SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO. 516

Quarterly Public Meeting

January 12, 2006

10:00 o'clock A.M.

SALUDA SHOALS PARK - ENVIRONMENTAL CENTER

Welcome and Update On Resource Conservation Groups,

by, Alan Stuart, Kleinschmidt Water Resources

Presentation,

by, Lee Xanthakos, SCE&G

(Transcribed from recorded cassette tapes of Proceedings:

by, Annette B. Gore, Court Reporter.)

I N D E X

PUBLIC MEETING:

_ MR. ALAN STUART: Hello, I am Alan Stuart with Kleinschmidt Associates. I would like to welcome everybody to our second public quarterly relicensing meeting update. Basically we have begun the process, we have established Resource Conservation Groups. Those have been showing up at some of our other quarterly public meetings, we rolled those out. Right now, basically what we have done for the most part are develop some mission statements. Did everybody get a copy of the handout as you came in? Briefly, I would like to just go through those. These mission statements were developed through the efforts of a diverse group of people, everybody from biologists to engineers, to attorneys. And actually, even a rocket scientist has been involved if you can believe that. So, it's been a very interesting endeavor. The Operations Resource Group, this is their mission statement. I would like to go ahead and read it. This one is finalized by that group; there are some that are in draft form, and we hope to have those final by January 19th. This one is final, though. "The Mission of the Operations Resource Conservation Group (ORCG) is to oversee the development of a robust hydrologic model for the Saluda Project which will establish a baseline of current hydrologic, hydraulic, and operational conditions, and aid in analyzing and understanding the potential upstream and downstream effects of potential changes to project operations, in support of the missions and goals of all other Saluda Hydroelectric Relicensing RCGs. The objective is to fairly consider those impacts, to include low-flow conditions as a part of developing consensus-based, operations focused recommendations for the FERC license application. Model results are to be presented in readily understandable terms and format. A key measure of success in achieving the mission and goals will be a published Protection, Mitigation and Enhancement (PM&E) Agreement." That's basically the Operations Resource's goal and mission for this upcoming current relicensing. As you can see, it's quite lengthy, and it's quite involved. It's going to take input from all the other Resource Conservation Groups; it will take the recommendations from those groups and apply them to basically the water available for the project, in the simplest of terms.

Lake and Land Management, which is a very important RCG to Lake Murray: "The mission of the Saluda Hydro Relicensing Lake and Land Management Resource Conservation Group is to gather and/or develop information, study and consider all issues relevant to and impacting upon the Saluda Hydroelectric Project Shoreline Management Plan (SMP) and supporting guidelines. The outcome should be the development of a consensus-based, updated SMP for submittal in the Project 516 license application. It should include/consider properties within the Project Boundary Line

(PBL) for Project 516, upstream and downstream, and such areas beyond the PBL which SCE&G, through its SMP, can materially influence." That includes both the Lower Saluda and Lake Murray; so, it's a very project wide, comprehensive approach to Lake and Land Management.

The Recreation (RCG), this group met yesterday and we basically finalized this Mission Statement yesterday. "The mission of the Recreational RCG is to ensure adequate and environmentally-balanced public recreational access and opportunities related to the Saluda Hydroelectric Project for the term of the new license. The objective is to assess the recreational needs associated with the lower Saluda River and Lake Murray and to develop a comprehensive recreation plan to address the recreation needs of the public for the term of the new license. This will be accomplished by collecting and developing necessary information, understanding interests and issues and developing consensus-based recommendations."

The Fish and Wildlife Resource Conservation Group Mission Statement, it is one of the three that are in draft form. We don't expect significant changes to these, but they are still out to the group for comment, the group being the Resource Group Members. "The mission of the Fish and Wildlife RCG is to develop a Protection, Mitigation and Enhancement Agreement (PM&E) relative to fisheries and wildlife management for inclusion within the Saluda

Hydroelectric Project license application. The objective of the PM&E Agreement shall be to assure the development and implementation of a level of integrated management best adapted to serve the public interests. To achieve this mission, the Fish and Wildlife RCG shall identify the need for, define the scope of, and manage or influence as appropriate, data collection and/or studies relative to impacted fish, wildlife, and plant species and ecological communities, eco-systems and/or habitat within the Saluda Hydroelectric Project."

The Water Quality Group, theirs also is in draft form. "The Mission of the Water Quality Resource Conservation Group (WQRCG) is to develop water quality related recommendations to be included in the Saluda Hydroelectric Project FERC license application. The goal will be to achieve State water quality standards compliance or beyond for Lake Murray and the lower Saluda River. A means to work towards that goal is to identify data needs and to gather or develop that data. A primary measure of success in achieving the mission and goals will be a published WQRCG Protection, Mitigation, and Enhancement (PM&E) Agreement."

And lastly, the Safety Group was kind of an ad hoc RCG that was developed as we were going through the list of the issues. One of the goals of the Group is to carry on a Safety Committee throughout the --- well, for as long as the Group wants to continue to process; its not only to define the issues right now during licensing. They would like to carry that on. And its members include some of the homeowner groups and SCE&G. That's the long term vision for the Group.

"The Mission of the Safety Resource Conservation Group (SRCG) is, through good faith cooperation, to make Lake Murray and the lower Saluda River as safe as reasonably possible for the public. The objective is to develop a consensus-based Recreational Safety Plan proposal for inclusion in the FERC license application. This will be accomplished by gathering or developing data relevant to Saluda Hydroelectric Project safety-related interests/issues, seek to understand those interests/issues and that data, and consider all such interests/issues and data relevant to and significantly affecting safety on Lake Murray and the lower Saluda River."

Those are basically the six Resource Conservation Groups that have been established. As you can see, it pretty much covers all the issues that we feel will be raised during the relicensing process. One of the things I would like to recommend, I know a lot of people in here are not part of any of the RCGs. Those RCG group meetings are open to the public. Since you haven't signed up for it, they are open to you as an observer. So, we encourage if you feel the need or feel the interest to come to one of these group meetings, please do so. The dates are published on the web site. That web site address is www.saludahyrorelicense.com. Or, you need to let Alison Guth know because we typically meet over at the Lake Murray Training Center, and there are some security issues that we have to get you through the gate. But, you know, it is open to anybody that would like to attend. We have a lot of presentations. We have had presentations by DHEC, the Lower Saluda River Advisory Council, just numerous presentations. And on water quality standards, just the entire plenary of information is going on. So, please, keep up to date on the web site. I encourage you to attend some of these presentations. They are very, very informative. That's all I have on the Resource Conservation Groups. We are continuing to meet now that the Mission Statements are being finalized, or near final, we are starting to get into some of the issues and develop a study scope within each group. The draft study plans, or final study plans, that are developed will be available on the web site; if you are interested, please download that information and take a look at it. It should have a scope of what we are trying to accomplish, the data that we are trying to collect, and hopefully how that data will be incorporated into addressing issues for each of those Resource Conservation Groups. Are there any questions on the activities of the Resource Conservation Groups?

(No response)

MR. ALAN STUART: Right now, I am going to turn it over to Lee Xanthakos, who is going to give a presentation on the operations of Saluda Hydro. You are encouraged to ask questions throughout the presentation. Alison will come around with a wireless microphone. The reason we are doing that is because it is being video taped and audio taped for the public record. So, she will come around. If you have a question, please raise your hand and Lee will identify you, and give Alison a chance to get to you to ask your question. If I can make a suggestion, please keep your questions as concise as possible because this is a fairly lengthy presentation. So, if you could do that, that would be great and we appreciate it.

MR. LEE XANTHAKOS: Hello, everyone. I have got to start off by kind of telling you that this is the first time I have given this presentation in a big auditorium like this, normally been in a smaller kind of more cozy room. So, I hope that through the questions and discussion we can still get that, that sort of feel where everybody participates. And I apologize to the people behind me, so it looks like you will be looking at my back most of the time.

My name is Lee Xanthakos, I work in the SCE&G System Control Room; I am the Manager there. And as we start to talk about Saluda, I thought it was necessary to kind of give some background on what we do and what our purpose is. And once that foundation is created, then you can kind of understand how we use Saluda and why we use Saluda in the way we do. So, with that, the contents of the presentation, normally I would just do one at a time; but I think we can do them all.

We are going to talk about the Grid. The Grid is probably something all of you have heard about, at least on the news recently. You might remember there was a blackout in the Northeast about a year or so ago. That happened on the Grid, and therefore it affected about 50,000,000 people. We will talk about how the Grid works; we will talk about balancing the Grid, which is a very important part of what we do. And those of you that have toured the Control Room before have seen how we do that, and how we measure that. We will talk about the rules. Remember, the Grid is --- well, we will get into this. But, the Grid is a very large machine essentially. A lot of power companies are connected together; at times they rely on each other; ideally they don't have to rely on each other, they would work independently of each other and work well. That's not always the case. And what we don't want is for one company to take one action that negatively affects another company. So, there is coordination and there are rules that affect the way we do stuff. And we will talk about emergencies on the Grid. I just said it's a machine. And just like your car, sometimes parts of it break down. Just like any mechanical device, at times it has some kind of a problem. And it's our job to make sure that the Grid continues to work even when there are problems. Then finally, we will talk about Saluda and why Saluda plays such a major role in that. And it has a lot to do with the facility's characteristics and how they line up very closely with a lot of the requirements we have, which is shear luck in a lot of ways.

Okay, what is the Grid? And a lot of people have the misconception that any time you look out at a wire maybe the wire is feeding this building, that that is part of the bulk power system or the Grid. And that's not necessarily the case. If, however, you drive down one of these streets - and I forget which way it is - and you see some pretty enormous towers that are going down, you know, one right of way; and the rest of it is going down another right of way, and you don't see the end of it. And it looks like even if a tree fell down, it couldn't touch them because they are up in the sky so high. That's the Grid. That's what we call the Grid. And there's a picture of it. We have all seen it, we see them on the highways. They run down these huge right of ways. And the reason you call it a Grid is because this power line, the picture of this power line --- and I'm not sure where this place is, but if you were to hop on that line right there, you could - if you were a little electron - could zap yourself around and eventually end up on the wire that is running across the Saluda Shoals Park here. That's because every one of these towers are connected together. And the other interesting thing is that moving on these lines --- see, that little electric electron happens at the speed of light. So if you are down in Florida and you hop on one of these lines, you can be in Maine faster than you say, "Take me to Maine." Or, you can be in Michigan. And actually we move --- this is a side note. We do move electricity across those distances. When it's really cold up North but it's moderate down South, the South helps that part of the country by selling them economic electricity when we can. And the reverse is true in the summertime when it's mild up North and really hot down here, they send electricity down here. So, there is a lot of that going on.

This is a representation of the Grid. Every one of these little bubbles, and I don't think there is like a laser on here or anything. But, every one of those little bubbles represent what is called the Balancing Authority, and that is a topic we'll elaborate on. But right down there where you see the SERC arrow, there is a blue region. That stands for Southeastern Electric Reliability Council, which is a council that we are members of. And as you can see, each one of those little bubbles, which is a company, SCE&G or a Balancing Authority that SCE&G is one of, has been connected by a line to some neighboring Balancing Athorities. And even though we are connected --- and it's hard for you guys to see it, maybe you can see it better on your handout. Even though we are connected with our neighbors by just one line on this map, that's not the case. We are connected by many lines. Some of the folks, again, and I will keep going back to them because I think they have some benefit. Some of the folks that have been to the Control Room have seen on our board where we are connected with Santee Cooper, and about thirteen places - Duke Power, to progress centers three, and so forth, and so on. So, this is just a representation of that. All these acronyms that you see, I told you all that we are part of the Southeastern Electric Reliability Council. FRCC is Florida Coordinating Council --- Florida Reliability Coordinating Council. ERCOT, which is Texas, is Electric Reliability Council of Texas. All those together make up a large organization called NERC. And that is written up at the top left there; and that stands for North American Electric Reliability Council. But if you watched any of the Hearings after the Northeast blackout, you would have seen Mike Gent (phonetic) in front of --- I guess, it was Congress explaining to them why we had a blackout. And he was the Chairman of the NERC at the time; there is another Chairman now. But all these Councils work together then to balance --- well, they don't balance the Grid, but they set some of the standards that we are governed by. And we will get into that. Are there any questions yet, before I move on?

(No response)

MR. XANTHAKOS: Okay. So, this is almost a blowup of what we just saw. And SCE&G is the power company that serves about 1/3 of the customers in South Carolina. Actually it's the lower third of South Carolina, is more accurate. And we are connected to these five other balancing authorities that you see up there: Duke Power, CP&L is Carolina Power and Light, also called Progress Energy. Actually that's more of a correct name, but I tend to call them CP&L because I am used to that. SC stands for Santee Cooper. SOCO is Southern company; they are an enormous power company out of Birmingham which serves Georgia, Alabama and Mississippi. And SEPA is a unique company that doesn't have any customers, actually, of their own. They only generate electricity and they send it to other companies through a Department of Energy group. And again, remember that even though I am showing just one line is connecting to these companies, that's not the case. There are many, many lines connecting them. Okay, how does the Grid work? And this is what is kind of interesting, too. SCE&G does not control how much electricity it sells. We cannot determine --- I'm sorry, we do not determine what our customers' demand is; the customer determines that. And the way they do that is they walk into a room and just like whoever came in here this morning, they flipped the lights on, or they cut the air condition on, or the heat, depending on the time of year. So, when they do that then our group gets it, that's all added together and that creates something called loads or demands, customer demands. And that is not something we can control. Response is something that changes constantly; and somewhere out there right now a person in the facility, a large facility, is shutting down a big machine. And then at the same time there is somebody else somewhere else cutting on a big machine. So, customer's demand is determined only by the customer and it changes always. And again, I will go back to the folks that have visited the Control Room, we have a chart there, and they saw that. They saw that customer demand moving. And you know, it would be great if the people that actually have visited the Control Room, when I say that, they nod and go, "Yeah, we saw that," make me feel a little better. But, our job in the Control Room is then to use our power plants to meet that demand.

We generate electricity to balance what demand the customer demands. And we do that through three different ways. Well, there's a couple --- there's many different ways. But the three basic ones are: coal fire fossil plant, which burns fuel like coal, natural gas, oil, and make steam. Or, they actually just turn it themselves and they create electricity. There is nuclear plants. We have one large nuclear plant which burns --- doesn't burn, but actually heats the water through the use of a radio active, you know, material; I'm not sure what it is actually. And then the last one is hydro, which is the movement of water through gravity, through a turbine to generate electricity. And that's one that's the most interest to you guys, and that's because Saluda being a hydro plant. And there's two kinds of hydro plants. There is run of river plants, which is simple dams put across the river that water flows through. There is no reservoir behind it. And they generate pretty small amounts of electricity when you compare it to the whole Grid, in the order of maybe six to fifteen megawatts. We have other facilities like Saluda Hydro, which has a reservoir which holds water back until you need it to generate electricity. And Saluda generates about 200 megawatts. So, you can see there is a substantial difference in the amount of output that you can get. There is a third kind of facility, which we will probably get into as we start discussing these things. It's a pump storage facility. It's the kind that is similar to Saluda, except at Saluda when the water is released to the turbine it flows down the river and we never have the ability to recover that water. There are others where it goes from say one pond, which in our example might be Saluda or Lake Murray, to another pond, another holding reservoir to generate electricity. But then later in the day when there is not high demand, say at midnight when everybody has gone to sleep, those generators turn into pumps and they take that water from that lower reservoir and put it back in the upper one, and then you repeat the cycle again the next day. And we have a facility like that called Fairfield Pump Storage. Okay.

Any questions so far?

(No response)

MR. XANTHAKOS: Okay. Balancing the Grid. Once the customer is in place, once the generators are in place, our job is to make sure that those generators act any instance in real time are generating the same amount of electricity as what is demanded by the customer. If the customers' demand says, you know, two million watts of electricity, and we generate three million watts of electricity, we are basically going to burn down some stuff. You know, because there is way too much electricity on the Grid. If they are demanding two million and we only generate a million, then some of the lights are going to go out. There is just not electricity there to keep the lights on. So, our full time job is to make sure that there is always enough to meet that customer demand. And this happens in real time. I mean it happens just right now, and it's going to happen five minutes from now, and happened five minutes ago. And the way I know that, even though I am not in the Control Room, is I can look up and I can see that our lights are still on and they are bright; but they are not too bright where they will burn the filament in them. And they are not dim, either. So, I know that the folks that work for me are actually doing a pretty decent job right now. I also know that because if they weren't, they would be calling me, or somebody else would.

Let's see, this is an interesting concept. And demand, I told you, changes all the time. The demand from an hour ago is different than the demand we have right now. But what is interesting is that you note a pattern depending on the time of year. You have winter pattern. And if you can imagine, what happens is you start off at about 2:00 or 3:00 in the morning, everybody is asleep in their beds, they are not using a whole lot of electricity. So then they wake up maybe around --- the early risers get up about 5:00, some other people start to get up at 6:00 to 7:00; and they get out of the covers of the bed and go, "Man, this house is kinda' chilly today." So, they go and they cut their heat on. And that increases electricity a little bit. And then they go like, "I'd sure like a nice hot cup of coffee," so they go in the kitchen and they cut their coffee maker on, they cut their toaster on, and maybe they cut some lights on because it's still kind of dark in the mornings in the winter time. And so, the load pattern that we see in the winter time is a very sharp increase of electric demands in the mornings. As people start to go to work, they cut off their --- they might cut off their heat, they might cut off their stove, they have finished drying their hair. And that sharp demand that we saw in the morning tapers off and it is reduces throughout the day. Especially since the sun kind of comes out and it heats things up so people don't have to cut their heaters on.

Summer days are different. Summer days, it's already bright outside when you wake up at 6:00 in the morning. And summer days are longer than winter days, so you may not cut on as many lights. It's not cold in your house, and in fact it's probably pretty comfortable because the sun hasn't come out to heat it up yet. So you are not turning your air conditioning on at 7:00 in the morning. And although you might do some of the other things you do during the winter time, the big ones are things like air conditioning and that sort of thing. So, our customer demand on a summer day is one that slowly increases during the day, and peaks in the afternoon where air conditioning usage is the highest. Because by about 4:00 o'clock on a 95 degree day, almost all air conditioners are on and running. So, we adjust the way we operate because of that. We adjust sometimes even the type of plants we use because of that. Okay.

So, regardless of the time of the year, regardless of the pattern that you see, every one of these balancing authorities has to balance its generation to its demand. And, this is just a simple, it's actually a pretty fictitious load. We don't normally see 4,000 except in some

of our peaks. The folks that visited us this week saw those in the 2,000 range. And another reason it's fictitious is because that demand right there that says 4,000 is not changing right now. In real life that number would have already changed by the time I finished my last sentence. And we are also showing that we are generating exactly 4,000, which isn't always the case. Very hard to match demand exactly to generation. Normally there is a small area which is "ACE", and we will talk about that, of up to plus or minus
40. We start to violate some industry rules when we get plus or minus 60 off. So, that's kind of a theoretical situation, but it's a good one here for the example I am going to use.

If that were real, right now everything would be working great; every customer in South Carolina, or every one of our customers would be satisfied with the electricity they are getting. Their lights wouldn't be too bright, nor would they be too dim, because they are perfectly balanced. But, you know, inevitably what happens is one of our machines breaks down. In this case it's the 1,000 megawatts machine which throws us out of balance. And the customer demand doesn't change. Remember they control demand, I can't do that. All I can control, when the machines allow me, is generation. And in this case, they are not allowing me to.
If I had it my way, we would have --- the demand of 4,000,

I'd be generating 4,000. But the machine, for whatever reasons, decided it had to come off; so that I am only generating 3,000, and that creates an imbalance. And because I am connected to all of my neighboring utilities, what happens is I start to kind of lean on them. I'm essentially taking electricity away from them. Now, that may or may not be a problem. Remember I said that it's impossible to have perfect balance. So, in a situation like this what I would hope is that some of these guys are over-generating a little bit. And I am actually hoping --- you can see these arrows go past my neighboring utilities, I am really hoping that their neighbors, some of their neighbors, are over-generating a little bit so that when my unit trips and I am out of balance, I can lean on that over-generation and pull that electricity into me temporarily until I take some kind of a corrective action. If I didn't have that ability, then basically 1,000 megawatts of customer lights would go out since there is no electricity to serve them. And that's the reason the Grid works so well is because of this; first of all, because everybody is connected; but second of all, is because it's impossible to balance so well. At any one given time, hopefully, half of the power companies are over-generating a little bit; half are under-generating a little bit. So, if there is a problem, you can lean on one or the other for a little while to create balances, almost simulate balances. So you are able to put your system back the way it is.

Are there any questions about that so far?

(No response)

MR. XANTHAKOS: Okay. Again, these are fictional numbers. But, it might be that what happens is under the situation where we have this imbalance, we start taking in 350 megawatts from Southern Company, we are taking 50 from SEPA, 250 from Duke, and so forth and so on until I am basically --- if you add all these numbers up, I am taking in about 1,000 megawatts. And even though I am only generating 3,000, the customers' lights are still on. Because, I am doing 3,000 of it, my friends here are helping me with the remaining 1,000. Okay? And what you see here is that it could be that my neighbors don't actually have that electricity to spare. SEPA here, which I'm taking 50 from, they are taking it from their neighbor. And they might be taking it from TVA. And if I could draw another circle out here, it might be that TVA doesn't have it either, they are taking it from AT, which is another company past them. The same for Progress; they are able to give me 50 of it and they are having to borrow 150 from somebody that they are connected to. And that's the way that the inter-connection works. And it's impossible really, unless you have some pretty powerful computing tools, to see what exactly these flows will be if generation trips. We know that there will be 1,000, but we don't know exactly what Balancing Authority it is going to come from. Yes?

MR. PETER PROVOST: Hello, my name is Peter Provost. Are our partners allowed to disconnect us if they can't supply us some of that need?

MR. XANTHAKOS: Theoretically, they are. Participation in members --- and NERCs, that I showed you earlier, to start is voluntary. And I could talk about that a little bit without getting us too far off the subject. It's voluntary today. But after the black out, the President signed an Energy Bill which gave power to the Federal Government to make NERC rules into law. So it could be that even though it's voluntary --- participation in those groups today is voluntary, it may not continue to be voluntary. It's hard to say. But, they don't disconnect for the simple reason --- is that one day CP&L is going to lose 1,000 megawatts. And if they disconnect on me, then --- you know, I'm a pretty nice guy most of the time, but I might be inclined to disconnect from them if they are having problems. And this is a side note, and this is just a funny story. I feel a little tension in the room, so I will lighten it up a little bit. It used to be that --- and this is --- a Systems Controller had about thirty-five years on the job, he still works for us today; told me that when he was training, said, "We got a call from Santee Cooper," and Santee Cooper said, "We lost a power plant and you are going to see some flows on your power line right here, you know.

Can you support us?" And remember, the system thirty-five years ago was not as robust as it is today. And the dispatcher at the time said, "Yeah, we got you, don't worry about it." So, they hung up the phone. And as soon as he hung up the phone, he turned around and he opened those wires up, and he said, "I'm not going to go down with them." So that used to happen. But it was thirty-five years ago. It does not happen today. I do not know of one instance where it has happened in the last --- you know, I don't of an instance when it has happened. And actually, you know, I need to stay on track and not get off. But maybe that should have happened during the Northeast black out. If the company that was responsible had taken action of separating itself from the Grid, or if maybe the neighboring utilities had altogether said, you know, "This guy is dragging us all down," and separated out that one company, then the Northeast black out may not have happened.

MR. PROVOST: Thank you.

MR. XANTHAKOS: Sure. Any other questions?

(No response)

MR. XANTHAKOS: Okay. So, that's how you kind of create the temporary --- and I hesitate to call it balanced, but it is a temporary balance while you are leaning on your neighboring utility. So, what are the things that might cause an imbalance like that? And here is another funny story, too. Is, I had originally --- See this little miniature (4) right there? There are four things that I thought of, and you know, I'm not showing them to you here, but I had asked other groups, you know, "What do you think those four are?" I hadn't realized that Alison has passed these out to everybody and you already had the answer. The first time I did that, I think, "Man, these guys are really catching on." Power plant break down. You know, after all I have said that they are just machines; we have fuel problems. There is a coal plant right next to Saluda, or the Saluda Hydroelectric Station, called McMeekin. Those of you that have taken a tour have seen it if you have driven over the Dam, you have seen the big coal pile. Right? That coal does not burn well when it's wet, after it has rained, part of our coal plants have problems maintaining a constant generation amount because it's hard to burn wet coal. Power lines don't always allow power to flow. You know, if you look down at those large right of ways, and you see these big lines, you think that it is impossible for a tree to hit them; you know, if a tree falls down, it looks like it will go underneath. That's probably the case 99% of the time, but occasionally there is this really big tree out there. More likely is this guy that had a couple of beers and decided he is going to drive home, and he runs into one of these towers and he pulls it down, plus the two next to it. Tornadoes go through and they rip them up pretty good. So, ice is the great one. Ice can really tear them up. So, that happens.

And then purchase power, haven't really talked much about that. But, I mentioned earlier that in the summer time we might be buying power from up North. Actually, that was the case, now in the summer time we sell power up North. But there is this large flow of electricity from one part of the Grid to the other Grid, depending on seasonal differences. And, there are power lines between the North and South, and the East and West, that has to move that electricity. Well, if there is too much electricity to be flowing, those power lines don't have the infinite capacity, they can't carry --- they might be able to carry a million watts of electricity, or two million watts. But, they can't carry eight million or ten million. Eventually the company that owns those has to say, "You know what? I've reached your limit on how much electricity I can move for you, I can't continue to do this." And they cut that movement of electricity. When they do that, the company that was purchasing electricity now has to find it somewhere else. So, they may have to crank up a unit they had not planned on. The reverse, of course, is true if the company that was selling that electricity might have to shut down the units that they had planned on running. Okay?

MR. XANTHAKOS: Any questions about those?

(No response)

MR. XANTHAKOS: All right. So, when there is imbalance, what does SCE&G have to do to return that balance?

And there is only two examples here that I can come up with. One is, we increase generation. You know, if we have a plant on line and available, we increase its generation to create a balance. Or, we will talk about partnerships. We ask one of our neighboring utilities to increase generation for us. And the other one is, we reduce demand. Now, I kind of lied to you a little bit earlier, I told you we can't control demand. And that is mostly true, we don't like to. But in a situation where --- remember the company in the Northeast that caused the black out? In a situation where we cannot do Option A, or we cannot create balance by increasing demand, or by increasing generation, then we have no other option than to reduce demand. And we are not able to reduce it in small blocks. Under the transmission system is big wires which are connected to big cities, like the City of Irmo, or Batesburg-Leesville, parts of Aiken, Summerville, and I could go on and on. And I can't just shut down a street in Summerville; but I can shut down all of Summerville. And we do have an emergency action plan that has cities lined up, one after the other. And if I have to reduce demand, I will start at the top, I will shut that one down; and if don't have demand created yet, I will hit the next one. And I will keep going down until I have to stop. And that plan is shared with my neighbors; they know I will do it; and their plan is shared with me and I'm confident that they will do it, too. So, that's the situation that I really don't want to get into. So, I would much rather always do choice one and increase demand.

Now, if a company decides not to do either one of those, inevitably what you are going to have is a black out. There is really no other way for it to happen.

MR. XANTHAKOS: Any questions?

(No response)

MR. XANTHAKOS: Okay. Now, so that we don't have a black out, and so that we are sure that companies like SCE&G thirty-five years ago don't cut off the switch to their neighboring utility that may need power, what happened is these industry participants form something called the North American Electric Reliability Council. They formed it, I

think, in the '70s. And these are the guys that make some of the rules. And if you will look over here, I didn't start this slide off well, but we are going to get down here from a National to a Regional, to a smaller Regional. And this is what they do. So, the North American Electric Reliability Council creates the standards; they create the rules that we operate by. And my office currently operates under about 800 NERC rules. Some of them are pretty simple, you know, get training once a month. Some of them are not quite as simple. Once this rule is created, we have smaller council called the Southeastern Electric Reliability Council. Remember on that first map of the U.S., the blue regions, SERC? That's what that stands for. And it's their job to monitor my compliance with these 800 rules. And we undergo audits and turn in reports quarterly and monthly, and all that sort of thing. And if they feel like my reports aren't completely forthcoming, they visit companies to make sure that they are doing what they are supposed to do.

And then finally, there is VACAR. And VACAR stands for Virginia/Carolinas. It's kind of a partnership almost; an agreement at least, between all the companies in South Carolina, North Carolina, and Virginia. Most of them, at least. And what we do is we get together and we meet about eight times a year; and we talk about how are we going to operate under these rules so that we don't violate any of these compliances, so that we are never not compliant. And so, it's a pretty good working relationship at this level. It's a good relationship at this level, and it's also a good relationship at this level, all the way, which is nationally. And so, I think it works pretty well. Okay.

So, now that we have talked about the Grid, we've talked about balancing, we've talked about the rules and who makes the rules, and how we are monitored, we get into actual operations, which is --- oh, no, we don't. We actually get more deeper into rules. Excuse me, I'm jumping forward a little bit.

There is one rule that NERC made, which is the main impetus for why we run Saluda the way we do. It's called BAL-002. And I have asked this question for every time I have given this presentation; nobody has gotten it wrong yet. Well, what do you guys think BAL stands for?

UNIDENTIFIED: Balance.

MR. XANTHAKOS: Balance, right. I mean, that's what I have been talking about the whole time. So, BAL-002, and what it says is at the minimum a balancing authority --- and remember that's what we are, or a Reserve Sharing Group. Now, keep Reserve Sharing Group, you know, in your back pocket for a minute, we will get back to that. And that is very important. But it says, "As a minimum, the Balancing Authority or Reserve Sharing Group shall carry at least enough Contingency Reserve to cover the most severe single contingency." What that means is, that a Balancing Authority, which as generation to meet its customer demand, must carry enough generation in reserve in case its largest unit trips off line. Is that self-explanatory? Okay.
So, if we have --- it's almost like having a spare car; like if they made a rule that said, "If your car fails, if your main source of transportation fails, you've got to have a backup vehicle to get into and take you where you need to go."

So, what is SCE&G's single most severe contingency? What is the unit that we are most worried about under this rule? And that unit is V.C. Summer, which is our nuclear station. So, it's about 1,000 megawatts; it operates out of Jenkinsville, South Carolina; and this plant generates enough power in one hour to power over 1,000 homes for one month. So, it's a pretty large unit. And remember what I said earlier, what our loads were? During these recent tours, they were in the 2,000 megawatt range. Well, these guys are generating about half of that electricity, a little bit over half of that. And I will tell you, we don't want to have to carry 1,000 megawatts of generation off-line and available for us to recover the loss of this unit. That is a lot of power, and enormous expense that very few companies want to do. So, what we have done is, we have gone back and we have talked to our neighboring utilities. Remember VACAR, the folks that I said we have a good partnership with, and we have fallen back on. And you know, I don't know how to go backwards on this thing. But do you --- you don't have to, that's okay. Do you remember the standard? If you can flip back, it said, "A balancing authority or a reserve sharing group"? Well, what we have done is we have gone to a partnership, and we formed a reserve sharing group, we call it VACAR reserve sharing group. And we have agreed that together we will carry enough reserve to meet --- to carry 1,500 megawatts of electricity. Now, here's the thing. Why would we agree to do that? Why would these companies agree to form a reserve sharing group with us? Well, the answer is really simple.

They have all got nuclear plants, too. They have all got 1,000 megawatt units, but they don't want to carry a reserve for it, either. So, what we have also done to be able to convince the SERC and the NERC that this works is, we have agreed that we are not just going to carry 1,000 megawatts of reserve; we are going to carry more than that, we are going to carry 1,500 megawatts of reserve which is one and a half times our largest single contingency. Which makes it, you know, it certainly increases the reliability. And so, of that 1,500, SCE&G's portion of that, because we are one of the smallest of these five companies. Actually, we are the smallest of these five companies. Our portion is 200 megawatts. So, instead of having to carry 1,000 on our own as a balancing authority, we carry 200 as members of this reserve sharing group. Okay?

MR. XANTHAKOS: Are there any questions about that?

(No response)

MR. XANTHAKOS: Let's see what the next slide is, and I can elaborate a little bit more. Okay. Let's set aside this slide for a minute. Some of the reserve amounts that the other members carry are Progress Energy and Dominion Virginia Powers carry about 350 apiece; Duke Power carries about 550; and Santee Cooper carries a little bit over 200. So, if you add that up, it comes out --- I think it comes around 1,600 or so -- 1,670 --- which is close to 1,500.

And what we have agreed to do is, if I call on reserve say from Duke Power, they deliver that electricity to me instantaneously, which means that if my ACE becomes negative 500, and I call on reserve from them, they give it to me, in theory, instantaneously. So that my ACE now becomes zero, and their ACE becomes negative 500. And then they have to recover from that. And that's how it works. So they almost --- it's almost as if they take the burden off of my system. Okay?

The rules that we operate by is that this has to happen, you have to recover that, 100% of that loss, within fifteen minutes. Now, I told you that they give me electricity instantaneously; but by the time you try to figure out how much electricity you have lost, how much you can --- you have to supply your own reserve first. By the time you get your own reserves on the system, it takes a little bit of time. So, we give each other fifteen minutes. And there are only a few units on the SCE&G system that can generate up to 200 megawatts in fifteen minutes; and those are mostly hydro units. The Saluda, the Fairfield Pump Storage, and there are simple-cycle turbines, which account for about 100 megawatts. There's Parr, and there's ERCOT. IF y'all can’t remember those names, you might want to jot them down.

When this Reserve Sharing Group has been exercised, when we use someone else's reserve, or when they use our reserve, we report a Compliance Report to the rest of VACAR. So even though I might only call on reserve from Duke, I share a report with Progress Energy, Santee Cooper and Dominion Virginia Power. And why do you guys think that might be? It's really simple. And it's because I want to provide them assurance that I am doing my part to meet this agreement, which is great for them; but more importantly, when they supply reserve for someone else, I want to see that they are doing their part. Because if Dominion Virginia, for example, has a hard time sending 350 megawatts, which is their portion, to say Progress Energy, if they have a hard time doing that in fifteen minutes, actually if they do it in anything less than instantaneous, I start to get a little bit concerned because it could be that next month I am calling on them for help. And if they can't give it to me, then my second option of course is to reduce demand, which is not what I want to do. So, remaining in this --- providing comfort to our VACAR partners, providing them assurance that we can do --- that we are doing what we say we are going to do is the way for us to remain in this reserve sharing group, and hence is a way for us to keep from building 1,000 megawatts of generation, which just sits there and doesn't generate any electricity. So it's very important for us to be able to maintain capability. Once the Compliance Report has been sent to the rest of VACAR, we report quarterly compliance to

SERP. And then SERP compiles all that information from every company in the Southeast, and sends it on to NERC. Okay.

MR. XANTHAKOS: Any questions?

(No response)

MR. XANTHAKOS: I think we are going to get into some examples here. And this is actually a pretty practical example. The Williams Station is a large coal plant down in the Low Country, in the Charleston area. It's actually in Goose Creek. And they generate 600 megawatts of electricity. So, let's assume we're running in perfect balance right now, which we're not, we're a little bit off but it's okay. And we lose Williams Station. So, our ACE becomes quickly negative 600. And what happens is a big red bar appears on our screen that says, "There's a problem with your ACE." Alarms go off because it's past our alarm limit. And so this nice little bell starts to ring in the Control Room. It used to be really aggravating bell. I changed that. And so we know there is a problem. And so now all of a sudden we have fifteen minutes to get 600 megawatts back on our systems. Or, we violate BAL-002. Depending on the operating conditions, and these are kind of --- you know, this is typical. We load up 150 megawatts in available units at Fairfield. Fairfield is a Pump Storage facillity; it generates about 560 megawatts. And a lot of times it's fully loaded. A lot of times we can't do this. But there is many other times when we can; you know, it's not always generating at 100%. So, in this case we did have a little room, we put on 150, which reduced this to 450. We loaded up Saluda, which is 200 megawatts; that took off 450 ACE, down to 250 ACE. And then we called on 250 megawatts of reserve from Duke. See, Duke delivered to me instantaneously. So, my ACE is now back to zero; Duke's ACE is negative 250, and they have a couple of minutes to recover that. We might operate like that depending on the time, depending on the time within an hour until the top of the next hour, which is our first opportunity to go out and buy electricity from the market. Remember those companies up North or out West that may not

--- they might have some pretty mild weather, we go out there and we search and see does anybody have 600 to sell us? So, if we find somebody that has 600, we'll buy it. When that energy starts flowing to us, we will cancel this emergency schedule, we will shut down Saluda, and we will shut down Fairfield. And it's basically back to normal. But instead of us generating it ourselves at Williams, we are now buying 600 from the market. And that's kind of how that works. In this whole process here with the bullet, from the time the Williams Station is tripped to bullet 4, must happen in less than fifteen minutes or we report less than 100% compliance. This happens at the top of the next hour. And we will continue to buy that electricity until we can bring on another unit, which will probably be another steam unit because that would replace Williams. Or, we might buy a long term contract from whoever the seller is if it's at a decent price. Okay?

MR. XANTHAKOS: Any questions?

UNIDENTIFIED: Why would you not continue ---

MR. XANTHAKOS: One second. She is going to bring the ---

UNIDENTIFIED: Why would you not continue to run the Fairfield and the Saluda unit in a case like that, rather than going to the spot market?

MR. XANTHAKOS: Well, the reason is --- there's two parts to that. The reason we would get off of Fairfield is because Fairfield eventually runs out of water. It's not like Saluda, or Saluda would eventually run out of water as well. But at Fairfield, we bring it down to its minimum level every day; and then we fill it back up to its maximum level. And you can only generate for probably about six or seven hours of the day doing that. So, if I increase my generation over what I had forecasted it to be, over we had planned for, that means I will run out of water sooner than I expect. Does that make any sense? The reason I would get off of Saluda is because there is another standard, BAL-002 --- there is another one after that, I don't remember the name. But it's a BAL standard, I'm sure. Which says that I have to recover my reserve within ninety minutes. So if I am carrying reserves on Saluda and I use them to serve a contingency, I still --- I have ninety minutes to get reserves back from somewhere. So I am forced to use another resource with ninety minutes, and then back Saluda down to zero in case I lose my next power plant. Losing two power plants in the same day is not common, but it's not unheard of either. So that's why I would get off both of those units. Okay?

MR. XANTHAKOS: Any other questions?

(No response)

MR. XANTHAKOS: All right. I believe there is another example coming up. Okay, Example 2. This is a reverse example. This is what CPLE calls SCE&G for 150 megawatts of contingency reserves. In this case, we are delivering it in one minute on a zero ramp. But this is basically the equivalent of instantaneous. So, even though we are not generating the electricity yet, we program it in the system and our ACE automatically becomes negative 150. We basically eliminated --- we basically alleviated 150 megawatts worth of demand on their system and we put it on our system. So we are negative 150. So now, SCE&G has how many minutes to recover from that?

AUDIENCE: Fifteen.

MR. XANTHAKOS: Fifteen. Actually less than fifteen because, remember it probably them a couple of minutes to call us by the time they figured out what in the world was going on. Maybe twelve, which is still plenty of time. SCE&G loads up the last unit at Fairfield Pump Storage; those units are about 75 megawatts. So that takes care of half of our problem. And then we load up one unit at Saluda, in this case it would be Unit #5, which is 75 megawatts, as well. And we alleviate --- is that the right word? Sorry guys. I'm an engineer and I can't even spell the word. We reduce demand by 150 megawatts. Okay? In this case again, what would happen is CPL would eventually have to get off of this; they would have to give us this back. You know, what they do to do that, I can't possibly --- I am not going to speculate. They could go out and buy it. 150 megawatts is not a big deal. And if they are calling on 150 from us, they probably already called on 550 from Duke, and probably 300 or so from Dominion Virginia Power. And we're just finishing up the problem for them. But once they get that back on, they would call us back. We would shut this unit down, we would shut that unit down. We'd be back to normal.

Okay? Yes, sir. One second.

UNIDENTIFIED: The bottom line is, in ninety minutes you have got to get your 200 megawatt reserve back, ready basically? Is that correct?

MR. XANTHAKOS: That's correct. Yes. And there are --- well, I hesitate to even bring it up because this might happen one day out of every three years. Oh, yeah, well --- Let me repeat the question. The question was, bottom line SCE&G has to get off of their reserve within ninety minutes. Is that good enough? And the answer to that is yes, because of the rules that are in place. And I said I hesitate to bring this up because it might happen on occasion. But there are occasions where, you know, at 105 degrees or 115 --- whatever the heat index might be, and Saluda is the absolute unit we have on line, and we have to use it. And we then go out to the market to buy power, and they simply say, "We can't sell it. We don't have any power to sell to you. We are using everything for ourselves." And on a day like that, the system is running on its ragged edge, and I would be sweating bullets. But I don't think it would be more than --- you know, if that were to happen, it would be at the peak hour, which would be like 4:00 o'clock on a hot afternoon. By 6:00 o'clock the loads are falling; it would 120 minutes; we'd get off of it as soon as we could. So, I would say 99.9% of the time ninety minutes or less. Point, one percent of the time, two and a half hours.

UNIDENTIFIED: Everybody kind of does that?

MR. XANTHAKOS: We do that. No, you know, not everybody uses a plant like Saluda to cover reserve. I don't know what they would do. But they do recover their reserves within ninety minutes somehow. It could be that they use their --- they bring on another unit, or something else. But you have always got --- it's kind of like insurance, that you really can't be without. Okay? Oh, you know what? I messed up. Is that enough? No. I had --- you know, I'm not flipping through here, and I haven't given this presentation in a while. But SCE&G loads up one unit at Fairfield for 75 megawatts; loads up one at Saluda. And this example, I didn't write it, but it was one of the smaller units. It was one of the 35 megawatt units. And then I would say, "Is that enough?" No, they have to bring out one more 35 megawatt unit. But they could have just as easily brought up #5, which is 75 megawatts that --- Okay. All this stuff that we have gone through is not just a spread sheet. This isn't fictional, it's real. And this is really how it happens. I mean, for the folks that came to the tour, you know, we had a great tour; we talked. You know, we looked at all kinds of stuff, and there was pretty low pressure in the Control Room. That could have changed at any time very quickly and with absolutely zero notice. The ACE that we saw, which was hovering between negative 60 and positive 60, could have quickly become negative 600. Again, because of the Compliance Rules, we report our compliance to each other after the fact. Okay.

Why is Saluda such an important role in our recovery of reserve? Well, remember the fifteen minutes? Getting 200 megawatts on the system in fifteen minutes is not easy. If you take an average, that comes out to about 13 1/2 megawatts per minute. And to give you some idea of how other plants work, V.C. Summer Nuclear --- let's assume we had it back down by 200 megawatts. Which means if we needed reserves we could call them and say, "Give me 200 megawatts as fast as you can." They can move that plant at about 1 megawatt a minute, which would mean for me to get 200 out of them it would be 200 minutes. Which translates to what? About 3 hours? A little over 3 hours. Saluda can do that in about five minutes. SCE&G could also use its coal, it's steam fire units to do that. They give us about 5 megawatts a minute. You're still too slow, you could have more than one unit. Lets say five coal units back down. The trouble there is, what if it is one of those five that trips? You know, if you are counting on reserves on Williams Station, say you back down Williams by 200 megawatts, so you think you can get them up. But then it's actually Williams that trips. Now, where are your reserves? They just went away with that unit. So you can't really use coal. And the last alternative, you can use quick start turbines. I said, we've got about 75 --- between 75 and 100, depending on the time of the year, and the fuel. But those quick starts only have about a 50% success rate. And I have to be careful when I say this, because especially if there are fossil-hydro people in the room. They come on every time we call them. They don't always come on within the fifteen minute requirement. And remember, we said that it might take CPL a couple of minutes to call us; might take us a couple of minutes to our folks. So really, they have got less than fifteen minutes. I mean, they are lucky to have ten. And for them to crank up from a cold start, just fully loaded, it's pretty tough for them to do. It's not the same as having gravity pull down water that is sitting there waiting.

MR. XANTHAKOS: Any questions?

(No response)

(Side B of Tape)

MR. XANTHAKOS: The review is, generation trips can happen any time, there is always exposure. Summer afternoons and winter mornings are more likely times for sudden emergencies. Why would that be? Why do you guys think that is? There's heat, there's cold, and plus you've got more units on line. I mean, if I have only got four units on line and I've only got a 25% chance of losing one. If I have got ten units on line, hey that's six more units that could trip at any time. So there is more units on line. And the conditions are much more difficult. One of my co-workers is sitting in the back, he is trying to lay low because he didn't want y'all to know he's there. But, he will tell you that our most difficult mornings are winter mornings when it's about somewhere between 18 and 22 degrees outside. I did not know before I came to work for this company that fuel can actually freeze. I had no idea that that was possible, but apparently it can. And if you haven't prepared for it, or for some reason you thought you had a heater working and it cut out during the night, then there is no way you are going to bring that unit on. And that's the equivalent of a trip. There are many factors that cause interruptions of generation. We talked about those. There are a few warnings. Sometimes a power plant operator can call us up and say, "There's something going on here. We think we are losing this plant. We are going to try to hold it on as long as we can." In cases like that we don't always have to use reserve. We can go out, we can buy that 150 or that 600 megawatts ahead of time. And we can casually bring that unit off line. Those are really nice situations when they happen. But when they don't happen, it's Saluda that is the most reliable option for the lights to stay on; Fairfield, as well. But remember Fairfield runs out, and there is also a lot of other constraints at Fairfield. If there is flooding in the Broad River, we can contribute to that floodings which makes Fairfield unavailable. And there's all other kinds of rules like that.

MR. XANTHAKOS: Any questions?

(No response)

MR. XANTHAKOS: Okay, that's it. That's the presentation.

MR. STUART: Very good. Thank you. Are there any questions?

MR. KEN LOWDEN: This is very interesting, but very seldom in here did you talk about the customer. And certainly we don't see much of this ever going on as residential unit users. But to industrial people who are the extruders, who require consistent energy, does this ever impact them? Or, do you have any feed back mechanism there? Are there costs associated with one electrical source being more fuel --- or, more efficient to purchase than another? How does the cost come back? And what if there are thirty kids down here in the River and, you know, it's calm and --- is this ever a threat that they could be in danger because of the need to produce for our State needs or out of State needs? So, where is the customer in all of this, I guess is what I am --- where I am at?

MR. XANTHAKOS: Okay. There were three questions. I am trying to remember them all. You might have to help remind me along the way. I remember the first one and the last one. I can't remember the middle one.

MR. LOWDEN: Start with the kids on the River then.

MR. XANTHAKOS: Okay. Well, that's true. I mean, there is a lot of folks on the River; it's not just kids or fishermen; there's boaters. And my understanding is --- and I don't --- you know, I control the electric system. But, at the most dangerous areas where there is rocks and rapids, and people can get stranded, there is alarms, there's bells, there's whistles, and that sort of thing. Also, you know, there has to be an element of personal responsibility. I would hate to think that there is twenty second graders out there without some kind of adult who knows how to read the River. Keep in mind that even when we generate Saluda, if we go from zero to 100, there is not this perfect water moving down. The elevation does rise, but it rises at a controlled pace. So, if you are watching the shore line, if you have done what you are supposed to do, which is find a rock to look at occasionally; if that rock starts to get buried under water, get off of the River. You know, there's a lot of ways to mitigate that. As far as the industrial customers are concerned, their needs are a lot different than the residential customer. The tiniest blips in Charleston, if Williams Plant trips in Charleston then our Michelin customer out here would have seen that blip and they would have called us probably before we could have called on reserve. Their machinery would have probably tripped off line and would have messed up some of their processes. So, some of our larger customers have direct telephone lines into our Control Room. Then the middle question was?

MR. LOWDEN: The cost?

MR. XANTHAKOS: Cost. Every single megawatt of electricity we generate costs a different amount of money. There is no exception to that. And when we plan the system ahead of time, these folks --- there's another group called Electric Resource Commitment. They plan the system to run with the most economic megawatts on the system. So if we forecast that we are going to need 4,000 megawatts, they look at our fleet of generation, which is 5,800 megawatts, and they say, "Here is your 4,000 best, most economic megawatts to use." Now, what happens is --- so, we're talking about operations here. Forecasting is great, but you cannot forecast a trip. Right? Because if you did, then it wouldn't be an emergency, you would have planned for it. So, you can't forecast a trip, which is an emergency. And what happens in that case is, economics go out the window. My primary goal is to keep the lights on; so, for that period I throw economics out; I bring on the quickest unit I can rather than the most economic unit. And once I have balanced the Grid, I push it back to the ERC folks and say, "Okay, here I am with these units, here I am buying power from Duke that I didn't intend to buy. Give me a new plan. What is the most economic way for me to run now, with the loss of that previous unit?" And then within the next hour or so, we readjust everything. All of that is transparent to the customer. Okay?

MR. PATRICK MOORE: I just have a quick question. Every so often somebody does drown on the Lower Saluda, and every Fall during the low oxygen period it becomes I won't say impossible, but very difficult to meet the water quality standards for dissolved oxygen. What options are available to you guys if hypothetically through relicensing it shows that it is either unsafe, particularly from, you know, to instantly go full force to eighteen thousand cfs. safely, or to generate and, you know, if you can't generate and meet water quality standards, what sort of other reserve capacity --- You know, how would you all handle that?

MR. XANTHAKOS: Let's say a ramp was put in, for example, what would happen --- and this is just my opinion, I certainly can't guarantee this. But I think that Saluda --- if there was a ramp put in place, I believe the use of Saluda would actually increase under good water quality times of the year. And the reason is, we've got to carry reserves somewhere. If we can't carry them on Saluda, we would carry them on Fairfield. Now, on a given day like today, we plan on using Fairfield, we plan on using that water. If I have to keep that aside and not use it because I'm carrying a reserve, I have to replace it somewhere. If you go through the facts which we just talked about, what is the most economic use? The most economic use then becomes Saluda. So, if I am carrying reserves on Fairfield, I'm probably going to be generating at Saluda. So if there is a ramp, I would have started it at --- you know, let's say it's a 50 megawatt a minute ramp, or 50 megawatt an hour ramp, we would have started at say 4:00 in the morning; over the next four hours, we would load it up, and we would use it instead of using Fairfield. Now, under the dissolved oxygen, it would be the same thing under the low DO season.

If we can't use the Saluda, we would have to use something else. So we wouldn't run Saluda, we'd still have to carry reserves on Fairfield; so we would have to build another plant or try to find some other economic source of electricity.

MR. PATRICK MOORE: And what is the capacity of Fairfield, again?

MR. XANTHAKOS: 550 megawatts. 640 when it's pumping. Could you tell us your name?

MR. PATRICK MOORE: Patrick Moore, the Coastal Conservation League.

MR. XANTHAKOS: That's Patrick Moore with the Coastal Conservation League. Okay. Other questions? Alan, do you have a question?

MR. ALAN STUART: Alan Stuart, with Kleinschmidt. Could you explain the operational restraints of Fairfield with respect to the Broad River?

MR. XANTHAKOS: Okay. The question is to explain the operational constraints of Fairfield with respect to the Broad River. You know, in our classroom where we have done it up at the training center, I have always had a marker board. You know, I guess you guys don't want to see that anymore. I know Steve doesn't. We talked a little bit about Fairfield and how it is different than Saluda. And what happens is when water is released out of Lake Murray, it goes into the Saluda River and it flows away. You never get that water back. At Fairfield the process is different. When water is released out of Lake Monticello, it goes into the Broad River, but there is a second dam there called Parr. And what that dam does is it keeps some of that water, not all of it but a lot of it. Later on in the day when prices are --- remember I talked about the difference in the cost of electricity? When we are generating with very economic electricity and our customers are not needing that power, we use it to turn the generators into pumps, and they reverse their rotation; and instead of taking water from Lake Monticello into the Broad River, they take water from the Broad River and they put it in Lake Monticello. And then we use it again the next day. Now, under ideal conditions what we could do is, we would take Lake Monticello, you know --- not even ideal, just completely imaginary conditions, from an economic standpoint, what we do is we would empty Lake Monticello all the way to the bottom every night; and then with the extra electricity we'd fill it right back up to the very brim every night. Well, we can't do that. I mean, that obviously is not realistic. What we can do is operate it within the balance --- let's see, 425 is our maximum elevation, and we can take it down to 420.5, which is four and a half feet. So we can lower --- that's one of the constraints, is the elevation. We can take all the way to the top. We can only lower it four and a half feet. When we reach that bottom, we have to stop generating. And not only do we have to stop generating, but we cannot generate again until after loads have reduced, prices have reduced, and we have put water back in there. Okay. So, that's one of your constraints. That's the highest side constraint. There's another high side constraint which is, the V.C. Summer Nuclear Station, uses Fairfield water as cooling water for some of their pumps. And if it's really hot outside, the water at Lake Monticello is already warm, as they use it to cool down their pumps, of course, it heats up a little bit. And if they start putting hot water back into the Lake, that of course is not good. So, we shut Fairfield down so that we are not taking more water out; that would cause the temperature to go up. And eventually, VC Summer has to start backing down its generation, as well. So that's another high side constraint. The low side is --- I don't know if you guys have ever --- how much you look at the U.S. G.S. site, but you can add up how much water is coming down the Broad River. Normally, on a day like today, it might be 10,000 cubic feet per second, could be 8,000, during a draught, you might see 800 --- it’s very little sometimes. But when it has rained a lot, it really, really adds up quickly. So after any given rain, it's not uncommon to see 40,000 cubic feet per second. I remember a real hard rain we had, it was about 140,000 cubic feet per second. In any case, at some point when it hits 40,000, when the flow in the Broad River hits 40,000 cubic feet per second, we have to just stop generating at Fairfield. And the reason is, because you are already under a flooded condition in the River, and if we start adding water to that flooded River, then it just makes a bad situation worse. So, under those conditions we basically count Fairfield as if it were a unit trip. As if it was running and then it was not running. And then we go out and we buy electricity or we crank up another unit. I think that's all of them. I don't think there's any other constraints unless I am missing something. Is Bill here?

UNIDENTIFIED: Yes.

MR. XANTHAKOS: Is that it? Okay.

UNIDENTIFIED: What's it like in Lake Murray?

MR. XANTHAKOS: Same question on Lake Murray. Right now, and I guess that's part of this whole relicensing process; there's really not a lot of constraints. The constraints we put in place are from what I understand voluntary. Some of those that we have done is during low DO season, we have worked --- I guess, which one of the governmental --- is it DHEC that calls us to look up tables? There is five units at Saluda, they operate differently, have different characteristics. Not just in the amount of generation on they put on the system, but also how well they mix oxygen into the water. So, we have created these tables where on a day where Progress calls us and says, "You need to use ---" you know, "We need 150 megawatts of electricity," and we can't use Fairfield to give it to them, we then look at the tables and say, "Here is the best four units to put on line from an environmental standpoint to generate that 150." Then also, during the low DO seasons in the Lake, on the Lake side, as soon as we found out about it, we immediately made all the units available until that season was over. Keep in mind, I don't --- you know, I don't necessarily know what the DO levels are until someone tells me what they are; and then once I know, then we can stop generating. But up until that, it's hard for me to tell because remember my purpose is to balance the Grid.

UNIDENTIFIED: (inaudible)

MR. XANTHAKOS: Right, there is a couple other small ones like if you generate on Unit 1 between like 15 and 25 megawatts, it causes it to vibrate and stuff like that. And also, you have got to generate more than 35 megawatts if you plan on using #2, and that has to do with the way it functions with the coal plant. So there are a number of constraints. They are nowhere near what Fairfield is. Yes?

MR. JIM GOLLER: My name is Jim Goller. Could you further explain DO reporting to you in the Control Room? I didn't quite understand why you don't regularly get DO reports.

MR. XANTHAKOS: Okay. The way we normally get DO reports are through the fossil-hydros, I guess. I'm not sure of the name of the group in the fossil hydros and environmental folks. And what we do is, I guess it's maybe in the late --- early August, late July timeframe, we get a report that says, "Here's what the DO level is in the Lake now." And we then take that level, we transplant it to our look up table, and from that look up table we --- if we have to generate at Saluda, that's usually the units we run. We then get an update when that level changes. So somebody else is monitoring that and providing that kind of information. Does that make sense? Then we use that information to use the look up table to run the units that are best for the River.

MR. GOLLER: Do you feel like that's an adequate reporting method, and accurate enough and accurate enough to make your judgments from?

MR. XANTHAKOS: Yeah. Well, I think so. The problem comes into play is when you have this table that was created through a series of studies, and it might say, "Run Units 1,2, 3, and 4 at 15 megawatts." And you go to bring on Unit 4 and it has a mechanical problem. So, whatever oxygen it was supposed to be mixing, is not mixing. But there is really no easy answer for that.

MR. GOLLER: One reason I am asking these questions is, I know that during the summer when you were, I believe, testing turbine venting on Unit 2, Unit 1 or 2, and you brought Unit 5 on line, and then there was a fish kill on the Lake, why was the decision to run Unit 5 rather than Units 2 and 3, or 3 and 4?

MR. XANTHAKOS: Yeah, I think the testing was on Unit 1. Unit 2 couldn't be run because they are not --- you know, we are going back several months. Unit 2 couldn't be run because, remember, you can't run Unit 2 unless there is already 35 megawatts on it because of water problems in the --- because of water that it’s putting in the River. Unit 3 was out for service. And so we were limited to the number of Units we could run. The table didn't show Unit 4, so we used Unit 5. Of course, we didn't know it was going to cause a fish kill or we would have never run it. So, as soon as we heard that, the Unit was made unavailable for the rest of the summer immediately. Remember, a lot of the information we get is after the fact. Go ahead.

ALAN STUART: I was involved with the turbine venting testing that you are referring to. It was a coordinated effort with DHEC as part of some of the agreements that were established as part of the look up table. The reason Unit 5 was run is the turbine venting, we tested Unit 2 --- The goal is to test all the units together, or a combination of 2 and 5, to develop these look up tables. Unfortunately one of the things that you have to do is we had to close the vents as part of that to establish the base line. That's why --- that was primarily the reason for the fish kill because the vents were all closed during the closed testing. Again, that information was developed with DHEC, the study plan wa submitted. So it was something that ---unfortunately DHEC had forgotten about it, and I think that you probably saw SCE&G's letter to them to explain that. So, that's why. It was an atypical situation.

MR. CHARLIE RENTZ: I am Charlie Rentz, and I wanted to ask if the level in Lake Murray --- the practice has been to lower the level during the winter time, and then of course, we had the long time the Lake level was down during the Dam reinforcement. It's being lowered now, of course. Do these levels affect the operations of the Saluda Plant, and how so does that affect your balance?

MR. XANTHAKOS: Oh, yeah, it definitely affects us. You talking about how lengthy they are. I think that if you could summarize that question by saying,"How do you operate during a draw --- How do we operate during a draw down?" And there is an effect, there's an enormous effect. Take today, for example, probably generating about 100 megawatts right now, which is half of the unit's capability. Well, in that case, we have Fairfield units that we leave off and available. Because, remember, you have got to have 200 megawatts off and available. Once it's generating, it doesn't count anymore. So, we are keeping other units to the side. The other one is --- and, actually, we were able to work with the FERC well during the draw down of the major --- the major draw down during the Dam project. Their original request, Randy, you might have to help me with these numbers, was that we bring it down to 345. But if you look back at the charts you see that we never really came all the way to 345; we were always in the 346, 347 range. And the reason was because we explained to them what I've explained to you today and how we use Saluda. And explained to them that we need that water in case of an emergency to crank it up as quickly as we can. And they understood that if we kept it at 345, and had to generate, it could bring it below that level. So they gave us a two foot buffer. But once we brought it down, we kept it at about 347 and used it for reserve. So, actually, our operation went kind of back to normal after that. Now, during the fill up of the Lake --- and once again, it doesn't affect us a whole lot. We let the rain come in so that the Lake fills up. And if we have to use it for reserve, we do. And the reason is, because if you think about only using it for up to 90 minutes, I can say with a good degree of certainty that when I've used the Lake for reserve it has had almost zero affect on the elevation in the Lake. And when we have run it for 90 minutes, at most 90 minutes, normally it's less than an hour, it's not even noticeable to a Lake owner.

MR. STEVE BELL: My name is Steve Bell, with the Lake Murray Watch. Alan, could you explain to us how the model, the model that we are developing, the Operations Resource Committee is going to look at all these issues and how we are going to plug that in, and that kind of thing? Because, I think all our questions are going to be eventually answered through that model. Thank you.

MR. STUART ALAN: What Steve is referring to is the Operations Group, the Hydraulic Water Budget Model. Obviously there is a set amount of water that can be used for generation, for recreational enhancement, minimal flow releases to protect fish habitat in the Saluda River. Each Resource Group will develop a set of recommendations to propose to the --- or, as input to the model. Okay. Each one of these recommendations, it may be a minimal flow requirement of a continuous thousand cfs, discharge to protect this habitat. All right. That takes water out of Lake Murray, so it begins to reduce the storage amount, what's available for power generation, what's available for Lake level management. And so, that's what these RCG Groups are going to develop for a list of recommendations that they would like to see. We'll take these back to the Operations Group and begin to give equal consideration to each one of those Resource Groups and try to develop that PM&E, Protection Mitigation and Enhancement Agreement, to try to best serve the Resources. And what we can --- with water available and the power generation needs, and to provide enhancement. Does that explain your question?

MR. BELL: I just want to make sure that people understand that we are going to be putting information into this computer model, this model; and you were going to run it and then we are going to get results, and we'll be able to see, you know, when this happens how it affects other areas and things like that. And so, all of this is going to be looked into detail in the relicensing as far as, you know, how the Saluda Hydro is operated.

MR. STUART: That's correct. And, as I said this, you know, models are great; but models are just tools to use for decision making purposes. They don't provide the final answers, you know. So, you know, given the technology that's available, you know --- but we feel pretty confident that we are going to use the best hydraulic models that are available to do the analyses.

MR. TONY BEBBER: I am Tony Bebber with the Parks, Recreation and Tourism. Lee mentioned ramping a minute ago, And I think I understand that. But, it's gradually turning on units over some designated time period, or something like that?

MR. XANTHAKOS: That's exactly what ramping is. It's the --- the Plant's capacity is 200 megawatts. An example of a ramp would be to bring only 50 megawatts on in any one hour. So it would take you four hours to go from zero to full two hundred. Another example would be fifteen minutes, you know. And the problem is, of course, from an operational standpoint it eliminates the unit of the reserve unit. But, I guess, the confusion I have always had with ramping is, what is reasonable? You know, is 50 megawatts in an hour reasonable if you crank off 50 of those up from the first minute of the hour? You know, did that help anybody? I don't know. Those are difficult questions to answer.

MR. KEN LOWDEN: One more question, I promise I will be short.

MR. XANTHAKOS: That's fine.

MR. LOWDEN: My name is Ken Lowden, said that earlier. But, I guess the question I have now is, of course, we're interested in relicensing of this facility. And, you know, thirty years ago or so, my fishing shack out here, whatever happened on the Lake didn't impact it much. But today, the Lake has a major economic impact, it impacts a lot of people in the community. What is being done at a bigger level to look at possible assets that could produce power, that perhaps would still give you the control you have, that you need from this facility, but might in fact have less impact on the economic picture, and the environmental picture, and just what we are today with Lake Murray?

MR. XANTHAKOS: There's probably much better folks in the Company to answer that question. Keep in mind, most of my operation happens in like right now, in the next hour, or maybe after the next day. So there is definitely folks that can better answer that. But, I do know that they are looking at other resources. Quick Starts are certainly one they are considering. So, I guess, the point I want to get across to you with that question is, the majority of the time that we run Lake Murray is not because of electric usage. My electric usage is very short. You know, I tried to stress that. I'll get off of it in less than ninety minutes. The majority of the time when you see the Lake run is because of rain, a tropical storm coming this way, lowering it to work on the Dam, lowering it to work on the roads. And all of that is dependent on how much rain has come in. Remember, Lake Murray has a maximum elevation of 360. We don't want to get close to that because flooding would even happen at that case. But eventually, that's a still water. So, the answer to your question, the majority of the time that we operate Lake Murray, the majority of the time the water is going out of Lake Murray into the Saluda River. I don't think there will be a major change, because it's based on how much rain we get. It's based on how much work has to get done on the roads and the Dam. If you really look back, the majority of water we have released, it's been because of that; it has not been because of electric usage. So, I think the answer to your question, you might be surprised at how little we've changed. Some of the things --- this is one where I've drawn on before. But, what really confuses folks is our inability, maybe, our insufficient ability of just maybe in the fact that we haven't been focused on sharing stuff like this with the general public. There has been many times in the past, and I have got folks here that will testify to this, where there is a tropical storm headed this way; and it's dropping eight inches of water; and the Lake is already at 356, which is pretty close to full, it might be higher. This summer we kept it at --- did we go to 358? That's pretty darn full. Yeah, it's fine until that tropical storm gets here. And the problem is that as that tropical storm is headed towards Charleston, and they are projecting that path through Columbia, I may not have the ability to lower that Lake fast enough if I want til the last minute. So, in my caution, I start generating four days out, five days out, if I can make enough room to catch eight inches of water. And remember, we are talking about water in the Lake; we are not talking about water that just dropped on the Lake. We are talking about a huge basin of water. And we are also talking about Lake Greenwood, which is upstream. And when he starts dumping water, it's coming right into Lake Murray. So, we are talking about all these inflows of water. And I start generating five days early to get it down, and I might drop it a foot and half or two feet. If the tropical storm does take the path that they predict, and we fill back up two feet, I'm a genius. I mean, I did great. My boss sends me a letter, "Did a great job." But if that storm veers up I-95 and goes into Fayetville, I get hate mail. So, it's very difficult to know what to do when the biggest difference you have is really rain fall.

UNIDENTIFIED: (inaudible)

MR. XANTHAKOS: Yes, but that's how I started that.

UNIDENTIFIED: The Lake people are looking for it, when that happens how do we avoid ---

MR. LOWDEN: Up at the school, too, is how do we have a better communications within the community so that when it does to come down a couple feet in a couple of days, you know, people aren't totally surprised because you started two days early, or you know, whatever.

MR. XANTHAKOS: And my caveat by saying that at first, we have done a good job of getting the information out. Or, hoping to do, and it doesn't seem like these are difficult. But we are working on the web site, an internal company web site, that is available to everybody. And with I, and my most three most senior people can type in there what our short terms plans for Lake Murray are. So, when you see it go from zero to, you know, --- fully generating, we can type in there "Tropical storm 'so and so' is headed this way and we are creating room for that." And you may not agree with that, but you will at least understand it. You know, you will at least say, "They are not just doing it because they feel like it." And this is actually a joke I make to a lot of people; I have not said this in this group, but the folks I've talked to on the side, and some of you may be in here. We don't have like a big spinning wheel with an arrow on it that says, "Run Saluda, don't run Saluda," that we just flip around and make our decisions by. Every time we run Saluda, it's been for a reason. You know, it's been for a really good reason. And that's kind of how we are going to operate.

MR. PATRICK MOORE: Again, I am Patrick Moore. Just to clarify, you mentioned that your power needs and your contractual VACAR needs are ninety minutes or less usually --Fifteen minutes or less --- Yeah, fifteen minutes we're back on to get some more there back in ninety minutes. Over the past seven or ten days it's been running from 700 cfs to 18,000 cfs. And if that's not to meet those VACAR requirements, I guess my question is why not run at --- and at 18,000 I think it's six or twelve hours a day, why not run at 9,000 twenty-four hours a day for the purpose of draw down instead of these huge releases that contribute to down stream erosion and could possibly create safety concerns when we have warm weather like this and people might be at the River?

MR. XANTHAKOS: Yeah. I guess it just goes back to the agreement that we made, which was to keep the Lake up high, to keep it at 354 through the end of the year. And then so that we don't affect --- have a minimal effect on it to lower it within the three week period. If I run at 9,000 cfs twenty-four hours a day, I cannot lower it to the six feet that I have to lower it for them to do their work. The only option is to run at this rate. So, the rate is a function of the time span that I have to lower the Lake.

MR. MOORE: So, I guess what I am saying is 9,000 twenty-four hours a day --- Not --- 18,000 twelve hours a day.

MR. XANTHAKOS: It's been probably about --- it's been 18,000 for sixteen hours a day probably. So, it's two-thirds of the day. So your numbers aren't quite adding up. Now, it may seem that way on the graph because it takes some time for the water to flow and to increase and to drop off. We have been running it over twelve hours a day, sometimes up to sixteen at that level. And if you did 9,000 it wouldn't add up. I would never be able to lower it in two weeks.

MR. MOORE: Okay. Well, getting away from the numbers, is there no way to lower those peak, I guess, in terms of the erosion concerns and safety concerns and just run it more consistently instead of having to drop --- you know, raise the valleys and lower the peaks?

MR. XANTHAKOS: Yeah, absolutely. There's an infinite number of ways to run it. We could run it for 9,000 cfs for twenty-four hours, we could run it for 18,000 for twelve hours, we could run it for 4,000 for forty-eight hours. But there is, also --- there is down stream concerns and up stream concerns. And I will go back to what was given to me, which is you've got three weeks to lower the Lake six feet. And the only way I can do that is the way I am doing it right now. So, I'm working under the constraints that were given to me.

MR. MOORE: So, it's not a demand-profit issue? You're not running it ---

MR. XANTHAKOS: No, no. Actually, folks that visited the Control Room, you know, I said that 99 times out of 100, if you were to come in here today, you would not see us generating any at Saluda; they would be off. I am only generating right now for the sole purpose of lowering it within the three weeks so they can do their work on the road.

MR. MOORE: Okay. So, the raising of the valleys and lowering of the peaks is out of your hands, is what you are saying, that decision is made by somebody else?

MR. XANTHAKOS: No. The rate of change --- the six feet and three weeks was a decision made by somebody else. The way that is done is through my office.

MR. MOORE: Okay. And maybe I'm just being dense and not hearing what you are saying.

MR. XANTHAKOS: Well, I guess another part of the answer might be, why wouldn't we run the Saluda between 11:00 at night and 4:00 in the morning? Why wouldn't we do that? I mean, why wouldn't --- I will throw it out to the group. Why wouldn't you generate with Saluda at those hours?

UNIDENTIFIED: (inaudible)

MR. XANTHAKOS: What?

UNIDENTIFIED: (inaudible)

MR. XANTHAKOS: It's getting too much power. I don't need electricity at 2:00 A.M.

MR. MOORE: So it's a demand-profit issue?

MR. XANTHAKOS: No, it's not a demand or a profit issue. It's a balance issue. How can I generate electricity that nobody needs? What's going to happen to it? Where is it going to go? See what I mean?

MR. MOORE: I do.

MR. XANTHAKOS: How can I do that?

MR. MOORE: I mean, you could generate, and it just goes onto the Grid. Right?

MR. XANTHAKOS: No. No.

MR. MOORE: I mean, not if it's not ---

UNIDENTIFIED: (inaudible)

MR. MOORE: Yeah, reduce another source.

MR. XANTHAKOS: All of our sources ---

MR. MOORE: Maybe just run ---

MR. XANTHAKOS: Okay, I see what you are saying. Before we do that, all of our resources are on the bottom. I mean, a power plant --- take Williams Station, for example, which generates at full capacity 600 megawatts, I can't shut it down. It doesn't go to zero; it goes from 450 to 600 once it's on line. So, I only have 150 megawatt band on that unit. The Nuclear Station doesn't move at all. It's always 1,000. If I called them and said, "We need 200 megawatts," I'd have to talk to the Vice President of the company; he'd go, "Why? We don't move this plant around. This is a ---" NRC would get involved with that. McMeekin Station goes from 125 megawatts to 90 megawatts. If I go below that, they have to come off line. So the unit that I can back down, after I've backed all the rest of them down is Saluda.

MR. MOORE: Okay. So, your night time generation needs are generally met by the ones that run full force all the time?

MR. XANTHAKOS: Right, basically those units.

MR. MOORE: Okay. Thank you.

MR. RENTZ: Am I not correct in saying that you have a minimum flow level that you have to provide down stream? And, does that flow level continue to operate some of the units all of the time?

MR. XANTHAKOS: Okay. The answer to the first part is, "Yes. We do maintain a minimum flow." The answer to the second question is, "No, it does not require use of the unit." The minimum level by the strictest of all definitions is 180 cubic feet per second. The leakage through the units --- I mean without generating any electricity, is above that. Is more than that. It would still be very little. I mean, it would really be very --- it would cause a very low river. So what we do is we always keep one unit tied onto the Grid, but not generating electricity. And what it does is it allows a little bit more water to flow through. So under ideal conditions, the minimum that we try to maintain is about 400 to 500 cfs. Even though by rules, the minimum is 180. We do twice that, a little more than twice that, without generating any electricity at all.

MR. RENTZ: Could you not create or have a unit that would run at the consistent --- consistently at the rate that the water passes, even though it might be smaller than what you have now?

MR. XANTHAKOS: Yes, you could. So what you would use is --- what you are saying is, "Why not create a unit that uses and generates electricity with 400 cubic feet per second?" And the answer to that is, that would be a very small unit, it would be almost negligible for our system. It would be less than 10 megawatts. So, even though it could be done, I think that there is another group with folks that have probably said, "It's just not economic to build that unit." Let the water flow out.

MS. MARY KELLY: My name is Mary Kelly, and I am with the League of Women Voters. I just wanted to ask a question about the Grid. When we had that big power outage in the Northeast, there were all kinds of recriminations and blame, and so forth; and, Congress was supposed to do a whole lot about it. What has really been done to ensure that the whole Grid system is more reliable?

MR. XANTHAKOS: Right. That's a difficult question because you are talking about a national Grid with --- and which power companies have to make a change. Power companies --- you guys are going to laugh when I say this, because I work for the power company. But, are traditionally very slow to change. What the Government has done to try to speed that up is they have made some pretty hard enforceable rules, some pretty serious measurements. And then in addition to that, they have audited every single Balance Authority in North America. Remember I said we're a Balancing Authority? There's a hundred or so of them. And the NERC with FERC auditors have come into every one of our operations and done a five day audit, and measured whether or not we actually follow the NERC rules that we say we follow. So, everybody has been audited. And what happens is once they are done, they make a recommendation --- which means you better do it. And that's one of the ways they rationalize these problems. I would say the most --- the largest effect has yet to come. The largest changes to come. And remember, I said the NERC is a voluntary organization right now. But, the Energy Policy Act has said that the Federal Government can appoint a reliability organization that is not voluntary. And when they make rules, they become law. And that should be coming out this year. The belief is that NERC will be that organization. And there's 800 standards that have so far been voluntary, are going to become law. And it will be much more --- it will be a lot more motivation to follow those folks that are breaking the rules right now. I hope that answers your question.

MS. KELLY: Thank you.

MR. XANTHAKOS: We could also get into tree trimming and stuff like that, but I doubt that you are interested in hearing that. There was a question over here somewhere. Okay. Any other questions?

(No response)

(Loud applause)

MR. STUART: As you can see, we've covered a very diverse and very interesting number of topics in our Resource Conservation Group? Again, I encourage you if you would like to be an observer, you are welcome to attend these. Just get in touch with Alison or myself. We try to plan these out about a month in advance. So, please look at the web site at the calendar, and you know, we would love your involvement as an observer. If you have questions, you certainly could ask them at that time if you have the need. So, that's all I have. Are there other questions from anybody?

(No response)

MR. STUART: We are proceeding forward with the relicensing, moving ahead.

PUBLIC MEETING ADJOURNED.