

Case Study Interview: Progress Energy Carolinas—Bob Donaldson

*Prepared for the National Forum on the National
Action Plan on Demand Response: Program Design
and Implementation Working Group*

AUTHOR:

Dan Delurey—Association for Demand Response and Smart
Grid



February, 2013

National Forum of the National Action Plan on Demand Response

Case Study Interview: Progress Energy Carolinas—Bob Donaldson was developed to fulfill part of the *Implementation Proposal for The National Action Plan on Demand Response*, a report to Congress jointly issued by the U.S. Department of Energy (DOE) and the Federal Energy Regulatory Commission (FERC) in June 2011. Part of that implementation proposal called for a "National Forum" on demand response to be conducted by DOE and FERC.

Given the rapid development of the demand response industry, DOE and FERC decided that a "virtual" project, convening state officials, industry representatives, members of a National Action Plan Coalition, and experts from research organizations to work together over a short, defined period to share ideas, examine barriers, and explore solutions for demand response to deliver its benefits, would be more effective than an in-person conference. Working groups were formed in the following four areas, with DOE funding to support their efforts, focusing on key demand response technical, programmatic, and policy issues:

1. Framework for evaluating the cost-effectiveness of demand response;
2. Measurement and verification for demand response resources;
3. Program design and implementation of demand response programs; and,
4. Assessment of analytical tools and methods for demand response.

Each working group has published either a final report or series of reports that summarizes its view of what remains to be done in their subject area. This document is one of those reports.

The Implementation Proposal, and the National Forum with its four working groups' reports, is part of a larger effort called the National Action Plan for Demand Response. The National Action Plan was issued by FERC in 2010 pursuant to section 529 of the Energy Independence and Security Act of 2007. The National Action Plan is an action plan for implementation, with roles for the private and public sectors, at the state, regional and local levels, and is designed to meet three objectives:

1. Identify requirements for technical assistance to States to allow them to maximize the amount of demand response resources that can be developed and deployed;
2. Design and identify requirements for implementation of a national communications program that includes broad-based customer education and support; and
3. Develop or identify analytical tools, information, model regulatory provisions, model contracts, and other support materials for use by customers, states, utilities, and demand response providers.

The content of this report does not imply an endorsement by the individuals or organizations that are participating in NAPDR Working Groups, or reflect the views, policies, or otherwise of the U.S. Federal government.

Case Study Interview: Progress Energy Carolinas—Bob Donaldson was produced by Program Design and Implementation Working Group chair Dan Delurey (Association for Demand Response and Smart Grid) for the Lawrence Berkeley National Laboratory, who is managing this work under a contract to the National Electricity Delivery Division of the U.S. Department of Energy's Office of Electricity Delivery and Energy Reliability under Contract No. DE-AC02-05CH11231.

FOR MORE INFORMATION

Regarding *Case Study Interview: Progress Energy Carolinas—Bob Donaldson*, please contact:

Dan Delurey Association of Demand Response and Smart Grid E-mail: dan.delurey@demandresponsesmartgrid.org	Charles Goldman Lawrence Berkeley National Laboratory E-mail: CAGoldman@lbl.gov
--	--

Regarding the National Action Plan on Demand Response, visit:

<http://www.ferc.gov/legal/staff-reports/06-17-10-demand-response.pdf>

Regarding the Implementation Proposal for the National Action Plan for Demand Response, visit:

<http://www.ferc.gov/industries/electric/indus-act/demand-response/dr-potential.asp>

OR

<http://energy.gov/oe/downloads/implementation-proposal-national-action-plan-demand-response-july-2011>

Regarding the National Forum for the National Action Plan for Demand Response project, visit:

<http://energy.gov/oe/national-forum-demand-response-what-remains-be-done-achieve-its-potential>

or please contact:

Lawrence Mansueti U.S. Department of Energy E-mail: Lawrence.Mansueti@hq.doe.gov	David Kathan Federal Energy Regulatory Commission E-mail: David.Kathan@ferc.gov
--	--

Table of Contents

Acknowledgements	ii
Introduction.....	1
Interview: Bob Donaldson of Progress Energy Carolinas	2

Acknowledgements

Case Study Interview: Progress Energy Carolinas—Bob Donaldson is a product of the National Action Plan on Demand Response Program Design and Implementation Working Group.

The author received guidance and input from the Program Design and Implementation Working Group which comprises the following individual members:

<u>Name</u>	<u>Affiliation</u>
Aaron Breidenbaugh	EnerNOC
Alicia Collier	Honeywell
Anthony Abate	NYSERDA
Andy Campbell	Tendril
Bruce Campbell	Johnson Controls
Butch Massey	TVA
Chris King	eMeter
Chris Villarreal	CA PUC
Christine Wright	Texas PUC
Colin Smart	Con Edison
Dan Violette	Navigant
David Daer	Salt River Project
Frank Lacey	Comverge
George Karayannis	Lockheed Martin
Harlan Coomes	SMUD
Heather Sanders	CAISO
Jim Gallagher	NYISO
Jim Greer	Oncor
Jim Parks	SMUD
Jordan Doria	Ingersoll Rand
Kenny Mercado	Centerpoint
Larry Oliva	SCE
Larry Plumb	Verizon
Laura Manz	Viridity
Louis Szablya	Energate
Matt Johnson	EnergyHub
Nick Braden	APPA
Paul Wattles	ERCOT
Phil Cleveland	Duke Energy
Phil Davis	Schneider Electric

Rick Voytas
Stacia Harper
Steve Cowell
Steve Nadel
Steve Sunderhauf
Susan Covino
Toby Sellier
Ward Lenz
Wayne Harbaugh

Ameren
Ohio Partners for Affordable Energy
Conservation Services Group
ACEEE
Pepco
PJM
APPA
North Carolina Energy Office
BGE

Introduction

The Program Design and Implementation Working Group acknowledges the significant level of experience and knowledge about design of demand response programs and products that exists throughout the electric industry, but recognizes that this information is diffuse and has not been captured in a way to allow best practices and lessons learned to be identified. Thus this Working Group has focused on interviewing and gathering information from DR practitioners and presenting it in a way as to allow others in the industry to learn from what has already been experienced.

This report contains a transcript for one in a series of live interviews conducted by Dan Delurey (Association for Demand Response and Smart Grid) with a number of demand response practitioners from both the retail and wholesale side of the industry. This interview with Bob Donaldson, Manager of Demand Response in the Efficiency and Innovative Technology Department at Progress Energy Carolinas, was conducted on June 13, 2012.

To date, transcripts for the following interviews are available:

<u>Name</u>	<u>Affiliation</u>
Col Smart	Con Edison
David Eggart	Gulf Power
Pete Langbein	PJM
Bob Donaldson	Progress Energy Carolinas
Bill Harmon	Reliant Energy
Paul Kasick	Southern California Edison

These “case study interviews” focus on identifying and capturing lessons learned from current demand response programs. The interviews were conducted via private webinar with the interviewee. In addition to this document, the interviews are available as webinar recordings, transcripts and downloadable PowerPoint presentations on the ADS website: <http://www.demandresponsesmartgrid.org/CaseStudyInterviews>.

Interview: Bob Donaldson of Progress Energy Carolinas

Dan Delurey: I'd like to introduce our guest today, Bob Donaldson with Progress Energy in the Carolinas. Bob is the Manager of Demand Response in the Efficiency and Innovative Technology Department.

Progress Energy is a member of ADS, so we're pleased to have him with us today. Bob is going to talk to us about his experience with a program called Energy Wise Home. So welcome Bob.

Bob Donaldson: Thank you Dan, good afternoon.

Dan Delurey: And I guess we'd like to start off with just having you give us a little bit of a feel for what Energy Wise Home is. So could you just describe it so we have an understanding of what it is?

Bob Donaldson: Sure, Energy Wise Home is a residential direct load control program and it's a switch-based program with no thermostats. Obviously a lot of programs in today's climate offer some thermostat-based and switch, but ours is just switch based.

We are one-way paging, and I'll talk a little bit later why we started our program like that. It is primarily an air conditioning control, load control program. It is system-wide across our territories. We do control some of our hot water heaters and heat pumps strip heat in our Western region and that's in our Asheville area in the Blue Ridge Mountains.

For those not familiar with Progress Energy Carolinas' territory, we're in North and South Carolina. Other than our western region, we primarily serve along the I-95 corridor and east of there, and our western region is up around our Asheville area in the Blue Ridge Mountains.

Dan Delurey: And so Bob I want to pick up on what you said about this being switch based and no thermostats and also the one-way communications aspect of this. I think you alluded to the fact that today there's a lot of talk about two-way communications. And so is this a program that has

been around for a while as many direct load control programs have or is this something recent in a way of a decision to go with one-way?

Bob Donaldson: This program is relatively new for Progress Energy. It's about a three year old program we launched in April of 2009. We had a renewable energy portfolio standard established in our state, and that was part of our business drivers. I'll talk a little bit later about some details about that portfolio standard.

There was also another business driver internally here within the company—something we call our Balanced Solution Strategy. We basically made a commitment back in 2007 and 2008 to double our efforts in the DR and the DSM and energy efficiency realm. Basically we had a portfolio of about a thousand megawatts, and we made a commitment to double those thousand megawatts over the next ten years.

So that, coupled with our renewable portfolio standard, were our two drivers there. So at the time we did not have an active load control program. We had an old program that had basically been closed. That was back in the 1980s, and there are no participating customers from that program today. So we were basically starting from scratch about three years ago.

Dan Delurey: As to the portfolio, this is a state mandated portfolio standard? And it sounds like it not only had renewable energy goals but also efficiency, and were they even specific to demand response type of goals?

Bob Donaldson: There were not any specific DR mandated goals, though it did give us the ability to administer DSM programs which included DR. We won't go too far into it, but regarding energy efficiency and our renewable goals we are allowed to use energy efficiency credits, if you will, to account for 25 percent of our renewable goals. So it also was a big driver for our energy efficiency as well.

Our Balance Solution Strategy included three things, and one was a commitment to new DSM and energy efficiency programs. Obviously renewable energy was one, but a third part of that strategy was state of the art power plants. We had a commitment to provide upgrades in plants and also improve their performance and efficiency as well. So that was part of that strategy.

Dan Delurey: Okay, so there obviously was then somewhat of a regulatory driver towards this, but in terms of the program itself what other goals did you set for it?

Bob Donaldson: Basically what we set out to do was do two things in our DR portfolio. One was we wanted to provide some programs in the residential arena and another one in our C&I. Obviously today here we're focusing on the residential.

One of our simple goals that we wanted to do was have a simple program. We were very focused on doing an outsourced business model. Things were a little unsettled in the regulatory climate if you will.

So we wanted to start out outsourced just really to provide a better opportunity and exit strategy if we had to, and obviously as things have transformed over the years that's really not in our window going forward. So that was one of our goals, simple program and an outsourced business model.

Dan Delurey: So Bob, by outsource do you mean some sort of—I might think of a turnkey program or something where you hired a third party to really develop and run the program?

Bob Donaldson: We were not looking at curtailment service providers in any way. We have basically some regulatory things in place that don't allow us to do that here in the state or in our territory, but by outsourced business model I mean basically using outsourced vendors.

I'll talk a little bit later today about some of the vendors that we have and why we went the way we did, but we don't really have any kind of turnkey provider in a sense and we're not using CSPs at this time.

Dan Delurey: Yeah, I think in terms of talking about specific vendors perhaps that's not something that we want to explore on this particular case study interview, but that's certainly something that people could contact you about later on.

Bob Donaldson: That's fine, yeah.

Dan Delurey: So in terms of when you set out. You had goals, but what about setting metrics for measurement at the outset?

Bob Donaldson: Yeah, what we had looked to do is we had done a lot of utility benchmarking with other programs, either in the past or that were currently out there, and we basically tried to learn from other IOUs and what's worked, what hasn't.

We tried to get an idea if we did a launch a program like this, what would be some megawatt goals? In what amount of time could we

achieve those? What were our needs from an integrated resource perspective? And so on and so forth.

So at a high level, what we looked to do was we set our projection—we like to use that term, is about 250 megawatts over ten years. Another one of the goals of the program was to start with one-way but we wanted to also have a nice simple migration path to two-way technologies as it matured over time.

As I mentioned earlier, we started about three years ago and there's been a lot of movement in the space as far as two-way technology. So at the time that was a big driver for us. Start simple, just stick to the basics of blocking and tackling, and then over time we're going to let two-way mature and allow us a good path to transition over to that.

Dan Delurey: And this program was part of a package submitted to your regulators. So I presume that there had to be some demonstration of cost-effectiveness?

Bob Donaldson: There was. Basically like I said earlier our territories are both in North and South Carolina. We were required, and still are required, to provide our cost-effectiveness tests. The standards of the industry, the rate impact measure (RIM) test, utility cost test (UCT), and even TRC (Total Resource Cost) as well. And we are required to provide all of those tests with our program.

Really all they look for is that those are passed, or in the case of RIM that we pass with a one, but they do like to look at the scores under the other tests and really look at the program as a whole.

Dan Delurey: And if you can say so, were there additional cost-effectiveness tests imposed within the company?

Bob Donaldson: No, I think our primary driver is really the UCT test. Really that's just a cost-benefit internally within Progress Energy. It's basically utility cost-benefit and that's probably the secondary driver behind it. Usually any kind of DR program that's going to pass RIM is also going to usually pass UCT, and with the type of program we've had in place and we'll talk about some details, it's clearly a cost-effective program.

Dan Delurey: Okay, well you mentioned earlier that this is a relatively new program. So let's get an idea as to how new, how recently it was developed, and how long it took to develop and so on.

Bob Donaldson: Yeah, as I alluded to earlier we actually launched the program in April 2009. As far as development time, it did take us about a year to a year and a half to develop. As we said earlier we did start from scratch. I'll give a little background really on our organization as a whole.

Really back in 2007 there was not a very large DSM/EE group here within Progress Energy Carolinas. It actually started with a group of about four or five people and today it has grown into probably a size of about forty or fifty.

So we were just launching an overall DSM/EE strategy and team to support future programs. So with that, EnergyWise Home was actually one of the first programs that was under early development and we did some other things, just developing the program. We also did a pilot program as well with thermostats, and I'll talk about that in a minute.

Dan Delurey: And so in terms of just looking back when we talk about program time line, did it go fairly smoothly? Did it take longer to do it or shorter than you anticipated? And how much were you able to draw from what you had done before?

Bob Donaldson: Program development can be a long and tedious process, and it's really contingent upon a lot of regulatory requirements within your particular jurisdiction and also the relationship you have with your particular public staffs or your commissions.

We have a good relationship with ours, but still there's a lot of attention to detail given by both staff and the commission. We just have to follow that process and answer a lot of questions. There are data requests, a lot of informal and formal meetings, filing requirements, and so on so forth.

So that process just had to be followed. I wouldn't say it was necessarily unanticipated, but it did take some time.

Dan Delurey: Okay, well let's talk about design and development and again what some of the things were that you faced either expected or unexpected and how you shaped up the program at the outset.

Bob Donaldson: Sure, there were a couple of issues we had to start with and some things we needed to settle early on. One that I alluded to earlier was the big decision—is it switches, or is it thermostats, or is it both? What are the pros and cons? What are we most comfortable with? How does it best fit our business strategy and what we want to do?

And we did make a decision earlier on to go one-way to help us get that program launched early and I talked earlier about maturity in the two-way market, but we just weren't ready to go there yet.

So one of the issues early on was the paging network, and as a lot of people are familiar with, there's two ways you can go. Either you can use internal networks that you have within your utility, or you can maybe go outside and use public paging providers. So that had to be vetted out.

Initially we wanted to do an internal network, but our IT and telecom folks weren't ready to support that, and with that we were forced to go to public paging providers. So once we were put into that arena it set forth a new set of challenges if you will.

We had to basically find frequencies that gave us relatively good coverage in the area, at least the best we could find, and then obviously we had to really start digging into the reliability of those networks and those providers and so on and so forth.

Seeing what coverage they did have, what do we have to expand in the future, where do they cover and not cover and so on and so forth?

So were two main issues. Switches and or thermostats and then the paging network.

Dan Delurey: We mentioned earlier that load control programs, at least by that name, have been around for a while. Did you find precedent elsewhere in using the type of network you were planning to use? And were you able to get lessons learned from elsewhere as you began yours?

Bob Donaldson: Yeah, we did. Like I said we did benchmarking with our other IOUs and we did get people's experiences with public paging providers. And as you can imagine working with anybody in the telecom space or the network space and in the public realm things are likely to change.

There's mergers and acquisitions, assets are sometimes transferred, licenses for towers or particular areas can either expire or they can be taken over by someone else.

So those are the kind of things that we knew we'd be getting into and we just had to keep a closer ear to the ground on those things, and here again have a good relationship with the providers and know what's going on. So that was something that we had to keep an eye on.

Dan Delurey: And any specific research that you decided you needed to do yourself that you couldn't get what you needed elsewhere?

Bob Donaldson: Yeah, one obviously was utility benchmarking and that speaks for itself. I won't elaborate on that, but one of the big things we did up front we did it for two reasons. We did a thermostat pilot in 2007 and we did it—one reason is to evaluate that technology as it existed at that particular time and evaluate various thermostats from a couple of vendors.

The other thing we wanted to do from that was also get some early M&V results from load control from those thermostats and our benchmark. And our research shows that switches and thermostats basically control in the same way. We felt like what M&V results we got from a thermostat pilot we'll be able to just use those to justify or to support our program—if we went the load control program.

So we set out—we basically had two thermostat vendors. We had a population. We recruited about a thousand customers. We took two vendors and gave them five hundred customers each and we ran a pilot for one summer and then we got an M&V vendor, and at the time it was Summit Blue. We pulled them in and they performed an evaluation over that summer period and evaluated the equipment and the customers' response to the control events and so on and so forth.

So we took a lot of that data to learn about thermostats and then apply it to maybe what we wanted to do going forward.

Dan Delurey: Well let's talk a little bit about technology and I think you've already given us a picture of the technology that you were using. But what were lessons learned in terms of the whole technology evaluation and choice?

Bob Donaldson: Sure. So as I said earlier we did thermostats in the pilot and what we found was we found that they were just not as reliable as we would like them to be to basically launch on a very large scale basis. We felt like they were costly to install primarily with the labor costs associated with appointments.

Every one of these we would have to set an appointment with a customer and time would be required in a home. Some additional HVAC-type skills were required to put in the thermostat maybe over a load control. Also too we found that once we put a thermostat in the customers' homes that anything associated with an HVAC problem they would really associate with a thermostat or the thermostat

installation and before you know it we're their HVAC contract/technician.

So it generally created more service calls for us. So just from that, not only to the M&V results we got, but that really helped us make the decision to go towards switches. We found then, and even now as we've been in the program three years, we just found them to be more reliable.

They're less costly to install honestly from a time perspective but a lot of what we do are really non-appointment-based type work orders. Obviously air conditioning units are outside, as long as they're not with a locked gate or dog or whatever it might be. We don't have to set appointments for the customers and what we've also found is we get less service calls with switches as well.

Dan Delurey: But Bob do you see thermostats as sort of the ultimate next step in these types of programs?

Bob Donaldson: Obviously one thing that thermostats do provide—I guess you could call it a pro some people may call it a con—is obviously a thermostat provides more feedback and more information to a customer. It could also be used as in home display if you will, it could be controlled based on temperature in the home. In other words, a customer can actually see if he has a temperature rise in the home and he can actually see that.

Obviously with a switch it's outside. It doesn't give any feedback. Obviously there are lights and LEDs on switches and so on and so forth but customers typically aren't focused on those.

A thermostat also, if a utility so chooses, they can basically use a thermostat as an opt out means if you will. We allow customers to opt out of control events basically through a phone call and that's clearly communicated when we install in our leave behind materials.

So if there's a button on a thermostat and a customer wants to opt out of control then they can do that with a thermostat. Obviously they can't—if you put it on a switch I think it's a little cumbersome to go outside and basically opt out your air conditioning for the event.

So thermostats have their place in particular programs and obviously they're popular in two-way technology. So they have their place and it all depends on what utility business drivers are and what their needs are.

Dan Delurey: Okay, now the other part of the technology deployment was your choice of the paging networks.

Bob Donaldson: Yes, so basically what we looked at once we decided to go with switches was we were going to go with one-way VHF paging. We basically zeroed in on a couple of frequencies that were in the 150 megahertz range. We got us narrowed down basically to two public providers, and one serves our entire eastern territory, the vast majority of our territory North and South Carolina. But then we have another provider up in our western region up around Asheville in the Blue Ridge Mountains, and that is where we have air conditioners, water heaters, and strip beat.

So one thing about when we initially started the program that we were clearly up front to the commission and the public was we did not have any coverage in South Carolina. There were just no providers at the time. So we basically launched our program in North Carolina. We launched it in the Raleigh-Triangle area and then expanded out and over time we have expanded in to the South Carolina area and grown the network if you will. So now we have probably about 95 percent coverage across our territories.

Dan Delurey: Okay, well let's turn to bringing the program to customers and I guess I have two thoughts or question areas. One is how did you decide who to offer it to? And second, how did you offer it and what kind of lessons did you learn there?

Bob Donaldson: Sure—we decided to go with basically owner-occupied single family homes early in the program. The primary reason behind that is when we launched the program we wanted owner approval and we needed owner approval or account authorization to install equipment.

So to start us off and to make it simple we can get owner approval right off the phone or off the business reply cards. So we wanted to go with owner-occupied single family homes first. We are now three years into it. We are looking into the rental market, but obviously as most utilities know, it brings in landlords and the property managers and so on and a lot of times a lot of that is hard to sort out.

Authorization or approval from those particular parties can be sometimes cumbersome and difficult to get. It's hard to track going forward. So you'll probably see, and I'm sure most IOUs that are either listening to this or have DR programs know, that the landlord issue is more cumbersome and more complex. So it requires more cost

regarding customer acquisition. So we wanted to keep it simple, start on owner-occupied single family homes.

From a marketing perspective and promotion we really started with direct mail. That is a tried and true channel which has been very effective for us thus far even three years into the program. We did include business reply cards with all our direct mail and we've tried all kinds of different messaging.

Everything from environmental messages to promoting an easy program to participate in. It's safe, it's fairly simple, and you won't notice much of an impact in your lifestyle. So we mixed it up from colorful and creative to simple business letters, but just about in all our direct mail campaigns we've included a business reply card and it's yielded probably about 75 percent of our enrollments.

We also have some of our customers' email address. I would say probably 40 percent of our residential customers we have email on. So we do launch periodic email campaigns and then we've also done bill inserts as well. Though not as effective, they're fairly low cost and we've done those periodically as well.

Dan Delurey: Well in terms of direct mail I guess what I can conjure up here is that when a utility customer gets an envelope from their utility that they're likely to open it more so than other things they might get?

Bob Donaldson: They do. Me, I'm really an engineer by trade and I didn't have a tremendous amount of marketing experience, but earlier on we did do some creative and then we went to a business letter and something that was very simple and actually looked like a bill. A lot of consultants and people with a little bit more experience than I had, had mentioned that, "Hey, if you make it simple, make it look like a bill it's more likely to be opened."

It did have our logo on and it looked like a bill and it would be opened. And actually as we transition to the business letter we found response rates actually to be better and they were actually obviously simpler to develop and we could mix the messaging a little bit better.

So we really transitioned over from a colorful creative type brochure to more of a business letter and we found that to be more effective actually.

Dan Delurey: Interesting. And in terms of—this may not be the right time or place to ask you this but I'm prompted to ask—why were customers

responding? Were they seeking to better manage their bill, to reduce their bill? Did they want to help out progress in becoming a more efficient company overall?

Bob Donaldson: Yeah, I think what we found out over time is that really more people respond really in an effort to help out. Our incentive is relatively small, but—it's really here again from our benchmarking—we offer \$25 a year as long as you're on the program and that's for per load type if you will.

So if you're on it—it doesn't matter how many air conditioners you have. If you have one or if you have three you're still going to be paid \$25 a year. But in our western region if you happen to have also—if we install a new water heater in your strip heat you can get \$25 for each one of those.

So customers in our western region can get up to \$75, but we found that—this is back in December we did a customer focus group and we found that really the incentive is not the main driver. People really participate for other reasons.

People do want to help out and they do understand the value of generation and basically energy and our energy resources in this country. So they really basically wanted to help out and I think a secondary thing is, is that it was simple and it's easy.

A lot of people—a lot of positive comments we get is back to what I talked about earlier was non-appointments. As long as a customer doesn't request one, we really don't schedule one and a lot of people are off at work. As long as we can get the air conditioner we're good but a lot of positive comments came back and said, "Hey, they came. They showed up. They put it in. Hey that was easy. I really appreciate it and I got my \$25." So and they really like the simplicity of that.

Dan Delurey: Did people have the sense that this was different then an energy efficiency—a traditional energy efficiency program? And did they understand back to their willingness to try and help out Progress in the overall system, did they have any sense of what happens during the peak period and all of that?

Bob Donaldson: Yeah, I think as you probably know and probably a lot of people who are going to listen to this is communicating demand response to the general public is a little more difficult than energy efficiency. We do find that some people in the program, in addition to the \$25 that they do get, they in some way (and we really try to avoid this as much as

we can in our messaging) is they expect that since we are controlling their air conditioning and reduce it once in a while they are looking for some additional energy savings on your bill and as you will know it's really energy neutral. And DR in general for residential is really energy neutral.

And sometimes people expect a 10 percent reduction on their bill or something of that magnitude and it doesn't happen and those particular people sometimes may be dissatisfied though they're really dissatisfied just because their savings didn't materialize that they perceive and it's really not so much from comfort issues or control.

Control is another one sometimes that some customers never really do quite grasp. We probably find more customers that think they're controlled a lot more than they ever are.

Obviously with any type of residential program, especially in air conditioning, if they're hot they want to blame it on the switch or blame it on the thermostat or that kind of thing and I think you're going to deal with that in any kind of program but I don't think it's more than any other type program and we have processes in place to handle that.

Dan Delurey: Okay, well you mentioned earlier about how you used outside contractors and sort of an outsource or turnkey approach, but there's also the question of you still needed an inside team to develop this and you had to work with other departments within Progress to develop, design, and launch it. So talk for a moment if you would about the internal part of that.

Bob Donaldson: Sure, we do have a small program management team if you will. I'm Manager of Demand and Response, and right now there's within Progress two programs, Energy Wise Home being one of them and the C&I program being the other. On Energy Wise Home, other than myself, I really have two full time employees that manage this program and they're assigned different responsibilities in the program.

Basically I have one that is assigned to marketing and then all the technology aspects of the program. And then I have another one that is assigned to implementation and installation of the program and then also all the customer data management that goes along with it.

So we have a lot of data management processes in place and that consumes a lot of time. Over time we've also got some additional

help. Occasionally we'll call in some additional people from our corporate communications group to assist us.

Sometimes we bring in people to help us, do field inspections, maybe audit call center calls and things of that nature but primarily the team is really myself and two others.

Dan Delurey: And back to the issue of the outside resources that has worked fine and that's still under—you know what, can you remind us as to the size of this program? And how many customers and how many you're headed towards and all that?

Bob Donaldson: Yeah, after three years on the program we've got about 82,000 customers on the program and about 95 percent of those are participating in our air conditioning program. We've got about 98 megawatts in actual air conditioning and summer load.

As far as our western load we've probably got about 5 megawatts there. So I'm glad you brought that up.

Dan Delurey: Okay, any lessons learned in terms of the turnkey approach that you could reflect on?

Bob Donaldson: Yeah, you talk about outsourcing and turnkey. I will say this. This is probably a lesson learned over time. I think I would advise wherever possible, and I've managed some AMR projects in the past, and I think wherever you can have one head on the horse I think that's very advantageous. The fewer the amount of vendors or contractors you can have the better off you are.

I'll just talk to our vendors and what they're responsible for. We have a vendor basically for implementation, we have a vendor for technology, which is our load management system and our switch, and then we obviously have our paging providers.

So if you can look at the thing as a whole we primarily have those three main vendors there. So sometimes we've got to make sure everything is coordinated and everybody is on the same page and so on and so forth.

So a lot of times a turnkey or maybe one head on the horse will help you manage that. But that's what we currently do today.

Dan Delurey: Okay, we talked a little bit about cost-effectiveness and let's talk about the cost side of that. And again this is something you're starting it sort of from scratch and so you've got to try and figure out a budget,

you've got to get it approved internally, it's going to go in to your cost-benefit or cost-effectiveness test and so on. So any challenges there or was it pretty much straight forward?

Bob Donaldson: It's been pretty straight forward so far. We've been trying as well as we could follow our projects that we had in our filing. It is public and it's out there on the NC Utility Commission site and the South Carolina's as well. We basically set out to acquire about anywhere from 30,000 to about 20,000 customers per year over the first few years, about four or five years.

So we're pretty much right on track with that right now. We can easily quantify most of what we do. Obviously we've negotiated switch prices and things related to load management system software, and we have unitized costs on our installs so it wasn't too bad.

Probably one of the biggest challenges being faced in the budget is really regarding marketing, and as you well know you're going to make a projection on how your markets are going to respond or what they're going to respond to but obviously it's not going to be exactly like you thought.

So marketing costs I think are always a little bit of a question mark sometimes and sometimes a moving target if you will but so far so good. Our direct mail has done well for us so far. Obviously three years into a program we've got some of that low hanging fruit. So we're looking at some other channels from a marketing perspective. We're trying to engage more call centers and that type of thing.

We're looking at a customer referral incentive type program. We're looking at incorporating renters—things like that to basically expand our marketing efforts.

Dan Delurey: And just a moment on benefits. There's a lot of discussion regarding demand response programs these days about the qualitative benefits and this has always been an issue with traditional energy efficiency programs as well. Were you able to identify quantitative benefits that allowed you to pass the test or did you have to delve into trying to quantify the softer benefits? And softer is not the right word but I think you know what I'm referring to.

Bob Donaldson: Right, yeah. Well we have found thus far from an M&V perspective we really just had—we've had one interim report done and we haven't had a final report completed yet. We will later this year. Earlier results

show that as far as from a quantitative stand point we're pretty close to what we expected.

What's nice about—with our load management system and the technology in place—we have really had the ability to control at different levels. I'm going to use just percentage levels if you will. We can control at 50 percent cycling if we like or 65 or 75 and we've been able to even test some of those in the field and basically see what consumer response is to those.

So we can ramp up or down anywhere from even as low as a 33 percent type cycling strategy or all the way up to a 100. So what's nice is we have a flexible technology that we can control at different levels during the day and really from a cost-effectiveness perspective if there's a certain amount of megawatts from participants we can get that and we can set that up really pretty quickly.

So we've evaluated it that way and so far we've—early indication is we're pretty close to what we projected.

Dan Delurey: Okay, well let's begin to move towards a conclusion here by looking backward and talk a little bit about how you've evaluated the program, what changes you've made and why and so on. So it sounds like you've met program objectives that you originally set out for yourself.

Bob Donaldson: We have thus far. We are pretty much on track. One thing that is getting more challenging is customer acquisition and basically that marketing piece. I think anybody would attest to in DR programs or EE programs over time and as you get more market penetration obviously each incremental percentage you try to get it's probably a little tougher and a little bit more costly and you have to start getting more creative.

So that's one of the things. We're probably getting into that space right now where we've got to try a lot of different strategies, open a lot of different channels and instead of getting—earlier on it was a lot from one channel and direct mail but one thing we obviously learned over time is now we're going to get a little bit from a lot of different channels and that's what we have to do. So that's probably our challenge going forward.

Dan Delurey: That prompts me to ask about different programs being offered to the same customer and that often broadens what you hear in many places today about the integration of energy efficiency and demand

response and so you had your direct mail piece going to a customer, was it only on your program?

Bob Donaldson: It was just for my program but I think I know what you're driving at and this is becoming more and more of a challenge. As I said earlier on three years ago we didn't have a lot of DSM/EE programs and we've grown and added a lot of programs over time especially in the EE space that's residential and C&I.

And I think probably today we have probably up to a dozen programs. So as you can imagine every one of those programs needs to be marketed and promoted in some fashion. So what starts to happen is, customers are starting to receive a lot of mail, they start to see a lot of exposure to a lot of different programs.

So the market space tends to get saturated a lot with marketing material. So that is getting to be a challenge is sharing that customer among all programs. Another thing is trying to clarify all these programs and the objectives and the benefits to customers of all these various programs that they're starting to see. So that is starting to get a challenge going forward.

Dan Delurey: Okay, well you've given us a pretty good idea of how customers reacted the program along the way. So let's talk about changes if any that needed to be made and also on any changes that you plan to do in the near future.

Bob Donaldson: Right now as far as general goals and objectives we're not really touching on that too much. The general program design in relationship to technology or load management system we're really not changing any of that.

Our measurement and evaluation, like I said our final report is due later this year. There will probably be some adjustments based on that. One thing regarding technology I'll touch on is that we do have a one-way paging network and what we have instituted probably over the past couple of years is monitoring that network and this is something that we do actually internally and what we do out on the network at the particular transmitters and tower sites. We install two-way cellular devices and we have a configuration where we can actually monitor pages really almost on a three minute basis 24/7.

And we do that continuously and basically look for towers or transmitters that might be down and that would impact our paging. So we're doing that and we've got some reliability metrics that build

around that paging network. So it's almost sometimes I always wanted to refer to it almost as a one and a half way if you will.

It is a one-way obviously to control and I don't get any feedback but I do get a general understanding of the health of our network 24/7 and especially when we do control events. So that is something that we didn't do initially, hadn't really planned but over time we migrated into that and found a fairly inexpensive way to do that.

One of the other things as I talked about earlier related to marketing is trying to grow our audience and basically expand it out to renters. So we're looking at a process now to do that. We have filed that with the Commission and we hope to get that approved here very soon and launch that process.

I talked earlier about expanding marketing and recruitment and solicitation through call centers. We currently do some recruiting through an external call center today.

We're looking at moving that internal as well. Then we're also going to be offering a customer referral incentive program. In other words if we have participants on the program that refer a neighbor or a family member, whoever it might be, we're going to give them an additional \$25 if they do that. We'll be launching that here in the next month or two.

Dan Delurey: Okay, well finally just take a moment and look back over your shoulder. What kind of surprises came up? Or also what would you do differently if you had to do it over again?

Bob Donaldson: I think paging networks. I had not personally experienced their reliability or I was not really up on the current state of that industry and I had heard a lot of stories and quite frankly I have seen it for myself. At times there were portions of our network that were very unreliable and as such, number one, we decided to build closer relationships with these particular companies, help them really understand what the problems are and then we move quickly into upgrading the network and monitoring it 24/7.

So once we've done that we've made great strides there in reliability. So it was somewhat expected but unexpected as far as maybe how bad it can be at times and it's really interesting sometimes what providers don't know –about their network.

So we actually helped them and got them through that and made our networks more reliable. So obviously I would recommend anybody that gets into the space to look at it closely, monitor it in some way and keep close relationships with your vendors.

As far as what we would have done differently I think looking back three years into the program what I eluded to earlier about is opening up more marketing channels I probably would have done that a little bit sooner. Direct mail was yielding some very good response rates and we were just humming right along then all of a sudden hit a brick wall.

So we have had a few down months but we're coming back up primarily because we've opened up those other channels. So you got to have a lot of foresight looking forward and opening other channels. I would always encourage call centers.

Getting customers directly online if you can get them enrolled on while you got them on the phone, if you can schedule an appointment if you need to that type of thing but open other channels and be looking ahead and don't just rely on the old tried and true direct mail. So I would definitely encourage that.

Dan Delurey: Well Bob at this point is there anything that you haven't had a chance to tell us in this chat? Anything that you want to add?

Bob Donaldson: I don't think so. I did touch on the monitoring of the paging network. I know that's something maybe a little unique. Not everybody does that but that was something that we did do and I did mention that. So I think that's it.

Dan Delurey: Okay great. Well Bob, on behalf of ADS and the many viewers of this Case Study Interview, I want to thank you for taking the time to be with us today and good luck with your EnergyWise Home program and the others that you will be involved and the company will try and roll out.