**PNM PRAC December 2024 Meeting**  
December 19, 2024, 1:00PM to 3:00PM  
PNM Headquarters / Online Meeting

PNM Attendees: Heidi Pitts, Stella Chan, Debrea Terwilliger, Mike Settlage, Ruth Townsend, Julio Aguirre, Pablo Magallanes-Flores, Cindy Menhorn (MCR), Ian MacDougall (MCR)

PRC Staff: Elisha Leyba-Tercero, Daren Zigich

ABCWUA Attendees: Andy Harriger, Keith Herrmann

NM AREA Attendees: Peter Gould, Kelly Gould, Brian Andrews

Attorney General’s Office Attendees: Doug Gegax

REIA-NM Attendees: Dylan Connelly

Other Attendees: Rocky Bacchus (Deming and Cobre Consolidated Schools), Larry Blank (NMSU), Owen Smith (Meta)

**Agenda**

1. Pre-Meeting Announcements
2. Generation Production Allocation
3. PRAC Issues and Additional Questions

**Recording Link**

Link: [Updated Date: PRAC December 19, 2024 Meeting-20241219 2141-1 - Webex](https://pnmresources.webex.com/recordingservice/sites/pnmresources/recording/5eb39d269c6e4f07b97a7a9abcb1c694/playback)

Password: 8eZp9GZ3

**Minutes**

Pre-Meeting Announcement – Stella Chan

* Julio Aguirre will be taking over for me. He has already started. He was a pricing analyst for PNM before and he left in 2019, but he’s back now. I will be around until February 7 and then Julio will be fully taking over.

Generation Production Allocation – Mike Settlage

* I would like to go over some of the confusing terms that we have been discussing, specifically Expected Unserved Energy (“EUE”) and the risk hours which have changed since we are now looking at another study period. We want to ensure that this methodology works in the future as well as the past study periods.
* We are now using 2028 for the study period, which is not to imply that 2028 is the next rate case test period. It is just a future calendar year. There is a leap day in that year, so there are 8784 hours in the year, not 8760. One thing that happens in 2028, so some of the risk hours are shifting as we go forward in time, specifically to winter mornings and summer evenings. This study period has fewer 75% EUE hours than we have looked at in the past. 75% EUE hours account for 75% of the risk hours of that year. We will be using this 75% methodology for all future periods that we look at.
* The methodology has two segments. The first segment uses every hour of the year. We use this segment for non-ACE resources and non-ACE costs. ACE means “area controlled error” which is a measure of how well we are balancing generation and load. Some resources contribute to that, some do not. Non-ACE are things we can’t move like solar, nuclear, and coal. The second segment is a selection of hours that captures 75% of the modeled unserved energy. Using these two segments provided a reasonable alignment of costs to class use. They align the costs of the resources with the risk hours of load.
* PNM is obligated to plan the system reliably, but not gold plate the system. The way we do that is a reliability target called Loss of Load Expectation (“LOLE”). That target, set by the PRC, is that the system will have an outage of one day in ten years. That doesn't mean there will not be an outage in any particular day or any particular hours of any year. This is a planning number from a probabilistic model with multiple runs averaged together. It accounts for weather, economic drivers and more.
* EUE is the total amount of modelled energy that would be lost during that one day in ten years outage. It is expressed as an energy amount (MWh or kWh) that are at risk in those hours.
* Some of the changes in the new study period is that the EUE hours now have early winter mornings as well as summer evenings around sunset. This makes sense because there are less winter daylight hours to charge batteries and more winter darkness hours when the batteries are discharged. This is what is driving the change in EUE risk hours. It is still high in the summer around sunset. That is because, when the sun sets, we lose a large amount of renewable production. We mitigate these risks by adding more resources in these planning studies to meet our reliability target.
* You’ll notice in the EUE heat map that there is a section in June, July, August, and September that is risky. Risk hours are non-green cells. The darker red, the riskier that particular time is. There are some months with almost no risk. Other months have more. This study period has a lot more risk in January and February than we saw before. The risk times shown here is what drives spending dollars to add resources to the system.
* Rocky Bacchus: Are the risk hours taking into account switches from gas heat to electric heat? Are these billing months or usage months?
  + Mike Settlage: These are usage months. These studies have many inputs including several scenarios of different load forecasts. Some of these forecasts might have higher heat pump penetration, some lower. We don’t have a study that is directly related to heat pumps, but penetration is included in the forecasts.
* Dylan Connelly: We’re thinking about adding more heat pumps. You’re also adding more EVs and incentivizing the charging of EVs overnight (including winter nights). You’re kind of exaggerating the problem by incentivizing people to charge at that time.
  + Mike Settlage: We recognize that our Whole House EV Pilot is a starting point. We recognize that will need to change as the best time to charge moves to the middle of the day.
* Brian Andrews: I think this is the 3rd test year now that we’ve run this heat map. The results seem to be moving to what you envisioned in 2040. Do you have a side-by-side of this heat map and then earlier charts and the 2040 forecast?
  + Mike Settlage: We will add that to the PRAC website, along with all presentation materials will go on there in the future. That will be our way of sharing data with you.
* So, if we use 75% EUE to select our production dollar additions. Capacity planning is now driven by non-solar hours, not by our gross load. Solar resources are energy only and add little capacity.
* Keith Herrmann: With all the solar that we’re putting on, are we running the risk of hitting over generation penalties? Is the only way to mitigate those batteries?
  + Mike Settlage: Yes, we are already curtailing solar and often selling into a negative market this excess solar. We are spending dollars to manage the solar we have now and, as people add more, that’s not going to get better. Batteries are nice, but they have limits. Otherwise, we must use curtailment, not producing it. If we have too much solar generation, our area control error goes out of range and, if we didn’t do anything about it, there would be problems.
* Dylan Connelly: You can also incentivize not using that power through rate design.
  + Mike Settlage: We are trying to do that with our Time-of-day pilot.
* The number of EUE hours indicates how much risk is associated with serving load during a given period. In the rate case study period, 75% of EUE was 87 hours with total EUE about 161 MWh. In the new study period, 75% of EUE is 40 hours with total EUE about 5.5 MWh.
* Brian Andrews: Do you have a sense of what’s causing the EUE to go down so much in a two-year period?
  + Mike Settlage: It has to do with resource additions. They come in big lump additions. We don’t add small resources over time, they’re bigger. So any additions will cause a large change.
* 3S1W will miss risky hours because the stressful time on the system hits more months, but very specific hours. Different usage patterns will cost more or less to serve. A school will operate in the daylight hours and is unlikely to drive spending on resource additions. So they should get a lower portion of the ACE production costs. A sports venue primarily operates after 5pm (around sunset) and will be our riskiest time and would get a higher portion of ACE production costs in this methodology.
* Rocky Bacchus: Are you looking at this without the politics of rate design?
  + Mike Settlage: That is why we are all here, so all voices can be involved. This is about allocating costs equitably. The principle is cost causation. If your load is causing us to add costs, your load should pay for those costs. This gets us to the initial buckets. After that, we go through a banding process that makes up for any deficiencies that parties think are in the allocation that they don’t like. It is there where the politics comes in. After that comes rate design. So, rate design is two steps down from the process we are discussing here.
  + Debrea Terwilliger: Banding isn’t really political either. Banding is meant to mitigate impacts on certain customer classes. It’s consistent with Commission precedent, but it’s not political.
  + Mike Settlage: Correct. There are social issues involved, not political.
  + Rocky Bacchus: When you look at the current published stipulation, your residential increase need was 32% and they only got a 19% increase, shifting costs to other groups. I would call that political. As we’re planning forward, I think some of the political issues that are going to affect outcomes should be part of the discussion. Rate shock is a significant issue. We can’t look at things from pure engineering perspective.
  + Mike Settlage: I don’t disagree. That is a very big topic in every rate case. That is not the purpose of this meeting right now, which is production allocations.

Responses to Previously Submitted Questions – Mike Settlage

* How many critical hours are expected to be short? Is there an analysis of how much rates will change behavior to counter the need?
  + Just because a study says that a particular hour is risky doesn’t mean we will experience that risk in any given year. We have no expectation to have any outage except for that one hour in ten years scenario. It’s not expected in any year in particular. There are things beyond our control, using very cold Texas winter a few years ago as an example. There’s always a chance things will go wrong.
  + Rocky Bacchus: That sounds like an argument for real time rates, forcing customers to react in real time and then they should get a lower rate for taking this risk.
  + Mike Settlage: I want to reign you in again as that is rate design. We’re not at that stage here. We do have our time-of-day pilot, comparing it with a control group to see if they can have behavioral changes. Any talk of real time rates is outside our planning horizon.
  + Rocky Bacchus: I applaud the time-of-day pilot. You should offer a real-time rate sooner rather than later.
* We are talking about generation production allocators right now. We will eventually be talking about T&D allocators. We will get there, but currently we’re concentrating on production allocation. We need to keep them separate, so they don’t get mixed up.
  + Rocky Bacchus: If we don’t take into account multiple factors, we may find out that we should have done another plan once we’re several steps down the road.
  + Mike Settlage: This allocation of costs is after we have identified the costs. There’s a process of steps.
* PNM operates one system, and it operates for the whole system and all its customers. Every resource has a cost, and all costs must be assigned to a customer class. While these new non-traditional resources don’t give us as much control, they help the system as a whole. So, we have to change what we did before. We have also shut down many of our traditional resources as part of the Energy Transition Act, and we will continue to phase them out.
* There are many questions that we still have to answer about the fuel clause and the renewable energy rider. We will have to look into those in the future and we will.
* Daren Zigich: Our traditional resources aren’t theoretically energy limited, though storage is. That changes your EUE. And the longer the storage, the capital costs increase. Same for capacity. So, there is this situation where capacity and energy decouple themselves. How do you parse out the capacity piece of storage versus the energy piece?
  + Mike Settlage: That’s another question we will have to talk about in future PRAC meetings. We’re facing challenges here in New Mexico with the amount of solar penetration. We need to work together to make sure we’re tackling these questions in a way that makes sense. There may eventually be technology to make wind or solar dispatchable. Once that starts to happen, we’ll need to address it. Until then, these two methodologies seem to be our best options.
  + Daren Zigich: I seem to remember that you were saying that some solar plants can be considered dispatchable currently.
  + Mike Settlage: We have to talk about what we can control in real time. We can obviously just open a breaker, but that’s an extreme curtailment. That’s why we changed looking at dispatchable to ACE resources. We are already, almost every day, curtailing solar.
* Any storage resources don’t produce energy. They actually use energy. Due to limits in efficiency, if you store 100, you’ll only get something like 85 out of it. They provide good capacity to the system and lots of other benefits. Energy shifting is a part of it, but it may not even be the biggest part. It’s the other things we need to keep our reliable system running and balanced. That’s why capacity is the more appropriate way to classify energy storage.
  + Daren Zigich: Has your T&D study been updated to accommodate losses from storage? Storage is only used when it’s needed. It’s a time-of-use thing. How are you thinking about those aspects?
  + Mike Settlage: We charge them when the sun is shining and discharge when the sun is not shining. We hope to prevent curtailing solar by storing that energy. We hope they will meet our reliability concerns.

PRAC Issues and Additional Questions – Mike Settlage

* NM AREA also provided questions and comments. These are the types of comments we want to dig into more. We hope to create a subgroup of more interested parties. Some of these questions will have customer-specific data, so we need a small group to prevent dissemination of that data. We will then provide the results of that group to the larger PRAC.
* Our website is a work in progress. We haven’t put everything on the website yet, including past material, but we plan on doing so.
* Rocky Bacchus: There are a lot of overview materials and not specifics yet. Will we be able to bring these specifics up?
  + Debrea Terwilliger: We are going to break out the production allocation discussion into a sub-committee with NM AREA and Staff hopefully. Once we’ve nailed down those specifics, we will come back to the larger PRAC group. We’re going to keep this sub-committee limited to people who have been active participants in that issue in the sense of a rate case. We can talk later offline about this, but this is our current intent.
* Doug Gegax: Why are the risk hours changing? Is what’s changing the load and behind-the-meter solar?
  + Mike Settlage: The resource mix, including behind-the-meter, is changing. We are focusing on what is driving us to spend money to add resources. So that is shifting from daylight hours to dark hours. That’s not due to PNM, it’s because of the increase in renewable generation. It’s not necessarily a shift in load. It’s a shift in net load, which is driven by renewable generation.
* Rocky Bacchus: Are there thoughts in encouraging customers to have batteries themselves?
  + Mike Settlage: Our time-of-day pilot is our first step in moving in that direction. It’s a question of how appropriate it is to move in that direction and limits on our current system. Customer education is also key here. This takes a while, and we are on the first of many steps.
  + Stella Chan: As we collect the data, we immediately start looking at it. We’re not waiting for a certain number of years. We are analyzing as we go.
  + Mike Settlage: Our Grid Mod order encourages us to move to time-of-day as the default as soon as practicable. That’s on the AMI system, which still needs to be installed.
  + Rocky Bacchus: Who is evaluating the pilot? We have a lot of people who want to be involved but there were meter shortage issues.
  + Mike Settlage: We have a load researcher and an outside consultant, DNV, that will evaluate that data. We don’t even have a full year worth of data yet.
  + Stella Chan: Your account manager can be your point of contact.