Case Study Interview: Southern California Edison—Paul Kasick

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

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Case Study Interview: Southern California Edison—Paul Kasick 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: Southern California Edison—Paul Kasick 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.

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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/sites/prod/files/oeprod/DocumentsandMedia/ImplementationProposalforNAPDRFinal.pdf

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

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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 Paul Kasick, Project Manager, Southern California Edison, was conducted on December 12, 2012.

To date, transcripts for the following interviews are available:

Name	**Affiliation**
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: Paul Kasick of Southern California Edison

Dan Delurey: I'd like to introduce Paul Kasick, who is a project manager with Southern California Edison. Paul is with us today to talk about the "Save Power Day" Incentive Program. If you're looking at the slide, you see Paul has inserted that this program is also known as "PTR." Welcome Paul. Can you begin by telling us a little bit about the program?

Paul Kasick: Sure. Thanks, Dan. Our "Save Power Day" Program was renamed from PTR before we went to market with the program. We looked at the customer facing names for many of our Smart Connect Programs, and the Save Power Day Incentive Program was what we landed on for PTR specifically.

Dan Delurey: PTR stands for?

Paul Kasick: Peak-Time Rebate. It's a common term across other utilities that have similar programs. We also looked at renaming our" Critical Peak Pricing (CPP) Program", to the "Summer Advantage Incentive Program". As for our Residential Time-of-Use, rather than going to market with "Time-of-Use" we called it the "Off-Peak Savings Plan".

Our PTR program is completely voluntary, but the design of the program is actually embedded in our standard residential rate plan. In other words, it's a component of our standard customer rate schedule. If you were to read the actual tariff schedule, PTR is embedded within that rate. All residential customers actually qualify to participate in the program.

The way that it works is, we provide customers with one day in advance notification of a coming "Save Power Day" event. The events are always a fixed period of time, it's a four-hour window between 2 and 6 PM. If customers reduce their load below a baseline, (i.e., an average usage amount), they can earn incentives of 75 cents per kilowatt hour reduced. With enabling technology, they can actually earn $1.25 per kilowatt reduced.

The way we calculate the baseline is we look at the previous five non-weekend, non-holiday days for the usage time period between 2 and 6 PM, and we find the three highest of those five. We average them together, and that actually becomes the baseline at which customers are measured against to see if they can drop below that level. There are an unlimited number of events that we can call every year, and participation is completely voluntary.

Dan Delurey: Paul, let me review a couple of things that you just said, because this is really interesting. First of all, this is not only voluntary, but all of your customers are on this?

Paul Kasick: All the residential customers. It's a component of their rate, so they're actually all on it.

Dan Delurey: Back to your Critical Peak Pricing Program, or CPP. That's one that a customer has to proactively sign up for and, based on my knowledge of them, there's maybe 10 to 12 days a year when they can be triggered. If you don't reduce during that period, there is a penalty of sorts, as I understand it. Here, with your PTR, it's more a case of anyone who reduces on a peak day gets a reward.

Paul Kasick: That's right.

Dan Delurey: Help me out if I haven't explained that contrast right.

Paul Kasick: CPP, like many of our other Demand Response programs, actually does have a penalty associated. I shouldn't say necessarily a penalty, but a higher charge for usage during an on-peak window. Most of our DR programs either have firm load control and/or some type of higher charge during on-peak periods to encourage customers to use energy outside of that window. They typically can earn incentives or rewards for reducing usage during the on-peak. PTR is different from CPP in that it's an incentive-only program, there is no penalty. So broad participation is actually encouraged with the design and the way it's embedded in the rate schedule itself.

Because CPP does have a higher charge for usage during that same window of time, in fact our CPP program for residential customers has the same exact window from 2 PM to 6 PM. Customers that use energy during that period of time are charged higher energy rates. It's actually $1.36 additional on top of the rate that they're already paying for all kilowatt hour consumption during that on-peak period. They also receive a lower rate, an actual discount, on all other summer kilowatt hours consumed outside of that on-peak window.

CPP might be more appealing to customers that can use as little energy as possible during the on-peak window. PTR also offers those same benefits, but PTR is different in that it actually has a baseline that we compare against. With CPP, there's no baseline. It's simply looking at the usage during that window of time. With PTR, we do compare it against historical usage to see if there was an overall reduction.

Dan Delurey: I hope to talk about that later, because I know how important a baseline calculation is to something like this. Before we move on, when we're talking about all of your customers being on this, how many is that?

Paul Kasick: When we actually launched the program this year, we had approximately 3.7 million customers that qualified to receive incentives under the PTR program. By the summer of next year, we'll have 4.2 million customers actually qualify to participate in the rate.

Dan Delurey: Wow, that's quite impressive. Let's look back a little bit about how this came to be and what sort of goals you set for this that led you down this path.

Paul Kasick: This was actually one of the programs that we called out in our Smart Connect Business Case. That was a four-year regulatory proceeding that concludes in 2012. PTR was one of the new time-differentiated rates that was deemed to have potentially significant load reduction potential. We actually had forecast, by 2015, approximately 350 megawatts of load drop from this particular program, due to broad potential participation from our residential customer group.

Dan Delurey: I take it you have to put together a portfolio of DR programs?

Paul Kasick: That's right. Approximately—and I'm doing this from memory—about 30 percent of the benefits in our Smart Connect Business Case came from DR programs and time-differentiated rates.

Dan Delurey: Is that the business case for your Smart Meter Implementation that you're referring to?

Paul Kasick: Right. Our AMI Program. We refer to it as our Smart Connect Program.

The design of this particular program was one in which basically all of our residential customers could participate, because there's no penalty for non-performance. It was a win-win type program for our customers.

Dan Delurey: In terms of measurement objectives and how you were going to know that this program was a success, what did you set?

Paul Kasick: We looked at the actual broad participation in the program, because it is voluntary, and because it is available to all residential customers. We really looked at three different categories when we designed the rate – and the number of customers that would participate and earn incentives under the program. We looked at those that were actively enrolled in Event Notification. For all of our customers, the rate is a component of their basic underlying residential rate plan. In order for them to be aware of events, we need to get them enrolled in Event Notification.

The early concepts for the program were that we'd use public broadcast, over the radio for example, to notify customers of the events. It was always a day ahead-type notification that would go out to customers. We didn't end up using radio broadcast this year for a couple of reasons. One was that it could have potentially caused some customer confusion if they weren't yet actually billed on interval data, which not everyone was at that point.

The way we rolled out our Smart Connect Program is that we set meters in various districts, various geographies, and we vigorously test the communications infrastructure to ensure that everything's working properly, and then we cut over, what we call cut over to operations, the various meters, etc. to interval data billing. Once the customers are cut over within that particular area, they're able to participate in the various Demand Response programs that we have.

Another reason was Web presentment of their interval data. When we launched our first event this year, we didn't have the vast majority of customers yet cut over. Those customers that weren't cut over and could have heard information about the program itself might have thought that they could qualify to earn incentives, when in fact they weren't able to do that yet.

Dan Delurey: That might have been challenging.

Paul Kasick: It could have been. That's why we decided not to use public broadcast this year. We really focused on getting customers to actively enroll in Event Notification. Although it's part of their underlying rate structure, we didn't really tell them that. The way we marketed it was really, "Sign up for Event Notification to participate in these days." We had customers that actively enrolled in Event Notification. The way that works is they can choose to be notified via text, voice, or email about

the coming event. There's no charge to the customer for the notifications.

We also have, on our website, the ability to alert customers of a pending event, or if an event is in progress. If they happen to be online, they can see that also. Because PTR is a unique design where there's no penalty, we were also able to default customers to Event Notification if they had proactively signed up for My Account, our online customer information system. We did target some of the My Account customers and auto-enrolled them in Event Notification with the ability to opt-out of those notifications.

The third category included those customers that did not proactively enroll in Event Notification, and were not defaulted to event notification.

So we really had three groups of customers to measure how successful the program was.

Dan Delurey: You mentioned that all of this had to be in a business case, and you're talking about a business case that was approved by the Utilities Commission, I presume?

Paul Kasick: Right.

Dan Delurey: All in all, how long did it take from when this was a gleam in someone's eye there at SCE to actually launching this?

Paul Kasick: I think the gleam in the eye really came from the statewide pricing pilot that occurred back in the 2003 timeframe. That was a pilot among the three California utilities in which customers participated primarily in Time-Of-Use and Critical Peak Pricing rates. There were positive results from that two-year effort. It looked at PTRs as being very similar to CPP and the potential load reductions that could be achieved. So really, this concept emerged probably in the 2004 timeframe.

Dan Delurey: Paul, was that statewide pilot done because there really wasn't anything elsewhere to look at? You guys had to be the first, or was it done for other purposes, or both?

Paul Kasick: I believe the Commission instituted the pilot primarily to evaluate the benefits of interval data and time-differentiated rates as it related to AMI infrastructure. It was really looking at whether or not there was benefit in deploying interval data meters across broad geographic areas in order to enable these types of rates. Absent an interval data meter,

you have no way to track usage on an hourly basis, and the rates just can't be implemented without interval data.

Dan Delurey: Let's talk about design and development. I already bookmarked a question on that earlier on what I think is a real challenge, and that is baseline calculation, especially when you are doing it for everyone. Also you've noted here the back office part of the system integration was an issue and/or challenge, I guess. Pick either one.

Paul Kasick: For the baseline calculation, we looked at multiple different baseline options. I think there were more than 15 that were contemplated before we landed on one that was very similar to what San Diego Gas & Electric (SDG&E) had proposed. In fact, we used the same baseline calculation that they had decided to leverage for their PTR program.

There are different ways you can do the baseline, obviously. You can have very complicated methodologies that might be more confusing for customers to understand, or you can have more simplistic methodologies that might be easier for customers to understand, but then you have the issue of the variability in usage, which might pay incentives to customers that aren't necessarily proactively responding to a particular event.

What we landed on was the 3 in5 methodology as I described earlier, which involves looking at the three highest of the five previous days, and calculating the baseline based on that. It is challenging, with interval data billing or billing on interval data for all of our residential customers and small and medium-sized commercial accounts, about 700,000 accounts in total, for the commercial side, on residential, again 4.2 million. We do these calculations, the PTR calculations, on every single account at time of billing once we call an event.

If an event is triggered, we actually do what we call the CSRL, or the baseline calculation, on every account at the time of billing, so it's very complicated. It did involve, obviously, a lot of back office system work between the data warehouse, our Event Notification system, our CSS billing system, and our meter data management system.

Dan Delurey: But you are doing what I'll call an "extra trick". Once the data is back there in your billing system, you are doing an extra calculation, and you are doing it for everyone. That's got to be a major part of the back office system.

Paul Kasick: It does indeed have to be part of the back office system, and it is important to ensure that all parties involved understand how these

calculations work and what our intent is. It was very important also to involve the third-party entities that we are working with to develop those systems.

We call events on non-weekend, non-holiday, weekdays only, but when you do the baseline calculation, you've got to remove weekends. You've got to look at similar days as the event, so it's a similar five-day pattern for the previous five days. When you go back to the previous five days, you need to exclude holidays, you need to exclude the weekends, and you need to exclude previous event days. For example, if you call two events in one week, all of that has to be built into the system.

Dan Delurey: Back to the baseline calculation for a moment. You said something about the question of whether it needs to be made simple so it's understandable by the customer, but do customers actually care about that calculation?

Paul Kasick: If they did care, it would be easier for them to understand how we calculate it. We do provide information on our website as to how we calculate PTR events both pre- and post-performance. We actually show them how they perform. For example, if you had a day of adjustment an hour before the event of a temperature-based adjustment, I think that would be much more complicated for customers to understand. The way it's structured today, it's fairly easy to understand, the comparison and how the baseline is established without a more complicated algorithm that might come into play.

Dan Delurey: I would think that in establishing baselines, a primary objective would be equity and making sure you were rewarding things that actually happened.

Paul Kasick: We are rewarding for the actual energy reductions that are achieved during that peak-time period. Obviously there are going to be some customers, just due to the variability in residential load and residential usage, you are going to have some customers that can naturally earn incentives for reducing, maybe unintentionally, not necessarily tied to a specific event or notification of the event.

For example, this year we called seven events in total, and in each event, the vast majority of the reductions on a per-customer basis came from the customers that were proactively enrolled in Event Notification. The next largest reduction group was those customers that were defaulted to Event Notification. On a per-customer basis, the lowest incentive earners were those that weren't involved in Event Notification, or hadn't received an Event Notification. I mean direct Event Notification. If they

happened to be on My Account, or they were on our website and they saw that an event was in progress—maybe a low probability—they also could have been aware of events through that manner.

Dan Delurey: You developed this pretty much internally. It's a rate and tariff program. It sounds like a pretty major new effort in that a lot of different units and departments within SCE had to be involved. Was that the case?

Paul Kasick: Absolutely. It was extremely important to include everyone in discussions surrounding the rate, the design, and then obviously preparing the back office systems to move forward. We did have our tariff program group involved as well as our Smart Connect project management team and our AMI project team. Obviously, IT, the MDMS-vendor, Data Warehouse vendor, and the Customer Call Center needed to be included. The call centers are the ones that are going to be handling calls from customers or have to answer questions about the rate itself. Our Billing Organization, Regulatory Group, and a lot of internal departments needed to be involved to make sure that this came together.

Dan Delurey: Was there any department that you thought needed to be involved, but really in the end, didn't have that much to do, or conversely, was there someone that didn't get swept in, but you found out later that you needed them?

Paul Kasick: No, I think we did a really good job identifying the key stakeholders in advance and involving them through the entire process. If I had it to do over again, I don't think there was anyone we left out or anyone else that we would have potentially thought wasn't needed. I think we did a good job identifying the internal stakeholder groups and keeping them involved through the entire process.

Dan Delurey: Let's focus on technology for just a couple of moments. Obviously, the Advanced Metering Infrastructure, or AMI system, had to be in place. You couldn't do this without the capability to measure on an interval basis. What about other technologies? You talked a little about this before, e.g., the calculation engine, the Web presentment, but you've already got Web capabilities for account purposes and so on. The ENS, or the Event Notification System—were these all things that had to be developed from scratch, or were they add-ons to something that you had?

Paul Kasick: Primarily, I think, for the Event Notification System, it was an add-on to something that we already had. We do have DR programs that we have operated over the years and we do notify customers of various events.

We don't have any program of this magnitude of participation, however. We are talking about 4.2 million customers and potentially sending notifications to every single one of them. We needed to beef up the system to ensure that it could handle that type of capacity. I would say that was more than just an add-on to what we already had.

For the interval data itself, we were processing interval data and we bill 100 percent on interval data for all of our Smart Connect customers. That population is quite large, just under 5 million accounts in total. The back office systems and the ability to calculate – for example, the CSRL is calculated every time we call an event for every single residential customer—that takes a lot of horsepower.

For Web presentment, we needed to modify the website itself, and incorporate new Web design that enables customers to see how they performed post-event. They actually see the five-day calculation, looking at the three high and they understand what their baseline was, compared to what their actual drop was during the event itself. There were a lot of changes to things that we had to do.

For our Smart Connect program, we're still billing customers with our legacy billing system, but we're packaging the information based on interfaces between our metered data management system and our data warehouse. There are a lot of calculations that go on outside of the CSS billing, in order to pass through the billing system itself as a billing determinant.

Dan Delurey: Is this an area where you have to do custom software development, or are there software applications designed to do some of these things that can be brought in?

Paul Kasick: Because California was in the lead for this, there probably will be applications in the future, that other utilities can leverage, but I think this was a entirely custom design. These types of systems didn't exist prior to the AMI efforts that took place in California. Not to my knowledge anyway, and not to the order of magnitude that we're talking about.

Dan Delurey: Let's turn to promotion and marketing and communications. In looking at this slide here, it looks like you tried a lot of different things, which maybe makes me ask the question, was there anything that you ruled out, in terms of promotion and communications? I actually was intrigued by what you said earlier about the mass media, such as radio and so on.

I don't know where I heard this, it may have actually been FERC Chairman Jon Wellinghoff in a speech that he gave a couple years ago, but he was just thinking out loud and he said, "There will come a day, in the not-too-distant future, where the evening TV weatherman will talk about whether tomorrow is a peak day. There will be that kind of integration of notices on all of this." When you talked about using mass media, are we talking about paid media?

Paul Kasick: Yes, we're talking about paid media. We would also try to leverage any contacts we have to get into, for example, the news networks, when at all possible. What we focused on, because our Smart Metering program was new to customers, was the vast majority of customers that were already cut over to interval data billing. They could participate in all of these new programs that are enabled by the Smart Meter. Most of customers were transitioned this year, in 2012, and represent very large populations.

As customers are transitioned to the interval data billing, and they have the ability to participate in these programs and see their interval data, and see their new cost information, we went out with a marketing campaign that we call the live communications campaign. This was basically a direct mail campaign, welcoming the customer to the new Smart Meter-enabled world, and all the programs that were available. In that live communications campaign, we called out specific programs such as My Account, and the benefits that come from My Account, due to the ability to see your usage data by the hour. You can also see your daily costs, and your projected costs for the next billing period.

We also promoted our new Budget Assistant tool, a tool where customers can select a spending target and then be notified on a routine basis as to how they're performing to that target, based on their actual usage and their forecast usage in the current billing period. Our PTR—Save Power Day program was also mentioned, where customers can earn incentives for participating during events to reduce their usage. The live communications campaign was one of the primary vehicles used to market our Save Power Day, or PTR, program.

We also had dedicated new pages in the customer's bill where we talk about some of the new Smart Connect programs. There would be dedicated sections or pages that talked about our Save Power Day program. On our website, we have different advertising tiles to link customers in for enrollment on the Save Power Day Program. We also had a program where we were soliciting Budget Assistant, and in that

solicitation we included enrollment for the Save Power Day program. It was another way to get the customers enrolled in two programs at once.

We also did auto-enroll some of our customers. Not all, but a population of our customers that were already signed up for My Account, and had valid email addresses, where we could send them information about Save Power Days and include them in Event Notification. We also had our Carl and Eddy video vignettes. If you were to go to sce.com/carlandeddy on the left hand navigation, you would see different tiles for the different videos that were created, one of which is a Save Power Day video. The Save Power Day video is just over a minute, maybe a minute and five seconds. It's a real quick overview of the program and how it works.

Customers really have seemed to like these videos. It was a very simplistic way to explain some of our programs. You can't get into all the details, obviously. If you're reading about the program, and looking at all of the details of the program itself, at some point it may become a little overwhelming for customers. We tried to keep it very simple, keep it engaging and still educational. I think those have done a pretty good job with that.

We receive millions of calls every year in our call center, so that's a prime opportunity to get customers engaged in these programs. We did leverage our customer call centers. Our reps did go through some pretty extensive training last year, so it will be interesting to see next year how successful they are at getting customers enrolled in the program.

Dan Delurey: In terms of lessons learned, you just talked about keeping things simple, which seems to be the universal credo these days. We all have to deal with so much in our lives and so on. You used snail mail and postcards, and that worked okay?

Paul Kasick: Yes, it did. It actually worked really well. When we look at actual program enrollments, just as an example, from the proactive enrollments based on our direct mail campaigns, we had 104,000 customers actually enroll. That's over less than a 12-month period. Those are proactive enrollments. For those that we defaulted to the program, they were My Account enrolled and we placed them on Event Notification with the ability to opt out, there were about 346,000 customers. I think overall, direct mail did work pretty well.

I think one of the challenges in this second year of our Smart Meter launch, includes that there's a lot for customers to comprehend. The

challenge is, what do you really focus on, what's the primary message in the communications? You've got the new meter, and you've got these great new tools, and you've got these great new programs, but it can become overwhelming. You've got too much that you're trying to communicate all at once. I think the challenge is really focusing on what the key calls to action are, and the key messages that you want to get across to customers.

I think the fact that the interval data is available, and we have developed some new cost tools for customers that I think are extremely beneficial, is important. For example, with the Budget Assistant program, we have more than 300,000 customers that have proactively enrolled in that program. We now have the ability to leverage the interval data and provide cost information to customers, and they have the ability to see their daily and hourly usage. I think that is very beneficial.

If you look at our entire suite of offerings, I think it can become overwhelming, so I think really having targeted messages in your various communications was important.

One of the things that we decided not to do was aggressively promote our Summer Advantage Incentive Program (CPP). We thought it would be difficult to communicate the differences between that and the PTR program. Because there's no penalty associated with the PTR program, we decided that was the one we'd market most aggressively to our customers.

The CPP program is available now, and we will do targeted marketing campaigns for that particular rate. But we will probably focus more on customers that are already proactively enrolled on time-of-use rates. If they're a time-of-use customer, CPP might be a better rate option for them. The way I view this, and the way we try to generally send simplistic messages out about the programs, is that PTR is probably a more beneficial program for you if someone is home during the day, or your appliances are using power during the on-peak period.

CPP, however, is probably better if no one is home during the day, or if your usage is extremely low during the on-peak period. That's one way to compare and contrast. If you can really reduce your usage during that on-peak period, or customers that have gravitated towards time-of-use rates are probably the right targets for CPP. Customers that are home and able to make a change during an event would probably benefit, potentially, under PTR.

Dan Delurey: In every one of these case study interviews that I do, there's seems to always be one little thing that really jumps up and hits me, as in "I never thought about that." You just talked about trying to not to promote CPP at the same time as PTR, because of the potential confusion or whatever. It almost sounds like once you've done PTR, that CPP can be what's often called an up-sell.

Paul Kasick: Absolutely.

Dan Delurey: You get people that are now used to doing the simple PTR program, and they've received the reward, and now some of them may want a bigger reward, and you have CPP for those customers.

Paul Kasick: Absolutely. Customers can also move to TOU. To your point, it's really a stepping stone approach. I think that's one of the great things about PTR. It does offer customers the ability to get their feet wet with Demand Response. There is no penalty, there's the ability to earn incentives, and it's a good stepping stone to other programs where they can potentially earn even more. It could be a stepping stone to CPP, and even TOU.

If you look at the number of hours that the customer is actually participating under the program, PTR and CPP are similar. With TOU, there's a much greater number of hours for the on-peak period. It could be a stepping stone approach to get customers, if they've earned incentives under a particular program, to maybe consider yet another program that we have available.

One of the things that we plan to do this year is go back out to those customers that earned incentives last year, aggregate their total savings, and let them know next year that, "This is the amount that you were able to achieve under this particular program." I think is beneficial for raising awareness again that events will be coming in 2013, and, "If you choose to participate, you have the opportunity to earn even more."

Dan Delurey: Let's move on and just touch for a moment on implementation and management. You spoke before of where this is pretty much an internal thing. You talked about all the departments that had to be involved in creating it. Now that it's running, how many people does it take to keep it running, and make it happen?

Paul Kasick: I want to say we're not quite at the complete operational state. I think the first year has been very successful. We did launch seven events this year. We look forward to a full year of offering the program next year to even a broader audience.

I think on the marketing side, we want to get more customers proactively engaged in signing up for the Event Notifications. That's one of the challenges that we have. In relation to managing the program itself, we were very successful in our first year, and all the validations have gone through. This year was the first time, end-to-end, that we've actually had experience with this particular program, from launching the event itself clear through to the customer's billing, to be able to ensure that everything was operating as it should. We consider it a very successful year.

Next year, we're looking forward to having it more in a steady state-type environment, engaging more customers, and ensuring that we can handle the volume of customers and data. If we actually ramped up to 100 percent participation, that's a lot of Event Notification messages that are being sent out to customers. On the billing side, everything seems to be working properly, but nothing's been done to the scale of four million customers on interval billing. I'm not aware of any other utilities doing that. But everything's going well now, and again, next year we anticipate the same.

As far as administering the program, we have a Project Manager that not only manages this program, but several other programs concurrently. For the Event Notification side, we have a team in our Systems Technology group that handles all of the Event Notifications that go out for all of our DR programs. This is just one more in the suite that they'll be managing.

Dan Delurey: Let me return to cost effectiveness for just a moment. When it comes to energy efficiency and demand-side programs, cost-effectiveness determinations, some have often compared it to magic or black art or whatever. There are so many things that have to be pulled in, some of them which are not easily quantifiable. Was this one pretty straightforward?

Paul Kasick: Yes. There are specific elements that go into any cost-effectiveness study. A lot of them are prescribed. As with all of our DR programs, there was a cost-effectiveness study on PTR required for our 2012 DR application. This is the first year that we've launched events, so we'll actually have the results, i.e. our load-impact results, by early next year. We'll be able to compare some of the forecasted elements that went into the cost-effectiveness forecast to what was actually achieved. I think we'll find out, based on that analysis, as to how well the program performed overall this year, and what we can do potentially next year to increase that performance.

Dan Delurey: I know you have to do another study, or have to demonstrate cost-effectiveness, again, in 2015. Is that both retroactive and prospective that you have to do at that point?

Paul Kasick: I believe it's both ex-post, ex-ante for the results of the program itself. How that factors into the retrospective view, I don't know, but going forward obviously would play a pretty critical role.

Dan Delurey: As we move towards closure, in talking about how you're evaluating the program and what kind of objectives you've met and which you haven't, I think you've talked a lot about the reaction of the customers has been positive. You've had a lot of them enroll, but what about internal to the utility? Has everything gone as planned?

Paul Kasick: I would say everything has pretty much gone as planned. One of the challenges was launching the program later than we had intended to. We were hoping to launch our first Save Power Day events last year. Due to some challenges with the back office systems, and some elements that came into play, we weren't able to launch the program. This year we were able to launch. It would have been nice to get more events under our belt—we only had seven this year, it would have been nice to have closer to 12, to help with load impact studies.

Overall, I think everything was successful. There were no operational impacts. We were monitoring very closely with all of our stakeholder groups through the first event launch and subsequent events to ensure everybody [internally] was on the same page, and everyone knew what was happening. Things were being validated behind the scenes to ensure that we didn't have any issues. I think overall, it was very successful.

Dan Delurey: Let's talk about changes that you have contemplated or executed, and again this has been integrated into a lot of the things you have said. Not just changes going forth, but changes that you made. You had to change the launch date, and you talked about the back office thing. Were there other things that were in your original program design which you ended up not including in the end?

Paul Kasick: Yes. For example, obviously we talked about the mass media already.

Another example is that we did have a program design where we were going to incorporate a Programmable Communicating Thermostat to help customers achieve load reductions during events. The PCT concept was developed early on as an offering to customers that had proactively enrolled in Event Notification. We could provide them with a PCT to

help achieve load reductions during the event itself. We decided ultimately not to include that offering in the program design.

Dan Delurey: Do you have a PCT program?

Paul Kasick: We do. Actually, the PCT program is tied to another program that we have. It's called the summer discount plan. It's an A/C-cycling program. We have over 300,000 customers participating in that program. PCT would be a technology choice rather than a load switch installed at the compressor. The customer could either choose to have the load switch installed or be offered a PCT device to achieve the load reductions under that program.

Dan Delurey: When you were thinking about PCT being part of the Peak-Time Rebate program here, that would be an option or would have been an option for customers, or were you thinking that you were going to roll them out to everyone? I can't believe that was the case, but…

Paul Kasick: No, right, exactly. Approximately 50% of our residential customer population has A/C. Obviously it wouldn't be appealing for everyone. What the PCT could fall into is the category that we talked about earlier, as enabling technology. Under our PTR program, our Save Power Day program, the base incentive is 75 cents per kilowatt hour.

If the customer employs what we determine to be enabling technology devices, such as a PCT or an in-home splay device, pull-pump controller, those types of hardware devices actually qualify for a higher incentive. Rather than getting 75 cents, a customer would actually get an additional 50 cents, the total incentive being $1.25. The concept behind PCT would be that we would pay the higher incentive and use the device itself to get the load-reduction to help customers earn greater incentives.

Dan Delurey: In terms of the target market for this, you've said that it's residential. I think you said earlier that this would work or that it was thought of as something that would work for small commercial as well.

Paul Kasick: Potentially. This program is limited to residential at this point in time. For our small commercial customers, we do have our Summer Advantage Incentive Program available to them. PTR, specifically, potentially could include commercial, but in our service territory for Southern California Edison, we only include our residential customer base in that particular offering. It could potentially work for commercial accounts, it's just not something that we've included to the commercial customer category.

Dan Delurey: As always is the case in these conversations, we talk a lot about the lessons learned, or the afterthought as we talk about it. Anything that you haven't had a chance to highlight, or anything you want to re-emphasize? If you were talking to your fellow utilities around the country, anything that you really want to highlight for them?

Paul Kasick: As I think about it, some of the things that we are going to focus on next year include trying to increase customer engagement on this program in particular, making sure that customers are aware of the program, and that they are aware of events. The Event Notification is a big challenge, not only for us, but for all utilities going forward, because, again, it's one more program that is being offered to customers where you are trying to cut through the confusion and clutter of everything else that's out there. How do we really get them focused on this particular program? I think that is going to be a challenge.

One of the things that we are going to try to do is leverage the customers that actually earned incentives last year, those that were enrolled in Event Notification, and let them know how they performed. We will look at those customers that earned incentives that weren't enrolled in Event Notification and see if we can develop some communications around raising the awareness that they did earn incentives under the program. If they proactively enrolled in Event Notification, there is even more opportunity to participate and save. I think, really, the area for improvement is in customer engagement. Getting as many customers aware of this particular program and engaged, I think, is going to be a challenge and something we really want to focus on.

Dan Delurey: Once this has been created and up and running, I don't want to say it's on auto-pilot, but it is basically an engine that runs. The quest is really, as you just said, to maximize the number of customers that know about it and do something because of it.

Paul Kasick: Right, absolutely. I think targeting the right customers on the rate. We talked a little bit about the difference comparing/contrast PTR to CPP. PTR is all about lowering your usage from a baseline level. CPP is not. There's got to be some baseline load that you are trying to reduce below. The customers that are probably best-suited to participate under PTR would be those that may be home during the day and able to reduce usage, and/or there's appliances running during the day and they can do something different during an event day. For those customers that aren't home or don't have any usage during that period of time, PTR is really not going to be a valuable program for them.

In trying to target the right customer, the question is, how do we do that? One of the things we might employ is really looking at the interval data, i.e. the usage data, to identify customers that have higher on-peak loads and maybe recruit them specifically to this type of program. For example, we did have an effort this year to focus on our residential Time-Of-Use program. With those marketing efforts, we were able to get 5% of our targeted population enrolled on Time-Of-Use, which I think was very successful.

Now we have an opportunity to go back again, using interval data and target a broader audience for our Time-Of-Use programs, but also look at the ability to communicate with the right audience in relation to what program might be most beneficial based on their specific usage patterns.

Dan Delurey: Paul, first of all, congratulations to Southern California Edison. I think everyone realizes it's not always fun, and certainly not always easy to be out there ahead of everyone else as you are trying to do new things, particularly on the scale at which you folks do things out there. I think I speak for everyone else that it is great that you have done this, and it is particularly nice of you to take the time today to talk with us and share the lessons learned. It's the kind of information that I know people around the country are looking to be aware of.