

Regional Energy Resource Council Minutes

December 11-12, 2019

Tennessee Valley Authority
Knoxville Office Complex
400 W Summit Hill Dr. Knoxville, Tennessee 37902

The Tennessee Valley Authority (TVA) Regional Energy Resource Council (RERC or Council) convened for the first meeting of its fourth term at 8:30 a.m. Eastern on December 11-12, 2019, at the TVA Building, 400 West Summit Hill Drive, 37902.

Council members attending:

Jennifer Mundt	Jonathan Levenshus	Charles Snively
Clay Walker	Rodney Goodman	Mike Butler
Patrice Robinson	Erin Gill	Pete Mattheis
Dr. Kari Babski-Reeves (day 1)	Dr. Bill Carswell	

Designated Federal Officer (DFO): Joe Hoagland

Alternate Designated Federal Officer: Amy Henry

Facilitator: Jo Anne Lavender

- Appendix A - TVA staff and members of the public who attended the meeting
- Appendix B - Agenda
- Meeting presentations can be found at www.tva.gov/merc

Welcome

Joe Hoagland, DFO, welcomed the group and introduced Jennifer Mundt, RERC Chair.

Jennifer Mundt, welcomed the group and drew the Councils attention to the advice questions that the RERC should consider over the next two days.

Safety Moment and Meeting Protocols

Meeting facilitator provided a safety moment on building emergencies.

The Council provided self introductions.

DFO Update – Joe Hoagland

RERC term 4 – talked about the subjects on the slides.

The RERC is important and TVA wants to bring your diverse views to the table. That will make us stronger and our decisions better.

Regional Energy Resource Council Minutes

December 11-12, 2019

Some of the subjects we will discuss include TVA's carbon footprint and coal ash disposal.

Coal brought low cost reliability to the valley and we now have the responsibility to manage the associated legacy.

This meeting will be an opportunity for you to learn about what TVA does and to ask questions. This meeting also includes an opportunity for the public to address this group. Tomorrow, you will be asked to provide advice to the TVA Board.

Jo Anne Lavender reviewed the agenda and meeting protocols.

TVA Overview

Federal Advisory Council Act - Khurshid Mehta

Khurshid Mehta provided a brief history of Federal Advisory Councils. He also discussed that meetings are open to the public, minutes are made available, and there is typically a public listening session.

He also reviewed the RERC Charter and By-Laws.

Introduction to TVA

TVA Overview – Joe Hoagland

- Provided a review of the beginning of TVA.
- Reviewed Mission, imperatives, governance
- The RERC provides advice to the External Relations Committee of the Board
- Discussed the Value of Public Power
- Discussed TVA's work to become Cleaner and Greener
- Described Integrated Resource Planning which helps utilities think through expensive, long-term power generation assets, and discussed TVA's 2019 IRP.
- Storage – getting ready to build a big battery at Vonore. We aren't creating the technology but determining how to integrate it into the system and drive down CO2.

You will be asked to help us determine if the IRP 2019 is still on track over the course of this term.

Jonathan Levenshus – Debt – Where are you now and what is the goal?

Regional Energy Resource Council Minutes

December 11-12, 2019

A. We are targeting getting to \$19—20 million by 2023

Bill Carswell: What is the mechanism for getting our advice to the Board?

A. Joe Hoagland reports advice statements to the External Relations Committee. The Chair shares with the larger entity and directs Joe Hoagland on needed action.

Energy

Kris Edmonson – VP Power Operations

TVA's Mission is to provide low cost reliable generation as good stewards of our resources and to minimize our environmental footprint.

- Kris Edmondson reviewed the generating facilities we have in the system.
- He discussed that portfolio diversity provides us with ability to provide reliable, low cost power. TVA is one of the most diverse systems in the country.
- TVA completed the Watts Bar Nuclear Unit 2 construction and uprates at Browns Ferry, both of which help TVA achieve lower carbon emissions.
- He provided a brief overview of renewables at TVA, and Energy Efficiency and Demand Response as part of our operating portfolio.
- TVA's portfolio currently has a 45% carbon free capacity, and is expected to meet 55% carbon free next year.
- Super critical coal plants are less flexible while smaller, sub critical are more flexible to help meet the needs of a system with more renewable energy.

Q. Erin Gill asked about coal's percentage of the mix and if it includes Paradise.

A. Yes

- The more flexible (turn on and off at low cost) Combined Cycle plants provide this better than larger plants. Load shape curve always changes and our challenge is to be able to meet it economically.
- Changing Portfolio shows how we will meet demand
- By end of 2019 will produce 60% carbon free power

Operational Excellence –Imperatives

- TVA spends a great deal of time considering how to make each asset meet its mission... each asset doesn't have the same expectations or needs.
- The pumped storage facility, Raccoon Mountain, provides a great deal of flexibility to pump water with excess electricity and then generates quickly when needed.

Regional Energy Resource Council Minutes

December 11-12, 2019

Mark Smith – Transmission Planning and Asset Management

- Mark Smith discussed how Transmission ties into TVA's Strategic Alignment.
- He discussed that the TVA transmission system is large, robust and changing. There are approximately 16K miles of transmission lines.
- Transmission's strategy includes planning for the grid of the future. One that is reliable, flexible, resilient, and smart (integrating new technology into the system).
- Load not served is TVA's primary transmission main metric. This measures the interruption of service to our customers – load size is combined with time of service.
- TVA has 99.999% reliability – dropped load not served by half in past 20 years.

Pete Mattheis asked: What are 'major events'?

Answer: These are any very major weather event that we can't plan for.

- Mark Smith provided an overview of TVA System Operations
- TVA is the Balancing authority for 11 states
- Resiliency is defined as how we minimize impacts and recover quickly
- TVA is always looking at how we can be better prepared for extreme events such as Tornadoes, Cybersecurity, Electromagnetic Pulses, etc.
- The Grid 2023 Initiative is a project where TVA is investing to achieve a more dynamic, multi-directional grid. The project includes the new Strategic Operations Center (SOC), Strategic Fiber and new EMS energy management system.

Safety is first priority, continue providing reliable utility power and prepare for the grid for the future.

Commercial Energy Solutions - Chris Hansen

- Chris Hansen provided an overview of TVA's Commercial Focus which includes stronger partnerships, being a solutions provider and modernizing pricing
- There are nearly 4000 solar installations across the Valley; solar has decreased significantly in cost (80% drop); Utility scale solar is less than half the price of private or roof top solar. TVA region residents also have options for solar at the mid-range with community solar and utility scale solar.

Regional Energy Resource Council Minutes

December 11-12, 2019

- Solar is part of TVA's carbon free portfolio. TVA's nuclear fleet is also a large part of the carbon-free generation.
- TVA and local partners, have also provided energy efficiency home upgrades for over 2000 low income families since 2010.

Q. Bill Carswell: What is difference from FERC and NERC?

A. NERC is North American regulations.

Q. Is fiber backbone going to be made available to LPCs?

A. Yes if TVA doesn't need them they will be made available to LPCs. We are putting in a backbone for extra capacity and grid reliability.

Q. When does it become important for utility to need storage?

A. Storage is helpful to capture the energy of solar to use when the system needs it. For peak energy usage times, we could use the battery stored power at that time. Grid size storage can provide us some flexibility.

Q. Jennifer Mundt – On the changing portfolio slide, the pie charts look like there is a decline in energy efficiency

A. The pie is actually getting larger, and does not account for the energy efficiency that is happening organically such as greater efficiency of light bulbs, appliances, etc.

Q. Jonathan Levenshus – why does gas go down?

A. Combination of renewables going up and modernization of the fleet over time. Gas is our swing resource as needed. Power Purchase agreements with solar are not all on line yet too.

Erin Gill – We need to avoid fossil fuels going forward.

Economic Development – Heidi Smith

- Heidi Smith introduced TVA's work in Economic Development. It's part of TVA's mission, and new businesses means new jobs in our community.
- The Google projects are an example of how TVA and our economic development partners work together to attract the new business investment. Google looked at 46 sites,
- TVA offers site selection services and supports community livability, work force development, and helping communities to be able offer things to attract new residents.

Regional Energy Resource Council Minutes December 11-12, 2019

- A large majority of our region is rural, and TVA provides support to our rural communities to help them be ready to attract new business and be able to effectively market themselves to prospects.
- We measure our work in both jobs and in dollars invested. We are seeing a trend of investments going up, but job creation is flat and or declining due to technology and automation.
- We are providing coaching on strategies to win. We partner with other entities to make sites more attractive and available.
- We also engage with our communities. We have a program called Valley Sustainable Communities. This is a certification program that helps communities respond to the carbon or renewable questions that are now standard for communities from businesses looking to locate in the Valley.

Q. RERC member: How does a community tap this resource?

A. 14 TVA reps are available to communities with this expertise in the service area.

Q. Where would we find metrics on what you include in the Valley Sustainable Communities program and how do communities apply?

A. We can provide this information to you. It is an inventory approach to help communities pre-assess their sustainability assets and progress.

<https://www.tva.gov/Economic-Development/Engage/Valley-Sustainable-Communities>

Q. RERC member: What is the number of big industrials served?

A. We have strategies for targeting all industries including large energy power users. We have more opportunities for smaller businesses because it's easier to meet their resource needs.

Q. RERC member: Do you track "living wage" as well?

A. Yes, we focus on attracting jobs that pay above the median for the area.

Environment – Rebecca Tolene

- Rebecca Tolene provided an overview to how TVA approaches the environment from an integrated and balanced approach. TVA was formed to address environmental issues in the past: erosion and inability to farm and feed the people in the Valley. As we continue as the TVA of today and into the future we must also continue to manage the impacts of our current work and be thoughtful about decisions that affect the future.

Regional Energy Resource Council Minutes

December 11-12, 2019

- TVA has an Environmental Policy that we are working to update and streamline.
- TVA manages the Tennessee River system. As part of this we must balance river levels in winter to prepare for floods 121 dams and impoundments – 87 river dams.
- TVA also provides Natural Resources Stewardship throughout the region. For example, the Duck River watershed is one of the most diverse in the world.
- We support Ecotourism as a way to draw people into smaller communities from biking to canoeing.
- We also work with federally recognized tribes – we work with them to tell their stories and value their sites that are part of the public lands TVA manages.
- We have a fairly large service territory, and by the end of 2020, we will have touched all counties in the region with natural resource stewardship activities such as education, ecotourism, recreational opportunities, etc.
- TVA is also working on our Sustainability, which for us means ensuring our ability to provide the people of Tennessee Valley with low cost and reliable electricity, a healthy environment and the ability for future generations to have the same.

Q. Patrice Robinson: SACE, Sierra Club and Friends of the Earth contact me on a weekly basis. Now I hear what TVA is actually doing. How fast are we doing these things and spending how much money?

A. Environmental groups' job is to push us. And there are diverse issues. This is one of the roles of this council to help us figure out how to get to the future and balance demands.

Q. Bill Carswell: Q. What is the strategy and demand for electric vehicles?

A. We are working with government and other businesses on how we build the infrastructure.

Q. Jonathan Levenshus – How is TVA dealing with environmental justice?

A. We do lots of environmental studies and this is an area we always consider.

Q. Erin Gill–How do you handle the land use assessment for solar site development?

A. Solar can take up a lot of space and that is part of our environmental review, in addition to environmental justice and the natural environment.

The RERC Meeting ended at 12:10 PM and will reconvene at 4:30 PM for a public listening session.

Regional Energy Resource Council Minutes

December 11-12, 2019

RERC Listening Session- Public Comments

Julie Bledsoe – She spoke about coal ash. She discussed elements that make up coal ash. She has a sick husband who worked to clean up Kingston, who has 43 dead work mates. She provided a re-cap of her meetings with EPA and other officials. She says “she is standing up” and says coal ash is toxic.

Jane Clark – She is the wife of a coal ash responder who is ill. She discussed her pleas to the TVA Board in August for health insurance or health care.

Sharon Todd – She is a member of the Claxton community and a member of the Bull Run Community Action Group. She expressed concerns for moving coal ash to a new landfill at Bull Run. This area is known for its karst formations. She also expressed concern that other sites would bring in waste to the site at Bull Run and for illness related to workers.

Vanessa Victor – She is from the Gallatin Plant area. She discussed a technology that could completely eliminate ash. She provided written comments on this process. This technology is being used in the state of Wyoming in 2020 and invited the RERC to come visit that site.

Betty Johnson – She spoke about coal ash and that her husband is sick. He worked at the ash spill. She discussed that they are asking for help. She expressed concern that coal ash is toxic.

Bri Knisley – She is with Appalachian Voices and expressed appreciation for the opportunity to speak. Appalachian Voices has conducted a listening project at about 12 locations (Energy Democracy Tour). She suggested that TVA must include communities and engage them as part of public power.

Adam Hughs – He is with SOCM (Statewide Organization for Community Empowerment) and they have been working with the community since the closure of Bull Run was announced. He stated about 50 people attended their meetings. He wants Claxton residents to be heard and for coal ash reuse to be explored. He does not want the stream to be rerouted at Bull Run. He also stated that TVA must not work with Jacobs on coal ash work and repeat the mistakes of the past

Ken Minault – He is a member of Sierra Club’s Knoxville Group Board. He requested that the TVA Board should sever relations with Jacobs Engineering.

Regional Energy Resource Council Minutes

December 11-12, 2019

December 12, 2019 – DAY 2

The RERC Meeting was reconvened at 8:30 AM on December 12, 2019.

Recap Day 1 - What is your take-away from yesterday's session?

Bill Carswell: I consider myself well informed, and was not aware of all the areas TVA works in. Perhaps your outreach to the community should be increased;

Jonathan Levenshus: I appreciate the staff; the deep dive into energy mix was helpful; and appreciate the powerful messages from the public;

Erin Gill: I appreciate the carbon reduction efforts, and note that some of the issues raised could undermine TVA's good intentions;

Jennifer Mundt – TVA has become more open and transparent in my experience and efforts are appreciated and want to recognize these efforts;

Charles Snavely: Q: Can we get more info on health of coal ash workers and understand more about what are they asking for?

A. Joe Hoagland: Litigation is on-going. A brief summary is that Jacobs Engineering is being sued by some workers who say Jacobs didn't follow its own safety criteria. The judge agreed. In Phase 2 of the trial, which hasn't happened yet; the people suing must prove that illness was caused by not following all safety criteria. TVA is not a party in this lawsuit. This must go through the courts. We are not going to do anything outside that at this time. We feel deeply for how these people are hurting.

Charles Snavely: Q: Some citizen speakers urged us to meet with them but if there is a lawsuit; shouldn't we avoid doing so?

A. Joe Hoagland– It's totally up to you to make that decision.

Pete Mattheis: We would appreciate a primer on the whole lawsuit issue,

Jennifer Mundt: How Kingston impacted the national regulations and how it impacts how TVA is cleaning up should be part of that.

Clay Walker: The Economic Development side was very revealing. The testimonials were especially powerful. I understand the frustration these people are experiencing. It's

Regional Energy Resource Council Minutes

December 11-12, 2019

very apparent to me that TVA will put weight on what we have to say. I am very glad to be on this committee.

Joe Hoagland: The questions we are going to address are usually detailed up front. Normally we will give you more information; then we will discuss advice questions. We will then ask you for an advice statement that I will take to the board External Relations Committee.

Bill Carswell: Is there any particular area you want input on?

Joe Hoagland: This issue will be ongoing topic throughout your term; consider yourself an oversight body. You should think of yourself how you want to do that...Help me define the box with what you would like to know more about.

Patrice Robinson: Obvious to me that it would be helpful to understand the world of coal ash globally and its parameters. How have things changed since the Kingston spill. Are we preparing differently now? We haven't told the story in a way the community can understand. Maybe we should step back and advise TVA on how to communicate this info. The community wants us to be empathetic to their position until the court case is settled. This is important for us to frame the issue in a way people understand.

Mike Butler –It would be helpful to know the coal ash universe TVA is in, and we need more information on issue TVA-wide. What are the challenges at each of the sites?

Rodney Goodman – I was impressed with all of the employees. Everyone at the plant made an effort to educate us at a level we can understand. I am interested in learning more. I was very impressed with people's testimony yesterday. I would like for you to tell the story from Dec 22, 2008 forward so people can see the whole picture.

Coal Ash Management – Scott Turnbow and Anna Fisher and Liz Upchurch

- Scott Turnbow provided an overview of how coal plants work and how Coal Combustion Residuals (CCR) are created through the energy generation process.
- He also discussed that TVA transformed the way we handle coal ash and corrected the deficiencies after the Kingston spill.
- He showed a map of where all the coal plants are or were located.
- The Kingston site was a structural/dam failure. TVA has since focused on 5 key areas to ensure safe handling of these materials:

Regional Energy Resource Council Minutes December 11-12, 2019

1. Ensure all dikes meet modern dam safety standards;
 2. Convert all wet systems to dry handling and storage;
 3. Safely manage the process water;
 4. Evaluate future storage on a site-by-site basis;
 5. Study and monitor groundwater at all sites.
- We now have electronic safety monitoring system that works 24/7, so we will have advanced and early warnings on any movement or possible issues so we can immediately respond. TVA is the only power company in the country doing this.
 - Q. Bill Carswell – Even if the process is dry, doesn't rain make it wet?
 - A. We do dewater the ash, so it is no longer a slurry; rain is minimal impact but we cover it to keep water out. And a little moisture is a good thing (it goes to the landfill with 20% moisture to aid in Compaction (think of dry vs slightly wet sand for sand castles at the beach). We also add even more water to keep dust down.
 - Scott Turnbow continued his presentation to discuss by converting to dry, we start not needing ponds, so we are closing them. They still have water we must deal with. So we de-water these ponds and then treat that water to meet permitted water quality standards, and discharge it to the river under our permitted discharge. Now landfills are lined with thick plastic thicker than what is used for a swim pool and it is double fused at the seams.

Q. Mike Butler – Is there connectivity to creeks in Memphis?

A. No, we have not found any through our monitoring.

Q. Where does the water go?

A. It is captured and treated before released into the river.

Q: Erin Gill: On the Marketing of CCR, should cities start specifying in their TDOT and other projects that coal ash is used?

A. Yes, concrete manufacturers want it. EPA approved reuse in roads (coal ash); Cinderblocks used; bottom ash used on roofing material.

A. Jonathan Levenshus – It would be helpful to have a list of activities at each site. And information such as the costs of Kingston and other CCR projects and the dates of when they will be closed. Would like to have this information more readily available.

Regional Energy Resource Council Minutes

December 11-12, 2019

Anna Fisher – Environmental Compliance. CCR waste (solid part is my area)

- The stability of units is key. We are heavily regulated by Federal and State laws – See slide deck for details;
- Coal ash is considered a solid waste not a hazardous waste;
- It is a self-implementing EPA regulation. TVA posts test results on our website as frequently as required by the regulation. This is the same process country-wide;
- GW monitoring – At most sites groundwater flows toward a large water body. In our region that is the river. Slide shows groundwater monitoring wells (black and white).

Q. Bill Carswell:

- ✓ Is there a standard well depth? No because water is found at different depths.
- ✓ Do you monitor for health based impacts? Not unless a leak is found.
- ✓ How many indicators do you find? Elements found in coal ash.
- ✓ How do you respond to them? Treat differently by site.

- Closure standards - on slides – Discuss permit process which includes public comment opportunities.

Q. Jonathan Levenshush: The Bull Run solution proposes moving the Worthington Branch Creek.

A. Anna Fisher: We have sited a landfill with a creek running through it. We would have to move it. We do hydrogeologic studies to ensure that the geology below it can sustain the landfill on top of it. Determine it is safe, no faults, not in a seismic zone, etc.

- Karst – area of sink holes often made from limestone. Water causes limestone to erode. If you need to build a landfill in a karst zone we have technology to cause potential voids and we use compacted, impermeable clay to fill voids then an additional layer of clay covers that area. Inspect 100 percent of site. A thick plastic liner is then put on top of that. If for some reason there is a failure, moisture would be caught by the groundwater monitoring. We would then go in and fix the area.
- Ground and Surface Water Monitoring – We report to regulators and on the website for each plant
- Regulatory Environment – Court order at Gallatin directs the storage of coal ash. Three phases:
 1. Study geology;
 2. Write up findings;
 3. Work with regulators to address/determine corrective measures.

Regional Energy Resource Council Minutes

December 11-12, 2019

- We are working with regulators in each state (KY, AL and TN).

Joe Hoagland: TVA isn't impacting any drinking water.

Q. Erin Gill: Considering investments making now...if CCR regulations change dramatically will that force TVA to immediately go in and redo corrective actions?

A. TVA's plan takes into account potential changes except if it was relabeled a hazardous waste. We can't imagine any scenario where that is able to happen.

Q. Is there a report at Kingston that addresses the biologic impact at the site? Includes sampling methodology.

A. Yes, we will provide that to the group.

Liz Upchurch – Enterprise Relations and Partnerships

Talked about the CCR communication outreach efforts. See slide deck for details

RERC Discussion –

Erin Gill: The coal ash issue deals with transparency, openness and trust

Bill Carswell: If you are providing info like it looks like on slide 23 you aren't reaching the public. You need to personalize and make information accessible with the right message. Which you have.

Pete Mattheis: TVA has had a problem for a long time of being separate from the public. It has a role here and they need to be here and play a larger role. TVA is not seen as one of us! The other thing happens in DC. Need to keep elected officials informed.

Jonathan Levenshus: One of the things people like is public comment process. However our comments aren't always reflected in the document. It would be useful to state how public comments are incorporated and changed the document.

Charles Snavelly: CAG useful and need them in all communities. Developed good allies in the community through these groups. Also, info needs to be easier to understand. In KY it hasn't migrated off the property. Groundwater flows into river and diluted so much danger to public is nil. That story doesn't get out enough.

Mike Butler: How much value for the effort before you change tactics? We are doing surveys to determine how impactful and what they want to know.

Regional Energy Resource Council Minutes

December 11-12, 2019

Erin Gill: Element of regionalism involved... The burden falling onto local communities...What is that strategy... via constraining too much or blowing up too big...

Joe Hoagland: A. We must look at what it costs to put CCR locally or far away....trade-offs for each option at each plant location. Our goal is to minimize broader impact.

Erin Gill: I heard concern that Claxton will become the dumping ground for other sites. How are you dealing with that?

Joe Hoagland: A. We have never said and will not truck coal ash to Bull Run from other plants.

Erin Gill: How much time do you use to dispel the false rumors?

Joe Hoagland: A. We've been working to dispel that one rumor and it keeps popping up

Patrice Robinson: Local approaches around locals staff; no one thinks to ask TVA to come speak but the way TVA frames the way it delivers its info is needed. Here is the assets what we have in the neighborhood. Here's what you can do to make a difference. Kids need to see the info in the schools: PTA, etc. Simplify

Bill Carswell: slides 29/30 are great. All slides should look like this. Simplify the message.

Rodney Goodman: Update the messaging to be focused on - this is **our** problem – Every time I turn on the light I am creating coal ash.

Jonathan Levenshus: Prioritize environmental justice when you decide where to take coal ash; TVA being transparent about the impacts of being dirty...and about the work that is being done to mitigate this.

Bill Carswell: Recycling financially profitable? Why can't we recycle more or all of it? We are working toward selling what is recyclable.

Jennifer Mundt: How are you making this information available to those who don't have computers....different languages (enviro injustice)

- Cross pollination as alternative ways to reach people, be forthright on knowing where groundwater exceedances are and what that means; be

Regional Energy Resource Council Minutes

December 11-12, 2019

mindful of letting people know when and where they can? Comment readily available to people generally not those seeking it;

- How are Community Action Groups used
- Think the RERC needs to investigate the web site and how easy/hard it is to find the information

Mike Butler: When you are telling these stories you need to put them in context of when they were created until today.

- What is the maintenance of these sites? Can they be reused; planted; etc.?
- What is in coal ash that we need to be watching for?
- Have some very clear stated goals on what we are trying to accomplish and state the philosophy and focus for coal ash so people can come along with you.

Clay Walker: It is critical that LPCs need to be involved in these communications. LPC's are all so different in their approach and disconnected from TVA. If they are standing in the way of TVA telling the story, then we need to deal with that. It is vital. It needs to be fixed.

Bill Carswell: CAG formation is very good. I didn't know this is as big an issued as it is. TVA must have the resources to have an interconnected web page that the CAGs can communicate to each other. That will tell you what you need to know when you see how they communicate together.

Charles Snavelly: I think you need to have more information on beneficial reuse; No one wants to deal with recycling coal ash in KY because of the extra work. Do you have quality issues for reuse of gypsum? Publicize what you are doing on reuse.

A. Not all gypsum is of recyclable quality.

Rodney Goodman: Do you publicize meetings of CAG? Can improve communication quality. You need to ask the community how they can help solve the problem.

Jonathon Levenshus: I want to understand how much it costs to manage all coal ash and its impact on the debt cap, etc. What have other utilities committed to? What have they been required to do, etc.? Also, how is TVA protecting employee safety? Employee safety and job security needs to kept front and center. How is this being shown on the coal ash side...?

Regional Energy Resource Council Minutes

December 11-12, 2019

Charles Snavelly: Risk communication is difficult; how are you determining impact to community at each site and cost at each site and cost to their electricity?

Erin Gill: How does managing CCR impact IRP assumptions? We need to socialize the cost of managing the waste of coal and that should be figured into the decision to use coal or not going forward. People should know they create coal ash when using electricity.

Rodney Goodman: I would like to know more about safety procedures for workers of coal ash.

Bill Carswell: Tell people how they can hold you accountable. CAG grow relationship beyond coal ash. Health care – TVA should join with other groups and get these sick people healthcare.

Patrice Robinson: What is TVA's' statement regarding safety of the community, employees, etc. We had a problem; where is the disconnect? She wants us to state this emphatically!

12. RERC Advice –

1. What aspects of coal ash management do you want to understand more fully?

- More about the Kingston event and recovery / influence on Federal Rules/what has changed since Kingston.
- Suggest 1-pager describing specific sites, what is the status of five steps and condition of each site.
- What is the overall universe of this problem, how are other utilities addressing coal ash management, whether voluntarily or by law/regulation?
- Is there a possibility for greater beneficial use/reuse of the sites (native grasses / wildlife habitat / renewable energy (biomass, solar, etc))?
- What are constituents in the CCR materials? What is the risk and how is TVA managing that risk?
- Publish more data and be transparent (what TVA is/not doing) on the beneficial reuse of the ash.
- Provide additional information on the economics and total costs of coal ash management: effect on the debt cap; the fossil fleet going forward; and the variables in the IRP. To the point, how does cost and risk inform decision-making and expenditures at sites, now and in the future?

Regional Energy Resource Council Minutes

December 11-12, 2019

- As a follow up to comments in the listening session, how TVA is prioritizing and addressing current and past worker health and safety as it relates to coal ash?
- More information on the litigation and claims made.
- How does TVA message how it has a priority on safety for TVA and for the Valley it serves?

2. What should TVA consider in our outreach about coal ash?

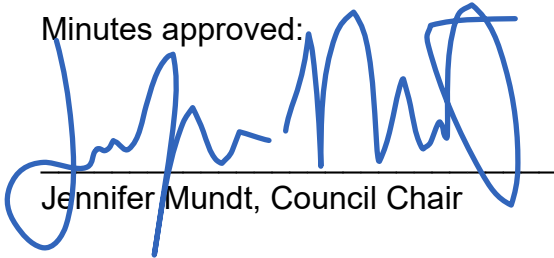
- Public Power – engage LPCs and people in the Valley that we are all part of public power, create and tailor messaging on these points.
- Provide messages in a way that makes sense to people – less technical and more personal.
- Educate and keep elected officials informed of activities (federal, state, and local).
- Like in the IRP, identify how comments received are integrated from draft into final environmental and other review documents.
- Start-up advisory groups in places with less controversy to build advocacy and create allies. (transparency and trust)
- Share a clear story about the site, its assets, possibilities that could go wrong, and the role the community plays so they have ownership in the process. Think about K-12 educational opportunities.
- Use more infographics in how you present – one page.
- Meet people where they are, environmental justice must be considered in decisions. Consider the accessibility of the documents and materials – consider people who may not have access to the internet in their home or community, and people with limited English proficiency.
- TVA should be transparent about the impacts and potential risks of coal ash removal and what is done to mitigate those risks.
- To address some of the myths, consider developing an FAQ to address the myths directly.
- Consider collaborating with other TVA business units to share the messaging (Natural Resources, etc.)
- Be forthright about any exceedances and what they mean. Describe and discuss in simplified terms.
- Give the public ample opportunity and notice to provide their comments. Make them more readily available and identify who to contact.
- Include the context of when the sites were built, thinking at the time, what happened and why.
- Develop top goals that TVA is trying to accomplish – what is driving the focus of TVA at corporate level.

Regional Energy Resource Council Minutes December 11-12, 2019

- Provide the resources so the Community Action Groups can set up communications. This can help tell you how you can better communicate with them.
- Help people understand how TVA can be held accountable.
- Bring in awareness of the economic development and worker development efforts into the CAG groups.

The RERC reviewed the advisory statements (see Appendix C) and unanimously approved them.

Minutes approved:



Jennifer Mundt, Council Chair

Date: __March 30, 2020__

Regional Energy Resource Council Minutes
December 11-12, 2019

Appendix A
Non-Council Meeting Attendees

TVA Staff			
Liz Upchurch	Jennifer Brundige	Laura Smith	Amy Reagan
Amy Henry	Khurshid Mehta	Barbie Perdue	Cathy Coffey
Scott Brooks	Katie Kline	Scott Gureck	Cody Huber
Heather	Jim Hopson	Heidi Smith	Chris Hansen
Mark Smith	Kris Edmondson	Scott Turnbow	Anna Fisher

Members of the Public In Attendance
Jack Meyer – Appalachian Voices Bri Knicely – Appalachian Voices Jamie Satterfield – News Sentinel Pao Middendorf - WULT Maggie Shober – SACE Kate Tracy – SACE Trey Bussey – SELC Brett McLaine – On Services (AV contractor) Leslie Barbagallo – DNVGL Al Berrong – DNVGL Kent Minault – Sierra Club Bonnie Swinford – Sierra Club Maggie Longmire – Sierra Club Caitie Ansol Clark Bergan Clark Tommy Johnson Vanessa Victor – Clean Coal Technologies, Inc. Adam Hughes – SOCM Julie Blecker Ron Blecker Betty Johnson Ginny Ayers Sharon Todd- CAG Jane Clark

Regional Energy Resource Council Minutes December 11-12, 2019

Appendix B Meeting Agenda

Regional Energy Resource Council

December 11 and 12, 2019

Tennessee Valley Authority,
400 West Summit Hill Drive, Knoxville, TN 37902

Dec 11, 2019	
8:00	<i>Light Refreshments available at TVA Building</i>
8:30	Welcome , RERC Chair Jennifer Mundt and Designated Federal Officer Joe Hoagland (DFO)
8:45	Safety Moment
8:55	Term 4 RERC Overview Joe Hoagland
9:15	RERC Overview and Meeting Protocols Jo Anne Lavender, Facilitator
9:20	FACA Training Khurshid Mehta
9:30	Break
9:45	Introduction to TVA 1. Intro to TVA

Regional Energy Resource Council Minutes
December 11-12, 2019

	2. Energy
10:45	Break
11:00	3. Economic Development 4. Environment
12:00	Adjourn
4:30 – 5:30 PM	Public Listening Session (4:30 – 5:30)

Day 2 Dec 12, 2019	
<i>7:30 AM</i>	<i>Light Refreshments available at TVA Building</i>
8:30	Welcome (Lavender)
9:00	TVA: Coal Ash Management – Introduction and Overview
10:15	Break
10:30	RERC Discussion
11:15	Break
11:30	Form Advisory Statement / Vote (if quorum)
12:00	Wrap Up / Adjourn RERC Meeting

Regional Energy Resource Council Minutes

December 11-12, 2019

Appendix C

RERC Meeting Dec 12, 2019

Unanimously approved 12/12/2019; 9 Members Quorum present.

1. What aspects of coal ash management do you want to understand more fully?

- More about the Kingston event and recovery / influence on Federal Rules/what has changed since Kingston.
- Suggest 1-pager describing specific sites, what is the status of five steps and condition of each site.
- What is the overall universe of this problem, how are other utilities addressing coal ash management, whether voluntarily or by law/regulation?
- Is there a possibility for greater beneficial use/reuse of the sites (native grasses / wildlife habitat / renewable energy (biomass, solar, etc))?
- What are constituents in the CCR materials? What is the risk and how is TVA managing that risk?
- Publish more data and be transparent (what TVA is/not doing) on the beneficial reuse of the ash.
- Provide additional information on the economics and total costs of coal ash management: effect on the debt cap; the fossil fleet going forward; and the variables in the IRP. To the point, how does cost and risk inform decision- making and expenditures at sites, now and in the future?
- As a follow up to comments in the listening session, how TVA is prioritizing and addressing current and past worker health and safety as it relates to coal ash?
- More information on the litigation and claims made.
- How does TVA message how it has a priority on safety for TVA and for the Valley it serves?

Regional Energy Resource Council Minutes December 11-12, 2019

2. What should TVA consider in our outreach about coal ash?

- Public Power – engage LPCs and people in the Valley that we are all part of public power, create and tailor messaging on these points.
- Provide messages in a way that makes sense to people – less technical and more personal.
- Educate and keep elected officials informed of activities (federal, state, and local).
- Like in the IRP, identify how comments received are integrated from draft into final environmental and other review documents.
- Start-up advisory groups in places with less controversy to build advocacy and create allies. (transparency and trust)
- Share a clear story about the site, its assets, possibilities that could go wrong, and the role the community plays so they have ownership in the process. Think about K-12 educational opportunities.
- Use more infographics in how you present – one page.
- Meet people where they are, environmental justice must be considered in decisions. Consider the accessibility of the documents and materials – consider people who may not have access to the internet in their home or community, and people with limited English proficiency.
- TVA should be transparent about the impacts and potential risks of removal and what is done to mitigate those risks.
- To address some of the myths, consider developing an FAQ to address the myths directly.
- Consider collaborating with other TVA business units to share the messaging (Natural Resources, etc.)
- Be forthright about any exceedances and what they mean. Describe and discuss in simplified terms.
- Give the public ample opportunity and notice to provide their comments. Make them more readily available and identify who to contact.
- Include the context of when sites built, thinking at the time, what happened and why.

Regional Energy Resource Council Minutes December 11-12, 2019

- Develop top goals that TVA is trying to accomplish – what is driving the focus of TVA at corporate level.
- Provide the resources so the Community Action Groups can set up communications. This can help tell you how you can better communicate with them.
- Help people understand how TVA can be held accountable.
- Bring in awareness of the economic development and worker development efforts into the CAG groups.