group would be less?
A. The cost of the meter will be the same. The cost of the installation may be different, higher or lower. I don't think the data supports that.
Q. Why do you say that?
A. Because when you're looking at -- again, so you're looking at meters, communications and

installation as maybe some potential variables there. The meters are the same, it's a device, it doesn't care where it goes. The communications matters, but it more depends topology and topography than it does a density factor. And looking at installation costs, you might think that it takes more time to install a meter in a rural setting as opposed to a downtown metropolitan setting, but the data doesn't bear that out. Even though it takes a while to get to a rural location to install a meter and test it, it also takes a while to get, you know, through the neighborhood or through a couple different neighbors to get to the point in a dense urban or vertical urban environment to install and test that meter. So I don't think there's sufficient data in the industry that would bear out, at least I have not seen sufficient data that would bear out that there's a difference in cost between a less dense AMI and a more dense AMI.
Q. When you compare DP&L's cost in its filing to the cost in other utilities, do you know whether the meters installed by these other utilities were gas and electric capable or just electric capable?
MR. IDZKOWSKI: Are you saying does he know the types of meters that he studied, the other ones that he's studied separate from DP&L?

MR. FARUKI: Yes.
THE WITNESS: I can say in San Diego and in Consumers Energy and in Puget Sound, we looked at -- Puget Sound Energy, there were electric meters, and there were gas meters in the program. In all of those cases though, the meter on the -- the gas meter itself was not being changed out, there was a device being added to that gas meter that communicated usage information to the nearest electric meter, and then that electric meter transported or communicated the information back up through the head end, which is the data -- the predata collection system of the AMI into the meter data management system.
BY MR. FARUKI:
Q. Did you take --
A. But --
Q. Sorry, were you done?
A. I'm done.
Q. You paused, and I wasn't sure if you were finished.
Would you take a look at page 4?
A. Okay.
Q. With regard to your answer to question 7, when you are talking about AMI being one of the four

milestones in delivering the Smart Grid, in particular, the sentence that is on lines 11, 12 and 13 -- let me ask you this: You talk about the four functions that AMI delivers, and this is, again, on lines 11 to 13. And my question is simply, are each of those four functions necessary for an operable AMI system?
A. This -- this is my -- this is my definition based of an AMI, and those four functions are necessary. And this definition's based on our work, our modern grid strategy team's work. So I --
Q. My --
A. -- subscribe to that, to that definition.
Q. My question is, just so I get a clear answer on my record, sir, is it your opinion that these four functions are necessary to an operable AMI system?
MR. IDZKOWSKI: Was that operable or optimal, Charlie?
MR. FARUKI: Operable, O-P-E-R-A-B-L-E.
MR. IDZKOWSKI: Thank you.
THE WITNESS: Yes, that's my opinion.
BY MR. FARUKI:
Q. When you say in line 13 "transactional function," what do you mean there? Is that a billing function, or something else?
A. I actually give a little bit, a refined

answer to that. If I can point you to the bottom of the page 4. Starting with 22, line 22.
Q. Oh, I see. Thank you.
A. Okay. Data management connection to integration transactional systems on the next page. For customer information, billing, outage data, asset management, and other knowledge-based purposes.
Q. On page 5, line 19, you begin a sentence by saying, "When DP&L's costs are adjusted to reflect the standard AMI scope." Do you see that?
A. On line 19?
Q. Yes, sir.
My question is just, what do you mean by the phrase "adjusted to reflect the standard AMI scope"?
A. What I mean on "adjusted to reflect the standard AMI scope," is trying to generate an apples-to-apples comparison between the costs, the AMI costs in DP&L's filing, to my body of experience around several other utilities who have also gone through this scope definition of AMI. And to match DP&L's scope -- or in an attempt to match DP&L's scope to these others that are consistent, I have to take out most of the IT systems that are included and costed in the DP&L case. So what that means is, is that if I take those IT

systems that I don't think are part of the standard AMI scope based on my experience and what I've done with other utilities, that's the adjustment that I'm talking about, so that I can get an apples-to-apples comparison between what DP&L's spending on the same elements of an AMI program that other utilities are spending.
Q. Can you tell me more specifically what you took out? You say you took out most of the IT systems. What was that that you omitted or took out?
A. Okay. If I can point you to page 23, and that table 8.
Q. Yes, I have that.
A. Okay. This is -- and the reason I draw your attention to this table, because this is a complete listing of the IT systems that are in the filing. If you look in the middle of that table, it says, "meter data and load management system."
Q. Yes, sir.
A. Okay. That's what the typical AMI at an investor-owned utility includes, and the other particular IT costs are not typically included in the AMI system.
Q. So if I'm reading this table correctly and understanding your last answer correctly, when you say you took out most of the IT systems, does that mean

that you took out everything in this table other than the meter data and load management system numbers?
A. Yes.
Q. Okay. I was going to ask you later about this table.
While we're on it, your variance explanation, three items where you say on target over on the right column. And when you say on target, what are you trying to indicate there?
A. I'm trying to indicate that based on my look at what those particular systems normally cost on the data that we're knowledgeable about, the DP&L cost for that IT system seems to be on target.
Q. Said differently, are you saying that that seems to be reasonable?
A. I wouldn't say that necessarily.
What I would say is that it's -- based on the limited information on exactly what's included in the scope of those IT systems that DP&L is costing and where we could find and understood from past experience, you know, again, an apples-to-apples comparison of that scope from others, that seemed to be on target or consistent. You know, I really can't say that it's, you know, appropriate or proper or anything like that at this point.

Q. All right. You're not expressing an opinion on that question one way or the other?
A. No.
Q. The market price total capital cost estimate column in column 3 of table 8, what was the source, or what were the sources for those figures?
A. Well, it's based on our research that we did and associated with this, and it comes from some different reports. There's some -- if you take a look at some of the reports described in the footnotes on page 24.
Q. Are those reports the sources for the market price total capital cost estimate numbers?
A. Not all of them, but some of them.
Q. Tell me more specifically what your sources are for that market price total capital cost estimate column.
A. On the home energy displays row, we did -- we looked at -- we did a market search out there on available home energy displays and used the same number of home energy displays that DP&L is using. On the CIS/billing, some of that information is from some various articles, one of which is listed at the bottom of page 24. It's footnote 10. Plus some discussions with other industry professionals who install CIS and

billing systems.
On the eServices, we looked at, again, it was a similar research done in the industry through different catalogs and Internet searches on those systems that others provide for eServices. And the 2 million to 3.25 million range is the range that we found through that work, through that analysis.
The MDMS or the next row, the meter data and load management system, I had specific numbers from previous bids and work at other utilities that I've participated in. And I had that number from there.
And then on the advanced outage management, we had specific utility advanced outage management system in mind on that one, and we had data, we had cost data on that from -- and it's the outage management system from Advanced Control Systems out of Atlanta, Georgia.
Q. You're done?
A. I'm done. The rest of those are NA. We didn't search those out.
Q. Yes, sir.
MR. FARUKI: Mike, I'll make a request for the documents that he consulted or would support those figures.
MR. IDZKOWSKI: Are you going to send an

e-mail on that, Charlie?
MR. FARUKI: I will.
MR. IDZKOWSKI: Okay.
BY MR. FARUKI:
Q. Mr. Pullins, take a look, please, at your discussion of all-in costs which I think sort of begins at the bottom of page 5 and goes on to page 6. I have a couple of questions about your all-in costs.
First of all, how do you use that term, which you use repeatedly of all-in costs? Could you give me your definition or use of it?
A. That in my opinion is the -- and how we use it, how our company and how the modern grid strategy team uses that, is related to basically the four functions that are listed up in or shown and described up in lines 11 through 13 in answer 9. So it's the meters, the end-to-end two-way communications infrastructure, remote connect/disconnect switches, consumer portal interface, and integration of the meter data management system.
Q. So the all-in costs would be the costs to provide the functions that you list in lines 11 through 13 on page 5?
A. Yes.
Q. Okay. Thank you.

I take it then that the all-in costs do not include societal benefits; is that right?
A. Well, all-in cost is a cost, societal benefit is a benefit calculation.
Q. And when you compare these all-in numbers, do the all-in numbers include the DA or distribution automation costs that DP&L has calculated?
MR. IDZKOWSKI: Is that a term, Charlie, they use?
MR. FARUKI: It is. Used in the file, yes, sir.
MR. IDZKOWSKI: Yes. Do you know where you're referencing, or just generally all?
MR. FARUKI: I think it's throughout the discussion. It's one of the listed acronyms, Mike, and it's throughout the discussion of DP&L's Smart Grid.
THE WITNESS: Can I ask for the question to be repeated?
MR. FARUKI: I'll have the court reporter do it. He'll do a better job than I will.
(Requested portion of record read.)
THE WITNESS: No, they do not include distribution automation or substation automation. These are all in AMI system costs.

BY MR. FARUKI:
Q. Okay. Would you go over to page 26?
A. Page 26?
Q. Yes, sir, two six.
A. Okay.
Q. 17 you reference an accountability plan. Would you tell me what you mean by that?
A. What I mean is pretty much what's stated here. You know, "Given the multiyear schedule for full implementation of these programs, an accountability plan should be put in place to monitor both costs and benefits for both DP&L and its customers. Appropriate performance measurements will ensure that both DP&L and its customers realize the expected benefits for the costs estimated in the filing. This accountability plan should be developed in a collaborative fashion. Some elements that should be considered include: Establishment of a collaborative working group to oversee the accountability plan; metrics to track the achievement of operational and societal benefits over time, actual spending versus estimates, deployment progress versus scheduled progress; periodic reporting by Dayton Power and Light on its deployment progress, issues and their resolutions, other items as requested by the working group; and establishment of a true-up

mechanism to adjust for differences between actual prudent cost and/or benefits and those costs and/or benefits initially assumed. The purpose of this true-up is to ensure that both DP&L and its customers are held accountable to the guarantees and commitments made for these programs."
So that's --
Q. Would you tell me which of the -- let me ask it a little bit easier. Can you identify for me every utility of which you were aware that developed and implemented a Smart Grid program with such an accountability program?
MR. IDZKOWSKI: Do you understand the question, Steve?
THE WITNESS: I understand the question.
What other utilities have established an accountability plan in association with their AMI and Smart Grid programs. I cannot think of any right now that have such an accountability plan.
BY MR. FARUKI:
Q. On page 26, you say, "This accountability plan should be developed in a collaborative manner." Identify every utility of which you are aware that has developed an accountability plan in a collaborative manner.

A. I --
MR. IDZKOWSKI: What line was that, Charlie?
MR. FARUKI: 26, lines 20 and 21.
THE WITNESS: Yeah, 20 and 21.
As I stated, I do not know of an investor-owned utility that's developed an accountability plan.
There are utilities who have some of the elements of that in how they're working with state and local consumer groups, and there's collaborative efforts associated with that. And a really good example of that is Southern California Edison. But I'm not aware of a specific accountability plan that's published at Southern California Edison.
BY MR. FARUKI:
Q. Go back to page 7.
A. Okay.
Q. Would you examine the IT numbers looking at your table 2, can you examine the IT numbers that DP&L included as part of the total AMI costs? Did you include the home energy displays and geographic information system or GIS as part of those costs?
A. Looking at the row for IT and the cost

components of table 2 where we show the first summary of 9 percent and the DP&L filing of 21 percent, if you look in the remarks section, what we were considering were the IT systems that are listed in chapter 3 and the GIS. The home energy displays were not part of that cost.

Q. Okay. And can you identify the utilities that are associated with these identified costs that you're talking about?

A. Can you hold on a second? I want to check something real quick.

Q. Sure. If you can tell me when you're ready.

A. Okay. Okay. I was just checking to make sure that the IT systems on that IT row, that IT system, 95.8 million there --

Q. Yes.

A. -- did not include the home energy displays, and it does not; okay.

Q. Okay.

A. All right. Okay. I'm ready now for the next question.

MR. FARUKI: Let me have our reporter read that back to you.

(Requested portion of record read.)

THE WITNESS: All right. So you're talking about table 2?

BY MR. FARUKI:

Q. Well, yes, and the general description or the testimony surrounding table 2, yes.

A. Okay.

Q. In other words, table 2 is part of a discussion that you have in answer to question 11.

A. Right.

All right. The basis for comparison in table 2 is from the FERC staff report of August 2006. And that's briefly discussed on page 6, lines 15 and 16, okay, and then over on to page 7 at the top. And the utilities -- that was a very substantial report that was done by the Federal Energy Regulatory Commission staff, and that included 986 municipal utilities, 537 cooperatives, 203 investor-owned utilities, and 74 power markers, and then several other organizations. And we use -- I have data on nine utilities that I focus on, there are nine investor-owned utilities, and that's Rochester Gas & Electric, Pacific Gas & Electric, New York State Electric & Gas, San Diego Gas & Electric, Consolidated Edison in New York, Public Service Electric & Gas of New Jersey, PEPCO, Potomac Electric, Southern

California Edison, and Consumers Energy. And all nine of our data points fall within that; in other words, all of those utilities where we have some more specific data about AMI costs are included in the FERC staff report of August 2006.

Q. And where did you get the information on the nine that you just listed?

A. Most of that information came from public filings or public presentations made by certain utilities about their all-in meter cost and what that includes. And so we've just been keeping track over time of that over the last couple years. And that helps us -- helps us understand where the industry's heading on the general costs of AMI on a per-meter basis.

MR. FARUKI: Mike, I'll ask for a copy of that information that he consulted with regard to the nine utilities.

And also for a copy of the August 2006 FERC report he references.

MR. IDZKOWSKI: I will try to get that if those exists. If he has those in a document.

BY MR. FARUKI:

Q. Is there a utility that has completely implemented a Smart Grid project for which you have the

costs?

A. No, there is not a utility that has -- in the United States that has completely implemented a Smart Grid program that includes all of the four milestones, the advanced meeting infrastructure, advanced distribution operation, advanced transmission operations, and advanced asset management.

Q. On the bottom of page 8, you are asked a question, is DP&L underestimating the operational benefits of AMI/Smart Grid deployment, then on page 9 you answer that question yes with an explanation. Do you see that?

A. Yes, on page 9.

Q. Yes, sir.

When you are explaining that DP&L was underestimating the operational benefits, have you tried to quantify the amount of that, the amount of the under-representation or underestimate?

A. We have not quantified the underestimation of the operational benefits. What we have -- that's not -- I mean, that's really not our job, that would be DP&L's job. But we did list several areas where the operational benefits exist but are not listed or included by DP&L. And if you go to page -- I'm looking for it, I kind of give a summary of that.

Yes. Starting at the bottom of page 17 and carrying over on to page 18, starting in line 10 on page 17, certain benefits from AMI/Smart Grid can be considered either societal, operational, or both, such as the following: Improved asset utilization efficiency, enhanced service quality, which includes both outage reduction benefits and distribution network efficiency. Now, these benefits are included in societal benefits, and that's true, but the utility operations also benefits from such improvements, and those are not included in DP&L's operational benefits portfolio.

In addition --

Q. Are you -- I'm sorry, go ahead.

A. In addition, and I'm on page 18, line 5, "Other operational benefits that should be included, but are not, are listed in DP&L's responses to OCC's interrogatories number 360, 362, 368, and 369." And I believe those are all at the end -- yes, they're all at the end of my testimony included.

And this includes 1, use of AMI information for the OMS, that's the outage management system, to determine outages; 2, use of AMI information in the DMS and distribution planning to induce Volt/VAR optimization process; 3, use of AMI information to

automatically close out work orders; 4, use of AMI information to measure existing load under demand response and load shedding action; 5, use of the AMI system to track power flows in both directions for distributed generation and PHEVs, plug-in hybrid electric vehicles; 6, use of AMI and OMS to improve system metrics, that's SAIDI and SAIFI; and 7, use of AMI, OMS and mobile work force management system, MWMS to reduce time to dispatch trouble crews and reduce outage duration.

This is just a sample list, but it shows that the currently filed operational benefits portfolio is lacking some key benefits. These were benefits not in the portfolio that were listed by DP&L staff.

Q. Do you recognize that there are disagreements within the industry on how societal benefits should be calculated?

MR. IDZKOWSKI: Can you repeat the question, please? We lost the first word or two there.

MR. FARUKI: Yes, I'd be glad to, Mike.

BY MR. FARUKI:

Q. Do you agree, sir, that there are differences within the industry or disagreements within the industry on how societal benefits should be

calculated?

A. Yes, I agree that there are -- there are differences of opinion on that.

Q. Go back to page 9 for a minute. And I'll focus you on lines 12 through 16.

Are the reduction in mainframe O&M costs related to additional IT investments?

A. Yes. As stated by DP&L in their filing.

Q. The same is true with regard to the next bullet beginning on line 15?

A. Yes. DP&L's filing says that the appreciation savings from early retirement of capital meters and IT, 8.2 million, is a benefit of the IT investments.

Q. With regard to -- withdraw that.

A. I would also like to add a little bit to that. From my testimony --

Q. Go ahead.

A. Let me find the right place. I want to call your attention to this. Give me a moment here to find it for you. For me, too.

On page 27 under C, "Justification of IT Systems Through Operational and Societal Benefits."

Q. Yes.

A. This relates to our discussion on page 9

from lines 12 through 16.

Q. Okay. Where DP&L has understated the societal benefits associated with the Smart Grid solutions in the filing?

A. Yes. And specifically on page 27, you know, what I'm trying to say here is that a large IT systems investment and yielding a small operational -- or a much smaller operational benefit, it just doesn't -- it creates a very, very long payback period.

MR. FARUKI: Mike, let's go off the record a minute.

MR. IDZKOWSKI: Okay.

(Discussion off the record.)

(Recess taken.)

MR. FARUKI: Back on the record.

BY MR. FARUKI:

Q. Mr. Pullins, I may jump around a little bit, but let me ask you about page 15 and the answer to question 15.

To start with, you believe that the operational benefits that DP&L calculated are low; is that correct?

A. Yes.

Q. You said earlier that you had reviewed book 2 of DP&L's filing?

A. Yes.
Q. Have you reviewed all of it or some of it?
A. I reviewed a portion of it. I reviewed chapter 1, chapter 3, and chapter 4 and the associated work papers. And I did not review chapter 2.
Q. Are you aware that the CCEM or Customer Conservation & Energy Management filing by DP&L has a heavy component of energy efficiency and reduction in demand to meet the targets in the Ohio legislation?
A. I have not reviewed that chapter 2, so I really can't talk to that.
Q. Okay.
A. I'm not comfortable talking to that.
Q. In other words, you don't know?
A. I don't know, because I didn't review chapter 2.
Q. Do you know whether the studies and filings that you are using to compare to the DP&L's cost have the same type of energy efficiency objectives as those captured in the societal benefits section of DP&L's filing?
MR. IDZKOWSKI: Can you read that question back, please.
MR. FARUKI: Tom, if you would.

(Requested portion of record read.)
THE WITNESS: I only know what the societal benefits portfolio related to chapters 3 and 4 include. I really have not compared that portfolio to any portfolio that might be in chapter 2.
BY MR. FARUKI:
Q. A little more broadly, Mr. Pullins, part of your analysis in this case was to evaluate the societal benefits that would occur or accrue from the company DP&L meeting the statutory targets in Ohio; is that accurate?
A. No. I would like -- my review and role was to review the societal benefits and operational benefits that accrue from the AMI and Smart Grid systems.
Q. And the principal sources to which you compared DP&L were the Southern California and San Diego Gas & Electric AMI filings?
A. From an operational benefits perspective and societal benefits perspective, our main comparison was with the San Diego Smart Grid Study.
Q. All right. And as I understand the study with regard to San Diego, that plan was to augment the San Diego Gas & Electric network with advanced

communication solutions distribution automation and substation automation benefits; is that right?
A. Well, there were several technologies that were deployed under that Smart Grid solution set. The ones that you mentioned were indeed included, but there were also additional ones included.
Q. Was the scope of the San Diego Gas & Electric plan similar to DP&L's plan?
MR. IDZKOWSKI: Did you say -- I'm sorry, you're dropping out somewhat, Charlie. Could you repeat the question, please?
MR. FARUKI: Can the court reporter read it back.
THE REPORTER: I missed a word as well.
MR. FARUKI: Okay.
BY MR. FARUKI:
Q. Is the scope of the San Diego plan, scope, S-C-O-P-E, of the San Diego the same as that of DP&L's for Smart Grid?
A. It is not exactly the same scope by comparing the DP&L, AMI and Smart Grid plan to the San Diego Gas & Electric -- I'm sorry, the San Diego Smart Grid study. There were additional -- there are similarities in the Smart Grid areas, but in the San Diego Smart Grid Study, it also included enablement

of distributed generation.
Q. The San Diego Electric Company is substantially larger than DP&L; is it not?
A. It is. Their meter count is about -- their electric meter count is about 1.4 million.
Q. Do you know what DP&L's meter count is?
A. 523,000.
Q. Are there differences between the service area of DP&L and that of San Diego Gas & Electric?
A. In general, they're similar in that San Diego has a large metropolitan area that is located in one place, and a lot of rural territory around that metropolitan area. Obviously there's a size difference, but the profile is from a, if you will, a -- where the customers or where the meters are in that there's a similarity. There are some other differences that I don't think matter in relationship to the AMI and Smart Grid. For example, Dayton Power and Light has the ability to bring power from all around the city from multiple directions, and San Diego County is, you know, limited on one side because there's an ocean there. From a topology standpoint, that's about the only difference. But that would affect transmission level, not necessarily the scope that we're talking about with Dayton Power and Light.

Q. Take a look at page 24.
MR. IDZKOWSKI: What page was that, Charlie?
MR. FARUKI: 24.
MR. IDZKOWSKI: Four?
THE WITNESS: 24.
MR. FARUKI: Two four.
MR. IDZKOWSKI: Sorry, we're having trouble. You're dropping out.
BY MR. FARUKI:
Q. On page 24, lines 6 through 13, you include a reference to an article in TD World. Do you see that reference?
A. Yes.
Q. And that was an article about how PECO was able to save over $400,000 using an advanced OMS system, outage management system?
A. Yes.
Q. You would expect the PECO savings to be more than DP&L but expect to see it since PECO has over 2 million meters; is that right?
A. Well, I think that PECO -- I don't know how many meters PECO has.
Q. Well, you know it's substantially more than DP&L, right?

MR. IDZKOWSKI: Again, I'm sorry, I couldn't get that.
Q. You know that PECO has substantially more meters than does DP&L, correct?
A. I don't know that for a fact. I believe you're right, but I don't know that for a fact.
MR. FARUKI: Off the record.
(Discussion off the record.)
MR. FARUKI: Back on the record.
BY MR. FARUKI:
Q. Take a look at page 21, line 19. You say at lines 19 and 20, "Finally, monetizing societal benefits is a difficult task requiring rigor and discipline in the scoping, calculating and sourcing." Why do you say that monetizing societal benefits is a difficult task?
A. My -- I believe that monetizing societal benefits is a difficult task based on my experience in working with this in this area for two reasons. First of all, it requires some nontraditional thinking compared to investor-owned utilities to look at how consumers and society at large benefit from the changes that a utility makes in its systems and the attendant effect that has, positive or negative, that that has on consumers in society. That's one.

The second is, is that we as an industry have focused for decades on the system side or the operational side of the benefits ledger because that's how our regulatory structure and regulatory treatment has occurred over the years. So we have a larger body of work in how we go about calculating operational benefits, revenue requirements, things like that, so we have a larger library of the ways and the techniques and the manner in which we make those calculations. We are just beginning to build that library on the societal side, on the societal benefits and consumer benefits side. So we have a lot less experience in that area as an industry. It's no less important, it's just that we haven't spent the time to build that and justify that and calculate that and source that like we have the operational benefits side.
Over time, our abilities and acceptability of the ways in which we monetize societal benefits will grow.
Q. All right. On a different point, you suggest that there be some collaborative manner or fashion in which information is developed and presented. Do you recall that?
A. I recall that in association with the accountability plan. Are you referring to that? Like

on page 26, or someplace else?
Q. No, that's what I have in mind. Page 26, line 21. Do you have that in front of you?
A. I have that.
Q. Was that something that Consumers' Counsel requested you to include in your testimony?
MR. IDZKOWSKI: I'm going to object. I think that could call for a disclosure of an attorney-client privileged communication. I think Mr. Pullins needs to be aware of that.
MR. FARUKI: Let me see if I can avoid that, Mike. I wasn't trying to get into privilege.
MR. IDZKOWSKI: Yeah, I didn't think so initially. I just don't want him to step in on a land mine.
MR. FARUKI: Okay. Well, it would be a small land mine, Mike.
MR. IDZKOWSKI: Yeah, well, my toes are as important as my foot, I think.
BY MR. FARUKI:
Q. Mr. Pullins, let me just rephrase my question. I'm not seeking to get into attorney-client privilege.
Without telling me any privileged

discussions with lawyers, was the suggestion of a collaborative something that OCC requested you to include?

A. The suggestion for example in line 22, establishment of a collaborative working group?

Q. Yes, sir.

A. No. That was -- that was a discussion between Joe Miller and myself. Joe Miller who's my business partner, and who also worked on research for this testimony.

Q. And the same question about page 28, line 9?

A. 28, line 9.

Q. Again, without asking you to disclose anything in the nature of conversation with counsel.

MR. IDZKOWSKI: And that's the sentence, "Once the information is available"? That's the reference you're --

MR. FARUKI: Yes, Mike.

MR. IDZKOWSKI: Okay.

THE WITNESS: No, that's -- this comes from our work on Smart Grid studies, and, in particular, I've got three examples. The San Diego Smart Grid study was developed in a collaborative manner with stakeholders. Not just

the utility, but representatives of the consumer space. We did on our Puget Sound Energy Smart Grid study, there was collaborative workshops, two of them, that were held in association in process. In the one that we're doing -- the Smart Grid implementation plan that we're working in West Virginia right now, we're also doing that. We've had collaborative workshops with representatives of the state beyond the utilities on two occasions. That's where that -- those concepts come from.

MR. FARUKI: Okay. Mr. Pullins, I think that's all I have. Thank you for your time.

THE WITNESS: Thank you.

MR. FARUKI: Off the record.

FURTHER THIS DEPONENT SAITH NOT.

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STEVEN W. PULLINS

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NOTARY PUBLIC
MY COMMISSION EXPIRES:_____

CERTIFICATE

STATE OF TENNESSEE

COUNTY OF KNOX

I, Thomas J. Dorsey, Registered Professional Reporter and Notary Public, do hereby certify that I reported in machine shorthand the deposition of STEVEN W. PULLINS, called as a witness at the instance of The Dayton Power and Light Company, that the said witness was duly sworn by me; that the reading and subscribing of the deposition by the witness was not waived; that the foregoing pages were transcribed under my personal supervision and constitute a true and accurate record of the deposition of said witness.

I further certify that I am not an attorney or counsel of any of the parties, nor an employee or relative of any attorney or counsel connected with the action, nor financially interested in the action.

Witness my hand and seal this the 3rd day of February, 2009.

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Thomas J. Dorsey, RPR
Certified Shorthand Reporter
and Notary Public
My Commission Expires:
September 26, 2012