PNM PRAC Call (Allocation and TOD)

May 9, 2023

PNM Attendees: Stella Chan, Heidi Pitts, James O’Brien, Richard Lenz, Michael Settlage, Adria Padilla, Alex Reedin, Aaron Braasch, Carey Salaz, Nick Phillips, Debrea Terwilliger, Stirling Crow, Belinda Ready, Mario Cervantes, Cindy Menhorn (MCR), Ian MacDougall (MCR), Ken Agnew (DNV)

NM PRC Attendees: Bamadou Ouattara, Ed Rilkoff, Christopher Dunn, Agata Malek

Other Attendees: Andy Harriger, Barbara Chatterjee (Private Consumer), Sarah Baxley, Jon Ebia (ABCWUA), Stacey Goodwin, Jason Kiengsiri, Kelly Gould (NM AREA), Kevin Cray (Coalition for Community Solar Access), Maureen Reno (Transform Consulting), Michael Kenney (SWEEP), Wesley Miller, Nathan Coron, Marchez Coriz, Senator Richard Martinez (NM State Senate), Brendon Baatz (Gable Associates), Cydney Beadles (Western Resource Advocates), Jassim Teeky, Steven Mesko, Durga Meesala

**Agenda**

Time-of-Day updates (90 minutes)

* Logistics
* Meters and waitlist
* Measurement/evaluation metrics, plus the rate and control groups
* Marketing
* Education
* Website
* Customer Tools

Allocation discussion (90 minutes)

* Brief Introduction to Production Plant Allocation
* Why does a renewable portfolio require a new look at allocation
* Example allocation methodologies using 2024 resource portfolio
* Considerations for a fully decarbonized resource portfolio in 2040

**Recording link**

None found in meeting records. This was the first meeting.

**Minutes**

Introduction (Stella Chan)

* Today’s topic is the TOD pilot as well as its communications and education campaign. We will also be discussing the carbon-free cost allocation method. We know that a methodology change will affect everyone, so we want to start this discussion. This is just a discussion at this stage; PNM has not made up their minds on what method to use. Minutes, the recording of this workshop, and the presentations will be shared after the workshop.

TOD Logistics (Heidi Pitts)

* We have given thought to our measures of success and our need for a bill guarantee and customer education. Additionally, there are customer billing system issues to work through. Reports also need to be created.
* In my testimony, I wrote that, for 1A and 2A customers moving to the TOD pilot, they will get a bill guarantee for 12 months if in the same domicile. If customers are paid more than what they would have under their original schedule, they would receive a credit for the difference. There are nuances though. For example, with bill/rebill or credit/short bill issues, we will need to work through how those work, so the credit is accurate.

TOD Meters and Waitlist (Adria Padilla)

* We will have 10,000 meters (7,500 for residential and 2,500 for C&I). The first order of 990 meters (810 Residential and 80 commercial) has been placed and will arrive in January 2024. Customers can begin to sign up on the website starting in August/September.

TOD Measurement & Evaluation Metrics (Alex Reedin)

* Evaluation is a way to measure the program’s success. If you have a battery, you can measure how much kWh is coming out of the battery. But with a rate, it’s harder to determine how much kWh was saved due to the rate. This is what evaluation does. You need social science, engineering, and statistics to evaluate how the program is running.
* This is done by a third party generally to ensure an independent analysis. PNM has hired DNV to provide the evaluation for this pilot. DNV is a highly qualified team that has done dozens, maybe hundreds, of evaluations. They will be doing a randomized control trial, which they are well experienced in.
* Evaluation steps:
  + Design for Evaluation – In progress (how does the control group get programmed?)
  + Evaluation Plan – We have a draft from DNV and are working to make changes, which is why we need input.
* There are two parts to evaluation:
  + Process Evaluation: send out surveys, engagement metrics, how did people like it, how can it be improved?
  + Impact Evaluation: what is the impact of the rate exclusive of other changes in customer behavior?
* We are measuring:
  + Customer Satisfaction through surveys
  + Percentage load shift/bill savings through statistics
  + Recruitment Efficiency to figure out which mass market initiatives worked for recruitment.
* We will survey those who stay in the pilot and those who leave. Those leaving are very important also, as we benefit from knowing why they left.
* Pilot participants are early adopters. Because we don’t have AMI, we don’t have specific data on when our pilot participants use their energy upon enrollment. Customers that enroll tend to be quite different than the average customer. This is why we need a control group. Night shift workers or retirees have a lot easier time shifting their usage from the standard high-use time periods. Sometimes, ease of using technology will help customers shift their usage. LMI customers also have a high incentive to reduce even a minimal amount of their energy bill.
* The control group will get a meter and enhanced energy information at the same time as the “rate group.” The control group will only get the TOD rate 12 months after being on the program. This control group is for residential customers only. If we could do it for all classes, we would, but there needs to be enough customers in the control and treatment group that are sufficiently similar, which is hard to do with smaller classes. The residential class is the vast majority of PNM’s load, so knowing the most about them is the most helpful group to have a control group set up.
* Control group (and treatment group) customers will get such increased information as high bill text message alerts or knowledge about how much their A/C unit is contributing to their bill. Customers that sign up will be randomly assigned into the treatment or the control group. Customers will know if they are in the control group.
* Barbara Chatterjee: Will control group customers be influenced by signing up?
  + We want the customers to be influenced by this because the treatment group already is. We need to ensure that the difference between the groups will only be the rate itself, which the control group won’t have.
* Barbara Chatterjee: How are we dealing with rooftop solar customers?
  + They are allowed to join, but PNM expects it will be hard for them to save money on the schedules.
* Barbara Chatterjee: Are AMI meters going to be optional or required?
  + To be a part of the pilot, you will need an advanced (cellular) meter. Customers will receive information on how the data received from the meter will be used (which is solely for billing and pilot purposes). PNM has data security measures in place for the data received from the meter.
* Richard Lenz: Will people be told they have a possibility to be in the control group?
  + Yes, the main recruitment message will be about the increased information, not just the rates.
* Brendon Baatz: Is there an incentive to sign up?
  + Not currently.
* We want to know which customers are natural savers (free riders) or because they have chosen to save by taking active steps to shift load.
* We will evaluate the cost effectiveness and will look to include a carbon analysis in the future.

TOD Marketing, Education, Website, and Customer Tools (Adria Padilla)

* The website will have an easy click button sign up and educational information about how we can measure usage, such as hot water heater usage. There will be simple graphics to visually show the difference between on-peak and off-peak rates. Frequently asked questions will be available on the website. Our commercial website will be very similar to the residential website.
* We are debating using clock/pie chart graphics to easily show peak hours and rates.
* PNM’s target audience is the tech savvy, metric tracking customers. We want EV customers and all-electric homes.
* We will be doing 30-second video ads on streaming sites and 30-second audio ads on podcast and other non-visual media. Digital banner ads will be used on websites. Pamphlets will be made for low-income events and other similar types of events.
* Barbara Chatterjee: Will there be TV and radio ads?
  + Yes.
* Barbara Chatterjee: As I look at this pie/clock chart, I don’t like the colors as they are too muted. Also, green means go, so the peak rate (when people shouldn’t use electricity) shouldn’t be colored as green.

Acknowledged by PNM that this is a good suggestion.

* Maureen Reno: Will the pilot be available to municipal customers?
  + Yes, only lighting and 36B customers are ineligible.
* Hold messages about the pilot will be utilized for normal call center calls.
* We are debating adding magnets with peak hours for people to easily view in their homes.
  + Stirling Crow: Arizona’s utility has massive success with magnets. They found that magnets were a key knowledge tool.
  + PNM acknowledged that information coincides with what they have heard and hope to make use of the magnets.
* Wesley Miller: We should make a distinction on eligibility, as only 2A and 1A customers will receive the bill guarantee, to prevent confusion.
* We will also have Facebook ads. We are still in the process of refining our social media communication plan.
* Barbara Chatterjee: As we move forward to transition off fossil fuels, these peak windows will change. We should already talk about how the peak has changed and will change as renewables are put on the system.
  + We will be discussing this regarding allocation and usage pattern change. These TOD time periods are not set in stone as customer load patterns shift.
* The goal of the education plan is to build awareness of the meters and its benefits, motivate sign-ups, and also increase interest so that PNM has a waitlist by year-end. We are training our Account Managers to help explain this to their customers. We are utilizing internal focus groups for feedback on training and marketing.
* Enhanced energy management tools will be a monthly email that will show energy usage, shift potential, and daily load shapes. Apps will also be used. Customers can create budget alerts so that they will be alerted as they reach 75% of their budget.
* The website’s main dashboard will show usage by type, bill versus prior bill, bill history, and insight into daily usage with highlights for different peaks.
* Maureen Reno: How will the cost of this platform be allocated in the TOD rates?
  + They aren’t. They are socialized in every class’s base rates.
* PNM is working with Apogee to allow customers to preview their account before and after signing up for TOD rates. This will allow customers to see if the TOD rate may benefit them.
* Customer Steps to Sign-Up:
  + Sign up online beginning in August/September.
  + PNM will contact those who signed up with final time periods and rates once Final Rate Case Order comes out.
  + PNM will make final confirmation for enrollment with customer.
  + The meter will be switched out. Customers can cancel participation anytime and keep the meter.
* A dedicated email has been created for customer questions or concerns.

Allocation Discussion (Michael Settlage and Nick Phillips)

* This needs to be a discussion and we want your input. We are moving to a carbon-free future. Peak load used to be gross load, but it will now be load net of must-take renewables. Modern rate design can enable customers to respond to price signals so the system operates more efficiently.
* Western Energy Imbalance Network ELAP shows the average hourly price at each hour of the day. The highest price is in the afternoon and lowest price is in the morning. This is known as the duck curve. However, the dip in the morning/early afternoon can drop down to a negative price. This is why we need to change our methodologies; we need to align rates to costs at an hourly level.
* Kelly Gould: Why have we not aligned the TOD rates to these duck curve hours?
  + We have for TOD, but not our current TOU prices. We want off-peak to be the middle of the day when prices are lowest/negative.
* What is driving investments on the PNM system? We are currently 25% renewable, with increasing requirements up to 80% in 2040. Renewable energy is intermittent and is mainly received by us using PPAs on a take-or-pay basis.
* PNM has carbon emission requirements. PNM has internal plans to be carbon free by 2040 with state requirement by 2045. Carbon emissions are a function of energy production.
* Despite intermittently increasing renewable requirements, we must have reliable service. First, energy storage is not a way of generating energy. It is simply a shift of when energy is made to when it is used. The hours of risk drive planning. That is, we plan for times when energy prices are highest. We are currently capacity constrained, but as renewable generation and storage increases, we will be energy constrained. That is, we have more capacity than we need, but we may not be able to use that capacity when it is needed.
* In the old world, a storm over a city would reduce gross load requirements. In the new world (with rural solar plants), a storm over a rural area will increase net load requirements.
* In 2025, over half of our load during peak hours will be served by renewables. The net load will be primarily gas, nuclear, and coal. In non-peak hours, almost all of the load will be served by non-renewables, requiring a much larger dip into gas and energy storage load.
* Barbara Chatterjee: What is the pattern for recharging storage so we know how much storage we need to be available?
  + There are efficiency losses when storing energy, so PNM can’t charge a 4-hour block of usage in 4 hours.
* Andy Harriger: Is our energy storage being charged by peak load solar?
  + In this scenario, our storage is already full and not being charged during the peak gross load hour. Storage charging is likely to occur during the middle of the day with hedging pushing the beginning of the charging earlier.
* If we look at the peak gross load and peak net load, we can look at risk on the system. There is no risk at the gross peak load, only in the peak net load. So, aligning cost causation should be during the net peak hours.
* In the world of 2025, our risk is solely in the 3 gross peak hours during the summer. In the world of 2040, our risk will be almost all times outside of the middle of the late morning to late afternoon, regardless of season.
* Barbara Chatterjee: We need to market that these hours of no risk are the best time to use energy.
* Brian Andrews: In 2040, will you discharge your entire battery storage in the net peak hours?
  + We plan on having separate banks of battery storage that can charge and discharge separately.
* In the old world, we would use those 4 gross peak hours to allocate all our production costs. In 2024 and beyond, we need to come up with a new system, possibly based on LOLE risk.
* We want your thoughts on a two-step process:

1. Net renewable generation from all customer class loads,

2. Then allocate fixed costs using residual loads.

* Jason Kiengsiri: Can you explain how this two-step process affects high load factor customers?
  + Some of our tariffs require high load factors and we made need to change those requirements going forward.
* Maureen Reno: How would this netting process work during a year before 2040 when we are not carbon free yet?
  + The process would be the same, there would just be fewer renewable resources to net. As more renewables go on, the number of residuals decrease except in net peak load hours.
* Please send us your proposed methodologies. You can either calculate the allocators yourself, or we can help.
* Larry Blank: Where you lost me was a coincident peak concept. What is that about?
  + That is a method, looking at the net peak load in the risky hours, and creating a coincident peak over how many hours that may be. Once you’ve done the netting process, you have hourly loads net of renewable consumption and use some method for allocating fixed productions costs, either via risk hours or some other method.
* Larry Blank: When it comes to the cost of renewables, would that be in the total cost allocated here or are you suggesting that the renewable portion will be allocated on energy?
  + PNM is specifically talking about plant production here, not fuel and other variable costs. We didn’t comment on how renewables would be allocated in this presentation; it is something that will need to be discussed, but it’s not what we wanted to talk about today? We will send out 8760s with this meeting so that people can look at developing their own methodologies.
* Larry Blank: So, for fixed cost renewables, will you use one of these methods?
  + We weren’t suggesting anything. We’re not looking at renewables at all, merely fixed production costs.
* Barbara Chatterjee: Will you be tracking end user storage?
  + We cannot see what is going on behind the meter normally. We can put out incentives to encourage battery storage and customers could one day sign up for a program that may allow us to dispatch their batteries. But customers can add their own rooftop solar and storage themselves.
* Barbara Chatterjee: What else can be out there that can start impacting you that is not impacting you yet?
  + Behind the meter storage and EV adoption will cause us to adjust. We need to make sure that our methodologies don’t put people at a disadvantage as these things become adopted.

Conclusion (Stella Chan)

* Next meeting will be late summer or just after Labor Day