



Meeting Summary

ADEQ EPA CLEAN POWER PLAN TECHNICAL WORK GROUP MEETING SUMMARY

DATE: July 28, 2016
TIME: 10:00 a.m. - 12:00 p.m.
LOCATION: ADEQ, Room 3175, 1110 West Washington Street, Phoenix

STAKEHOLDER ATTENDEES
(See attached)

ADDITIONAL ATTENDEES
Kelly Cairo, GCI

ADEQ Staff
Steve Burr
Len Drago

AGENDA

The meeting agenda included:

- Introductions
- Ground Rules
- Possible Comments on CEIP Proposal
- Discussion of ASU BAU Analysis
- Action Items/Next Steps

INTRODUCTIONS/GROUND RULES

Steve Burr welcomed attendees and facilitated introductions. Twenty-one technical work group members attended in person and via conference call.

Burr noted that since former AQD Director Eric Massey accepted a position at APS, he is leading these meetings for the time being. He introduced AQD Deputy Director Len Drago.

POSSIBLE COMMENTS ON CEIP PROPOSAL

Burr explained EPA published a notice of proposed rulemaking on "design details" for the Clean Energy Incentive Proposal, with comments due on August 29, 2016. ADEQ has been active in making its voice heard and will submit comments. The department typically consults with the TWG and public CPP stakeholder group prior to submitting comments. Burr outlined proposal topics and asked TWG members for input.

Highlights of the discussion, comments, and questions included:

Allowance for early action

- The method EPA would use to determine the number of Emission Reduction Credits in the pool vs. allowances was not initially addressed.
- Proposal includes a method for converting from MWh to short tons.
- With the ratio established of 0.8 allowance per ERC, doesn't this make obvious the common currency? This does answer some of the issues, but not all.
- Reaffirms that allowances may not be used in a rate-based program.

In a state with a rate-based program, those with a megawatt hour from a qualified program would allow 0.8 short tons of CO₂/MWh.

Proposal would divide available allowances evenly between low-income projects and RE projects, with no transfer between the two types of projects.

- Division seems arbitrary. Low-income projects are projected to be about one-third. ADEQ intends to comment. Initial thought is to have more flexibility
- Seems those already using a lot of EE are penalized for early action.
- Some states could want more allocated to low-income projects.
- Does not make sense to not allow a state to use the whole pool.
- The incentive may be to encourage development of programs in low-income communities.
- I lean toward supporting this change to the rule, because it creates a space for those types of projects in low-income communities.
- Arizona already has aggressive RE efforts. By 2020 it will be incrementally harder to add programs than in other states. This effectively disincentivizes early adoption. Think there is room for flexibility within each state, perhaps with a floor.
- Is there some burden of proof to avoid having a state take the whole pool for non-low-income programs?
- We haven't defined "disadvantaged."
 - Can utilities track how much is spent in disadvantaged communities? Possibly by ZIP code? This isn't necessarily tracked, but a lot of work occurs.
 - We could look at federal and state definitions of disadvantaged
- EPA has historically pointed others to look at Arizona as an EE leader.
- A SIP could include an appropriate threshold or floor, therefore allowing for differences for each state, and would be subject to EPA approval.
- I would be concerned about vague language, more so coming from other states.
- There could be some kind of test to make sure that all of the resources don't just go to RE projects outside the disadvantaged.
- By creating flexibility do you create in-state battle between RE and low-income projects.
- Suppliers would compete between certain RE projects as well.
- Some tribal communities may have an opportunity for larger scale RE, and many of these might be considered disadvantaged.
- RE work could also be a source of jobs.
- EPA is concentrating on reducing energy bills to consumers.

- There is some confusion on whether EPA intends the community energy savings program to show savings on the customer's bill to get credit for this type of program.
- This might be a problem, particularly on Navajo Nation, because many do not have electricity. RE savings won't show up on bill, because they don't have one. This includes areas not necessarily in Arizona.
- Could do a case study of how it could benefit tribal areas.
- There are economic benefits besides bill reductions.
- Current language doesn't make "economic benefits" very well defined.
- Do we need to mention impacts on bills at all?
- RE doesn't mean your bill goes down. Could decide to purchase new appliance or use more energy, resulting in your bill increasing.
- It would be difficult for a utility to quantify the average impact per customer. We can quantify broader economic impacts more accurately.
- Bill impact could be a metric, but should not be the only one.
- Why does it just say "solar" for projects to benefit low-income communities?
- Regarding ERC granting in CEIP process, EPA seems to envision ERCs as preloaded, but they have to come from somewhere else in the CPP. An ERC is a process in itself. To give someone an ERC takes one away from someone else. This encourages utilities to play hard up front and will end up in others losing their ERCs.
- EPA's formula ends up deducting ERCs from others. Another way to go is that ERCs need to be created, or to have the ERCs come from CEIP process itself. But it seems EPA doesn't like either of these options.
- It's fine if you provide an ERC, but not if it's taken away from and penalizes some other project. An early project will get more ERCs than those started later.
- Just because you can do it easier with allowances, it's still unnecessary. Seems unbalanced that a state using a mass-based program would need to match vs. those who use a rate-based program.
- In looking at the statute, the language says the procedure should be established and only allows EPA to step in with plan if state fails to do so. CEIP is not derivative of this language. If EPA authority is simply the ability to establish something, the original 1975 case says EPA cannot dictate to states the outcome and how they comply. Therefore, I don't see how this allows EPA to set allowances, ERCs, and other specifics.
 - These objections will probably play out in the DC Circuit Court and perhaps the Supreme Court.
 - CEIP manages what states can do specifically, and it is applicable here as well.

Division of national pool among states

- Appears EPA stuck with division of the pool based on reductions needed per state.
- Seems like a reasonable approach.
- Maybe this goes to how unused allowances are retired.
- Proposal now says that if a state doesn't buy into the program, allowances will not be reapportioned. This issue seems to be actually be about time. Which circumstance does this apply to? Some programs and deadlines would allow time for reapportioning allowances.

- Could reapportion based on state participation. Could do so if there is under subscription in participating states resulting in reapportionment to other states.
- Propose to not do first part.
- We will also need to know if EPA moves the CEIP period. This timeline is compressed in light of the stay.
- Timing seems counterintuitive. Now the proposal does not allow credits until 2018. This disincentivizes programs from starting as soon as possible. Everything post CPP should be allowed in, even if it's prior to 2018.
- Is there a way to get EPA out of the reapportionment of ERCs and just allow states to trade them? Considerations include who would handle the exchange. States and tribes could earn money.

State plan requirements for CEIP

- Proposal discusses method for maintaining stringency and the definition of low-income. The approach is to use one or more federal or state definitions. Seems fair to use state definitions. Proposal outlines requirements for eligible projects and expanding projects for community RE.
 - Projects should include wind, not be limited to solar.
 - EPA had some rationale for why they limited it to solar.
 - Should expand RE energy projects to include geothermal and other.
- Proposal includes changing the date for construction/operation of projects, but doesn't make sense for beginning projects later.
 - There is no incentive to begin project now. This is wrong
- May want to issue a statement of support for applicable provisions. If some states comment that the division of the pool is unfair, there may be a benefit to have some states agree that they like the division.
- Will utilities comment as a group? This hasn't been determined. We only have a few comments.

DISCUSSION OF ASU BAU ANALYSIS

Burr introduced presenters Eddie Burgess and Maren Mahoney from ASU and Karin Wadsack of NAU. Burgess provided highlights and updates to the ASU analysis and Wadsack presented additional work that is occurring with NAU. The updated presentation will be available at <http://azdeq.gov/node/1206>.

Highlights of the ASU updated presentation, comments and questions included:

- The PACE Global Study included assumptions about load forecast, which was at approximately two percent, therefore we looked at these figures and applied EE to determine anticipated load.
- PACE Global used utilities' IRPs and forecasts.
- Why PACE Global and utility figures differ? This may be an issue with projections through 2020 vs. those shown in ASU analysis which go through 2022.
- Does this analysis apply the standard to the whole state? No, this is based on utility plans/IRPs.
- The PACE Global projection is based on current RE, and is very conservative.

- What is a high-performing ERC? This would be a steam unit that is under the threshold. NGCCs under the performance rate would generate some ERCs.
- As an item of clarification, the charts for ERCs show a total for three years, but the table shows the annual total *each* year.
- The emission growth profile looks flat. I would expect load growth to make this figure go up.
 - This figure takes other factors into account, such as the growth of RE.
 - I would think that some load growth would be met with existing natural gas facilities running more.
 - If RE is cheap, why would NG use go up? This compares existing NG to new RE.
- How is peak demand accounted for?
 - SRP is seeing peaks shifting and not met by solar. Also, peaking units are not subject to the program.
 - I think we always assumed that new resources would be used, but if a system is updating, numbers could be different.
 - The submitted data that shows when peak demand occurs, existing NGCC are already in use.
 - There is a difference in filling one-hour peaks, vs. other peaks throughout the year.
- In case of energy assumed to be provided by new NGCC in Pace Global study, this study assumed new RE.
- Key insight: When Arizona and the Navajo Nation are considered together, it is a different picture under the mass-based program.
 - There is a huge amount of uncertainty regarding the inclusion of the Navajo Nation.
 - This will be a consideration with retired allowance allocation.
- The ASU study confirms that in Arizona, a rate-based program most easily meets the goal. However, we are still pursuing due diligence. Both studies show a preference toward rate-based. The ASU study shows we can meet the goals with a mass-based approach also.
- We should also consider how each utility will be affected. This is very different than the state meeting the goal as a whole.

Highlights of the NAU collaboration presentation, comments and questions included:

- NAU partnering with ASU to provide production cost modeling to simulate future operation of the power grid.
- NAU is seeking feedback on which scenarios should be modeled.
- A western US model is being used with a focus on Arizona.
- Uses the same assumptions as the PACE Global Study.
- The model functions as an economic dispatch generator.
- Modeling forecasts 2024 and is intended to function alongside ASU's work.
- The model seeks results including production costs, wholesale prices, generation plant output, emissions, and reliability.
- The WECC dataset is enabled for use in PLEXOS in the model. This is gathered by talking to utilities and others to the build data set and addresses at least 15,000

comments. Some wind and solar plants are not captured in the 2024 dataset because they have recently come online.

- NAU added new RE plants to model.
- We are looking at what other changes are needed for the CPP scenario.
- It is important to consider how numbers compare to each other, rather than the actual numbers.
- Baseline assumptions will also affect calculations, as well as what is business-as-usual scenario.
- Can PACE Global be exported to this? We used different assumptions.
- This allows us to model based on changes to various assumptions.
- It will be important that the team looks at “what-if” scenarios to prepare for a variety of options.
- I notice that the model uses areas, but not central dispatch. In reality, each of the regions has transmission costs and functions as if they are distinct utilities.
- NAU plans to run 2024 with different choices of generation, prices, incremental RE or EE, etc.
- The model can be used as a capacity expansion generator.
- I urge use of 2026 dataset when it is available, because major changes are expected.
- The model predicts emissions. Will there then be a comparison of how the state would comply under a mass- or rate-based system?
- The model includes options for hourly profiles of energy generation.
- Is there a way to include costs of some of the primary RE inputs to show the fundamentals of cost comparisons? This would be beneficial. We will have to see if we can do so.
- Colorado will be meeting to discuss assumptions used in modeling in August. It might be smart to coordinate with them and share information.
- We plan to examine specific changes to determine differing impacts to the state and utilities.
- Fixed costs are not included in assumptions. This could be included if we had figures to do so. Transmission costs could be included too.

ACTION ITEMS/NEXT STEPS

The group was asked if they would like an upcoming meeting topic to include different allocation methods under mass-based systems. There was general agreement to put this on the October meeting agenda.

Upcoming meetings include:

- Thursday, September 1, from 10a.m.-noon; Rate-based needs inventory
- Thursday, October 20, from 10a.m.-noon; Mass-based allocation methods

Action Item: Staff to post updated ASU BAU Analysis to website.

STAKEHOLDER ATTENDEES (IN PERSON AND BY PHONE) AND ORGANIZATION

Philip Bashaw	Grand Canyon State Electric Power Cooperative Association
Andy Berger	Tri-State Generation and Transmission Association
Edward Burgess	ASU
Jorge Canaca	GCSECA
Nonso Chidebell-Emordi	ACC
Michael Denby	APS
Doug Fant	Southwest Power Group
Bob Gray	ACC
Chico Hunter	SRP
Ann Livingston	Southwest Energy Efficiency Project
Maren Mahoney	ASU Energy Policy Innovation Council
Amanda Ormond	Advanced Energy Economy
Bruce Polkowsky	EDF
John Reissen	Tri-State Generation and Transmission Association
Josh Robertson	SRP
Paul Smith	APS
Meagan Vamos	AEPCO
Karin Wadsack	NAU
Todd Weaver	Freeport-McMoRan Inc.
Lyle Windam	Tri-State Generation And Transmission Association
Jeff Yockey	TEP