

**Regional Resource Stewardship Council (RRSC) Minutes
Tennessee Valley Authority
March 27 and 28, 2023**

**Meeting location:
Marriott Shoals & Spa
10 Hightower Place
Florence, Alabama**

The Tennessee Valley Authority (TVA) Regional Resource Stewardship Council (RRSC or Council) convened for the 2nd meeting of the 12th term, beginning at 1 p.m. Central on Monday, March 27, 2023. Meeting presentations and these Minutes are available at www.tva.gov/rrsc.

Council members attending in-person:

Ryan Brown, Alan Gates, Richard Holland, Cline Jones, Kim Klinker, Ron Lambert, Tom Littlepage (Chair), Will Nelson, Ron Robertson, Danette Scudder, Bob Sneed, Catherine Via, Randy Wiggins.

Council members attending virtually:

Whitney Lipscomb

Designated Federal Officer: Melanie Farrell

Facilitator: Jo Anne Lavender

- Appendix A — TVA employees and stakeholders who attended the meeting
- Appendix B — Agenda

Purpose

The purpose of the meeting was to present information on TVA's Land and Habitat Stewardship, including restoration of ancient grasslands, water resource improvements, aquatic conservation, bat protection and Native American site protection; provide information on the collaborative Valley Vision 2035 initiative; and offer updates on TVA's River Management and Natural Resources activities.

1. Welcome and Introductions

- A.** Melanie Farrell, TVA Vice President of External Strategy and Regulatory Oversight, welcomed everyone to the meeting.
- B.** Tom Littlepage, Chair, offered words of welcome, noted the beauty of northern Alabama and thanked the TVA staff for handling the logistics of the meeting.
- C.** Jo Anne Lavender, meeting facilitator, welcomed everyone joining in person and virtually. She noted the meeting was being recorded and the video would be posted on TVA's website (www.tva.gov/rrsc).

2. Welcome from Jared Mitchem, Vice President, TVA South Region

Jared Mitchem, Vice President, TVA South Region, welcomed the Council to northern Alabama. TVA divides its service territory into four regions – North, South, East and West, which enables

TVA to be even more involved and engaged at the community level. Mitchem provided an overview of TVA's South Region.

Mitchem noted that Muscle Shoals, located in northern Alabama near Florence, is the birthplace of TVA. The smallest of TVA's regions geographically, the South Region has 10% of TVA's footprint, 15% of its sales, 20% of its employees, 20% of its power-generation assets and 30% of the Tennessee River, which TVA manages. Mitchem talked about TVA's assets, resources and relationships in northern Alabama.

From a TVA assets standpoint, northern Alabama includes Wilson Dam, Wheeler Dam and Guntersville Dam, which generate over 1,000 megawatts of carbon-free energy. It also includes Browns Ferry Nuclear Plant, which generates about 3,600 megawatts of carbon-free energy. The South Region also includes TVA's largest solar facility, which is 1,800 acres and generates 227 megawatts of solar power. TVA will commission a new gas facility in Summer 2023 and is evaluating sites for pumped storage, solar, and small modular reactor sites in northern Alabama. TVA manages 200 miles of the Tennessee River in the region, and from a human resources standpoint, it has 2,000 employees, 4,000 retirees and thousands of contractors. Its relationships are strong with partners, including with 25 local power companies and 14 directly served customers, which include the U.S. Army's Redstone Arsenal, Nucor Steel, and NASA's Marshall Space Flight Center. Mitchem said TVA is actively involved with its communities, and employees, local power companies, elected officials and community organizations work together for the betterment of people in the region. He welcomed the Council to northern Alabama.

3. Federal Advisory Committee Act Briefing – Kendra Mansur, Attorney
(Presentation can be found at www.tva.gov/rrsc)

Kendra Mansur briefed the Council and noted that while members would not be asked to provide an advice statement during this meeting, they would be hearing important information that will shape their knowledge for advice statements they will provide in subsequent meetings. She said minutes are taken during the meeting and may be used at future meetings to help members formulate their advice. The Federal Advisory Committee Act was enacted in 1972 because Congress wanted to know and the public to be informed about what advisory committees across the Federal government were doing. Mansur said that in compliance with the Federal Advisory Committee Act, TVA holds them as public meetings and places the agenda in the Federal Register, and that the TVA ensures the meetings are conducted ethically and according to the law.

Public access, structured management and balanced membership are key elements of the Federal Advisory Committee Act. Mansur said RRSC members are important stakeholders, and TVA strives for diverse representation across all seven states in its service territory. She emphasized that any member of the Council can make a motion for a vote, even at meetings where advice is not formally being sought consistent with TVA's rules. TVA wants to hear diverse opinions, and initiatives such as Valley Vision 2035 are an example of how TVA seeks diversity of thought. TVA has a Code of Conduct, which is the guidebook for applying ethics on an everyday basis at TVA. One of the themes is treating each other with respect every day. Mansur said TVA is grateful to Council members for their time and diverse opinions.

4. Designated Federal Officer Briefing — Melanie Farrell
(Presentation can be found at www.tva.gov/rrsc)

Melanie Farrell began her presentation by asking for thoughts and prayers for those impacted by tornadoes in the region as well as for the victims of the shooting that occurred that morning at The Covenant School in Nashville, Tennessee.

She provided an update on some TVA activities since the last RRSC meeting, including:

- TVA has a full Board of Directors as of January 4, 2023, when six new members were sworn in and joined the three other Board members. The new members attended their first Board meeting in February. Joe Ritch, a former Board member, has returned to the Board will be the new Chair when Bill Kilbride's term expires.
- During Winter Storm Elliott on Dec. 23 and 24, TVA – for the first time in its history – had to implement emergency procedures directing local power companies to reduce power demand that resulted in localized interruptions in order to keep the overall system stable. the speed, intensity, scale and duration of Winter Storm Elliott exceeded the design basis for some of TVA's power plants. In total, 38 of TVA's 232 generating units were negatively impacted, mostly due to instrumentation that froze. TVA called on local power companies (LPCs) to reduce 5% of their load for approximately two hours on the morning of Friday, Dec. 23. Early in the morning of Saturday, Dec. 24, off-system purchases acquired to cover the generation losses were cut off by neighboring utilities because of similar emergency conditions on their own systems. TVA was forced to direct local power companies to reduce power consumption again by 5% and then by 10% over a 5 ½ hour period. Thanks to the work of our employees, industries, and LPC's, the grid remained stable and more serious consequences were avoided. Immediately following Winter Storm Elliott, TVA asked employees to capture lessons learned and begin implementing near-term improvements, while also beginning a rigorous after-action technical review process. The resulting after action report was issued in early May outlining direct drivers, improvement opportunities, strengths, strategic considerations, and recommended actions that are already in process.
- TVA is focused on building the Energy System of the future. TVA has set a milestone to retire its coal fleet by 2035. TVA has made the decision to retire its Cumberland Fossil Plant and build a 1,450-megawatt combined-cycle natural gas facility by 2026. TVA has been going through the National Environmental Policy Act (NEPA) process for the past couple years. It reached its Record of Decision in January 2023 that it will retire the two-unit plant in two stages, and it will construct the combined-cycle natural gas facility to replace one of the retiring Cumberland units. Resiliency is critical, and TVA needs the ability of gas to respond to the peaks and valleys of the day, especially as new renewables come onto the system. TVA is also currently studying adding more pumped storage hydropower (PSH) within its service area by building new facilities or expanding the existing PSH at Raccoon Mountain Pumped Storage Plant (RPS).
- TVA has a New Nuclear partnership with GE Hitachi, Ontario Power Generation and Synthos to explore the development of small modular reactor technology. It comes a year after the Board approved the New Nuclear program in February 2022. At the Clinch River location, TVA has a permitted site. TVA is looking at new assets, new generating types and new ways to meet the energy demands of the future.
- TVA issued a carbon-free request for proposal last summer, and there has been a lot of interest. TVA is canvassing the market for carbon-free technology. It is not just for solar, but all carbon-free sources. TVA will share the results when decisions have been made.
- In February 2023, TVA announced a partnership with the Baker Center for Public Policy at the University of Tennessee to explore ways to reduce greenhouse gas emissions in the region, not just at TVA but within all sectors of the economy. The study will

determine the baseline, what is within TVA's control, other sectors driving greenhouse gas emissions and how can everyone partner to reduce emissions.

- Last week, TVA and the Department of Energy announced a partnership to explore ways to modernize the current fleet and apply new technologies. It is looking at climate changes and how that impacts the river system. TVA's hydro fleet is expected to be there for the long haul.
- TVA is celebrating its 90th anniversary in May. TVA is excited and looking forward to a lot of activities and support for the events.

QUESTIONS/ANSWERS

Council member Will Nelson asked how renewable energy sources fared during Winter Storm Elliott. TVA's carbon-free assets (Nuclear, Hydro, and Renewables) along with the Transmission system performed well during winter storm Elliott.

5. **TVA Land & Habitat Stewardship** (Presentations can be found at www.tva.gov/rpsc) — **Doug White, Manager, Biological Compliance**

Doug White said TVA is committed to preserving, protecting and enhancing natural resources. White introduced five TVA specialists who discussed their work in resource preservation.

Adam Dattilo, TVA Senior Program Manager, Biodiversity, discussed the restoration of ancient grasslands at Little Cedar Mountain – Nickajack Reservoir.

Adam Dattilo said the Board of Directors adopted the TVA Biodiversity Policy in 2021. The policy guides TVA's conservation of plant and animal species in everything TVA does. TVA works to protect biodiversity by proactively managing public lands and reducing the impacts of its operations. An example of TVA's work to promote biodiversity is its project with partners to restore an intact habitat – ancient grasslands along the southern portion of Little Cedar Mountain in Tennessee. There are a lot of rare species in this area, and the benefits of the project include protecting imperiled plant species, encouraging pollinating insects, providing bat habitat and educating the public about resource management. The work is being done by the hand-clearing of trees, selective application of herbicide and prescribed fire. TVA and partners started the project in 2017. They have completed some tree clearings and removed invasive plant populations, and already wildflowers are beginning to come back. They anticipate even more positive results after a planned prescribed burn in Fall 2023. TVA's new biodiversity website is tva.com/biodiversity.

QUESTIONS/ANSWERS

Council member Will Nelson asked if native species naturally come back or if TVA has to plant them. Dattilo said that on Little Cedar Mountain, the cedars had encroached on plant life, but the species were still there. TVA would not consider planting there, but with a prescribed thinning, species that have been there for 100 years could come back.

Shannon O'Quinn, TVA Senior Water Resources Specialist, discussed TVA water resource improvement activities.

Shannon O'Quinn highlighted the 2020 Natural Resource Plan, a 20-year plan that guides TVA's stewardship work in 10 focus areas. One of the focus areas is Water Resources Stewardship. The Tennessee Valley region is a hotspot for aquatic biodiversity, and TVA works in partnership with other agencies to implement projects that protect water quality and create safe habitats for aquatic life. TVA and partners identified six aquatic hotspots in the Tennessee

Valley. One such project is in the Paint Rock Watershed in Jackson County, Alabama, a biodiversity hotspot with 98 species of fish and about 58 mussel species. TVA and its partners assess the fish communities, mussel communities and habitats to gauge the health of the watershed to determine if there are barriers that limit fish and mussel movement or places where streambanks are eroding. With that knowledge in hand, the partners can leverage funding to help fix the problems. O'Quinn cited an example of partnering with Jackson County, Alabama, to replace a low water bridge on Estill Fork to provide safe access to the community (which had previously experienced flooding) and restore stream connectivity for aquatic life. The county provided the labor and equipment to build a single span bridge, and TVA, U.S. Fish and Wildlife Service and The Nature Conservancy provided funding. Now, it is safe for the county and there is aquatic passage.

QUESTIONS/ANSWERS

Danette Scudder asked what conditions make it ideal for aquatic life in the Paint Rock Watershed? O'Quinn said one key factor is that the Paint Rock Watershed hasn't been as impacted by development as other watersheds in the area.

Tom Littlepage said the RRSC has encouraged TVA to leverage resources and partnerships, and it is gratifying to see that happening. He also asked if TVA takes action for natural barriers such as fallen trees. O'Quinn said TVA doesn't take action for natural barriers. He noted that an organization did a barrier survey and found thousands in the region. Some would have been hard to remove, others easy. O'Quinn said the bridge project was easy to do, and TVA focuses on projects where funding can be leveraged.

Ron Lambert said landowners in the community are excited to see TVA investing back into the communities they rely upon. Some communities think TVA is only involved with power generation, but communities such as these know TVA is investing in their community, and that is invaluable.

Todd Amacker, TVA Aquatic Endangered Species Ecologist, discussed aquatic conservation at Bear Creek, Alabama.

Todd Amacker said that Bear Creek is regionally significant and recognized for its mussel diversity. TVA adheres to Routine Operations Consultation Compliance (ROCC), and when it makes operational changes to its dams, it must consult with U.S. Fish and Wildlife Service as it relates to federally listed species below its dams. The Fish and Wildlife Service provides a Biological Opinion that describes impacts to aquatic life and the ways TVA must mitigate impacts to federally listed species. At Bear Creek Dam, the changes were minimal compared to others, but established seasonal flow targets. TVA must conduct freshwater mussel surveys every three years in Bear Creek. Amacker described the importance of mussels, including that they filter things like harmful bacteria from water, which makes it easier for freshwater fish and animals to forage and feed, and that mussels are bioindicators, so if freshwater mussels decline, it indicates that something is not right in the system. TVA and its partners survey mussels, collect and identify the mussels, and keep a database of the species. One of TVA's partners, the Alabama Aquatic Biodiversity Center, is working with two critically endangered species, the pale lilliput and Alabama lampmussel. The mussels' host fish have been identified, and the center has put them together in captivity, where the mussels reproduce. Then, they get reintroduced into the waterways. These conservation partners are critical to preserving biodiversity.

QUESTIONS/ANSWERS

Tom Littlepage asked if other agencies in the region are involved. Amacker said they are, but he kept this presentation focused on Alabama.

Kim Klinker asked if all mussels are endangered. Amacker said most mussels are endangered. He said the Southeast has the most mussel diversity, with 250 to 260 species located there.

Liz Hamrick, TVA Terrestrial Zoologist, discussed TVA's work with bats across the Tennessee Valley region.

Liz Hamrick said there are over 1,300 bat species worldwide, 47 species in the United States and 16 species in Alabama. Bats navigate with echolocation, and those in the Southeast eat insects. Of those in Alabama, many live in caves in the winter and live on the landscape, such as trees with flaky bark, the rest of the time. Gray bats live in caves year-round. Bats in the TVA region that are listed on the endangered species list include the gray bat, Indiana bat, Northern long eared bat and the Virginia big-eared bat. It is expected that the tri-colored bat and little brown bat will be listed in 2023 or 2024. A disease called white-nose syndrome has killed millions of bats since around 2006. The fungus affects their metabolism. TVA works to protect bat populations by restoring habitats through invasive species management, forest management, prescribed burning; creating artificial roosting structures (50 across the Tennessee Valley so far); conducting research such as telemetry studies, white-nose syndrome monitoring studies, migration studies, graduate research funding and annual monitoring; and gating caves to protect bats from human disturbance. Hamrick showed a video depicting the arduous task of gating Collier Cave, including using TVA helicopters to drop in steel to the hard-to-reach cave.

QUESTIONS/ANSWERS

Danette Scudder asked if TVA partners with farmers to place artificial roosting structures on farms. Hamrick said that is a great suggestion. TVA has not had an opportunity to do that but has put them on the edges of forests and near sources of water.

Catherine Via asked what the reproductive rate is for these bats, and if the gray bats are endangered because of white-nose syndrome. Hamrick said bats have a slow reproductive rate – one pup per year, and it takes three to four years to become sexually mature. The gray bats are infected with the fungus but are not succumbing and are doing okay. There are murmurs of them being considered for delisting from the endangered species list. There is research being done to determine why some bats are okay and others are not.

Kim Klinker asked if white-nose syndrome is still out of control. Hamrick said it is spreading. It is moving toward Texas, Nebraska and the Montana line and up to Washington state. She said the bats that survive are slowly reproducing. There is a lot of research being done on how to stop and slow decontamination. TVA specialists go through a comprehensive decontamination process between caves, but the bats are still moving it from cave to cave. Specialists hope to slow down the spread and that the research can catch up.

Erin Dunsmore, TVA Senior Specialist, Archaeology, discussed TVA's Native American site protection in northern Alabama.

Erin Dunsmore said Native Americans have a significant cultural history in the Tennessee Valley region, having lived in the area for over 12,000 years. As a federal agency, TVA consults with federally recognized Tribes government to government. TVA manages and protects over 12,500 Native American archaeological sites on TVA land. Its work includes identifying and

managing historic sites on federal land and preserving their integrity; visiting and prioritizing sites in greatest need of protection; working with TVA police to enforce violations of the Archaeological Resource Protection Act; and advancing TVA's Thousand Eyes Archaeological Outreach Program to engage the public and help them understand the need for protecting these sites. TVA works to address looting at Native American sites in northern Alabama and across the region. In October 2019, TVA hosted a Tribal Consultation Meeting to talk about ways to reduce looting, increase outreach efforts and implement permanent protection measures in northern Alabama. Protection measures were proposed for five sites. At one remote cave, a multi-barrier system was developed – with walls built inside entrances, metal mesh used to secure the entrance to the cave, then Shotcrete sprayed on the surface of the metal mesh to provide a third barrier. Similar solutions were implemented at other locations to deter people from looting at these sites. TVA continues to work with the Tribes to ensure their Ancestors are protected.

QUESTIONS/ANSWERS

Tom Littlepage asked how Tribes have responded to this approach. Dunsmore said they have been appreciative that TVA has brought in a lot of resources to make it happen. Going forward, TVA hopes to do even more as it identifies high-risk sites. TVA also has support from preservation organizations. Dunsmore said no one wants to see a site closed down, but it is the right thing to do when a site keeps getting damaged.

Catherine Via asked if artifacts have been returned to the Tribes. Dunsmore said TVA was able to return artifacts and put them back where they belonged.

Cline Jones asked if looting occurs with people who dive for artifacts. Dunsmore said a lot of sites are protected by waters, but people do dive and loot. It is not as common as looting on land, and it is hard to prosecute, because people need to be caught looting in order to be charged.

Tom Littlepage asked if TVA can control the value on the market side. Dunsmore said there is a black market that is hard to control, and the problem is not just limited to the Tennessee Valley. It is an international problem.

Ron Robertson said there is a lot of streambank erosion along the Tennessee River and there are a tremendous number of arrowheads and graves that fall into the river on private property. Is that considered looting if people are picking it up? Dunsmore said if it is on private property and people pick up artifacts on the surface, it is not considered looting, unless the landowner does not want them on their property. Burial sites are protected by state laws, and there is a state archeologist people can contact if they believe graves on private land are being impacted.

6. Wrap-Up of Day One

Jo Anne Lavender concluded Day 1 of the meeting and said Day 2 of the meeting would begin the next day at 12:30 p.m.

7. Welcome to Day Two

Melanie Farrell welcomed the RRSC back for Day 2, and Tom Littlepage said he and the Council members appreciated the tour of Wilson Dam and Wilson Lock. Bob Sneed, retired from the Army Corps of Engineers, said he contacted the Corps – which built the dam almost 100

years ago – and learned that 56 workers lost their lives during its construction. Jo Anne Lavender noted that the afternoon’s meeting would include a presentation on Valley Vision 2035, a public listening session, and updates from River Management and Natural Resources.

8. Valley Vision 2035 (Presentation can be found at www.tva.gov/lerc) —**Hunter Hydas, Senior Manager, Resource Strategy Group**

Hunter Hydas said Valley Vision 2035 was established to bring customers into the conversation about how to strengthen the public power model over the next 10 to 15 years as the energy industry is rapidly changing. Valley Vision 2035 includes a Collaboration Group of local power companies (cooperatives and municipal utilities), large federal customers and customer associations from across the TVA region. The group is using the PECTEL (political/regulatory, economic, customer/cultural, technological, environmental and legal) framework to identify future energy industry and Valley marketplace trends and uncertainties. It has identified five drivers – decentralization, electrification, decarbonization, resiliency and digitization – that could impact the future Valley business model. Valley Vision 2035 has engaged content partners – subject matter experts from across the country who have presented on a variety of topics, and TVA’s two Federal Advisory Councils – the RRSC and the Regional Energy Resource Council (RERC).

Hydas said the Collaboration Group has determined that Valley Vision 2035 will be a success if it creates Valley alignment on future industry and marketplace trends; creates partner alignment so organizations have a mutual understanding of the partners’ roles and responsibilities as they plan for the future; and aligns on direction to strengthen and optimize the Valley public power model. The Valley Vision 2035 process began in December 2021, and the Collaboration Group expects to publish a report in Fall 2023.

Hydas said the group has covered numerous topics in its meetings, including electricity/financial markets; new technology deployment and grid integration; metering, communications and data; reliability, resiliency and security; customer and community participation; regulatory, environmental and policy issues; ratemaking; and the future business model. Key takeaways from the group’s meetings have been that electrification could present a big challenge in a very short timeframe; integrated planning across all partners will be important; reliability and resiliency cannot be sacrificed; flexibility options in their current form may hinder the transition to the future energy marketplace; and education to end-use customers about the public power model will be beneficial.

The Collaboration Group has said it wants to preserve unique attributes of the public power model, such as its mission of service, public ownership, unique business model, customer focus, local control, not-for-profit and low-cost mission, natural resource stewardship and local economic development. The group believes the way the model is delivered most likely will change in the future, as will partners’ roles and responsibilities. As the group considers the path ahead, it will develop distinct scenarios the Valley energy marketplace could face in the next 10 to 15 years. For each scenario, the group will consider what the Valley energy marketplace would look like in that scenario and how the Valley public power model would need to adapt to deliver value.

Hydas noted that Valley Vision 2035 will help set TVA up for the Integrated Resource Plan (IRP) process, which will consider how TVA’s energy portfolio needs to change. It will involve the public in the process. Valley Vision 2035, on the other hand, is a conversation between TVA and its customers about emerging issues that could impact the energy marketplace. Hydas told

the RRSC that its feedback is appreciated, and that TVA will keep the Council updated on Valley Vision 2035's progress and results. In the Fall, TVA will solicit an advice statement at a joint RRSC and RERC meeting. The advice statement will be provided to the TVA Board of Directors.

QUESTIONS/ANSWERS

Tom Littlepage asked how it has gone as TVA interacts with local municipalities or regional entities that may already be taking similar steps forward and how they are being integrated into this work. Hydas said it has been helpful for the group to hear what organizations are doing, inside and outside the Valley. There is room for improvement in communication between TVA and LPCs and even between LPCs, so having these conversations has been great. Hydas said there is a desire for a collective vision that looks at where do "we" – as partners – want to go in the future. Hydas said there are many value propositions, including that partners can say they are all marching in the same direction. Hydas has heard from local power company representatives that when they talk to their boards or governing bodies, they tell them this is something we all need to work on together.

Will Nelson asked if Hydas could expand on how TVA balances priorities. He asked how an event like Winter Storm Elliott is impacted by value balancing and renewable resources. Winter Storm Elliott was a resiliency event that highlighted the need to strengthen the design basis of our coal and gas fleet. TVA's diverse portfolio allows it to balance the strengths of all types of generation to meet the needs of the Valley including affordability, reliability, resiliency, and sustainability. Hydas said TVA continues to monitor and evaluate resources that need to be added, including 3,800 MW under construction (gas, solar and energy storage), evaluation of 5,000 MW carbon-free RFP and capacity RFP, and additional demand response products.

Danette Scudder, a Valley Vision 2035 participant, said in the Valley Vision 2035 process, it is helpful for all parties, not only LPCs but also the federal parties, to understand what is going on. Not all LPCs are the same; there are 153 different perspectives and local community drivers and priorities. The Collaboration Group is incorporating the varying perspectives from local power companies and other participants by talking about what they are seeing in the PECTEL driver spaces. Everyone's reality is a little different, so the group is developing a vision for the future that everyone can get on board with that doesn't make assumptions on what would apply to everyone, when, in fact, that wouldn't be true. Engaging the different parties has been a valuable part of the process. There is also another initiative, the Utility of the Future Information Exchange and the Value of Balancing Renewables, and there are different stakeholders for that conversation. Part of balancing the renewable energy resources is, to some extent, redefining what reliability means. When we are talking about extreme weather events and different generation resources and consumer expectations and behavior, what does balance mean in the future?

Alan Gates said this is a lot of information and gets us pointed in right direction. Gates said he thinks it is fair to say that, at least in extreme conditions at least for now, we are struggling with some generation assets, and that affects economic development and affects communities. He asked what the immediate process looks like to remedy some of those issues. Hydas said TVA is evaluating the options it has in the marketplace and potential options to build more capacity. It also has issued the largest carbon-free RFP that has ever been offered and is hoping to get capacity from that. There are strategies on the transmission side as well. TVA is taking a two-phase approach: What can it do in the near-term, and how does it prepare for fundamental shifts that are coming in future.

Alan Gates asked, as it pertains to renewables due to the lack of reliability in some cases, what portion of that has to be backed up with another fossil fuel? Hydas said it depends on the amount of renewables and the pace that they are added. Storage is playing a role. A lot of the RFP responses TVA has seen are solar with storage. As TVA adds intermittent resources, solar is the one most prevalent in the Valley. A storage component will help smooth out the curve for taking renewable energy onto the system. TVA also will look to gas as a bridge fuel that will enable its coal retirements and solar additions down the road.

Will Nelson asked about generating capacity, noting that to him, it is an issue after Winter Storm Elliott. He said it seems TVA is retiring fossil fuels and replacing it with less efficient renewables, and, at the same time, society is becoming more reliant on electric. He said it concerns him that, in time, there will be a bigger demand than TVA can supply. Hydas said the concerns Nelson mentioned will be a focus of the upcoming Integrated Resource Plan. He said that at the same time electrification is increasing, industry is facing decarbonization requirements. Hydas said that, as TVA has demonstrated with its fleet, there is value in having a diverse generation portfolio. He noted that TVA is investing significantly in research and new technologies that have a high-capacity factor and will provide a reliable baseload in the future, along with opportunities for further demand response.

Melanie Farrell added that TVA knows the value of having a balanced, diverse portfolio. It is trying to maintain a balance of potentially new technologies with existing technologies, and it is not going all in on one. She said TVA talks a lot about renewables, but it knows it must have other reliable dispatchable sources, such as natural gas and nuclear, as well as storage and demand response. It is committed to maintaining its mission of providing reliable, resilient, affordable, sustainable energy, and it will not want to lose sight of that as it makes decisions on its different projects.

Tom Littlepage asked, if technology decisions need to be driven by demand forecasting, and demand forecasting is so much more complex, is the science of demand forecasting readily available to support this effort? Hydas said TVA is focused on load forecasting, because the way it has done load forecasting in past may not be the way it needs to be done in the future. It needs to ensure it is thinking about how the load is changing in terms of magnitude and when people are using electricity. He said TVA is evaluating how it needs to think about risk around the load forecast, particularly in the winter when it doesn't see when the saturation point could occur.

Catherine Via said in West Tennessee, there is the BlueOval City coming in. She asked if TVA has considered having Ford Motor Company as a partner. She also asked about TVA's plans related to the solar energy and electrification that will be required there. TVA is partnering with Ford. Hydas said the pace of electric vehicle use and their production in the Valley are considered in TVA's load forecast. It will be important for TVA to do scenario analysis in the IRP and to consider scenarios such as, how would TVA respond if electrification doubled. The IRP will evaluate the entire system, not specific locations. If companies have onsite renewable requests, TVA considers that as part of its economic development work, so it finds a location that can accommodate a large solar facility near the site.

Tom Littlepage said this is a big and fundamental undertaking, and he is struck with how this work will impact the Natural Resource Plan and a lot of the long-term plan efforts within TVA.

9. Public Listening Session

David Bordenkircher

David Bordenkircher joined the meeting virtually. He said he wanted to talk about a report called "TVA Clean-Energy Transition Could Create Jobs, Save Billions," a 48-page report that was released by Synapse Energy Economics, the Center for Biological Diversity and GridLab, using energy modeling. He said the report shows how TVA can immediately begin retiring its fossil fuel plants and replacing them with clean energy reliably and affordably. He said that under TVA's current energy plans, according to this report, TVA can't reach carbon-free electricity by 2050 instead of 2035, which is President Biden's target.

Bordenkircher said the study shows that TVA can help reach Biden climate goals and put money in people's pockets, boost local economies and save lives. There is no excuse for TVA to keep obstructing clean energy transition and serving as a poster child for dangerous fossil fuel burning utilities. By transitioning to 100% clean energy, TVA could create 15,600 new jobs a year, reduce the percentage of household income spent on energy and generate nearly 27 billion in public health benefits.

He said TVA could be a national laboratory to model clean energy transition. It is urging TVA leadership to rethink its plan to build natural gas as a bridge to renewables, and this important study clearly endorses that approach. According to Representative Steve Cohen in Congress, TVA could and can set a good example for the entire electric utility industry by making an uncompromising commitment to moving away from fossil fuel generation and embracing the future. Bordenkircher said that Cohen says he is hopeful this work will further stimulate work in that direction. Switching from fossil fuels in the electric sector and increasing electrification in building, transportation and industrial sectors could save people in the TVA region \$255 billion by 2050, the study shows. It could also reduce household energy costs, increase employment, reduce toxic air pollution and mitigate the harms of the climate crisis.

Clean energy tax credits under the Inflation Reduction Act increase opportunities to shift from fossil fuel to renewable energy and electricity and other economic sectors. TVA can launch an economy-wide clean energy revolution that directly benefits the people it was created a century ago to serve, one of the authors says. The author's name is Patrick Knight. Our data shows that the agency can reliably and affordably accelerate the deployment of renewable energy resources to achieve 100% clean energy by 2035. TVA's Board, the Biden administration, Congress and local power companies take advantage of this chance to propel 100 percent clean energy. We're hopeful the Board can go this way. Thank you for this opportunity to speak to the Council.

Bill Jordan

Bill Jordan, Director, Parks and Recreation Department in Florence, Alabama, spoke to the Council in-person. He has worked for the city of Florence for 25 years, and 24 of those years were on the power side for the electricity department. He said that as he was coming today, he passed some of those crews and he thanked them for working safely and trying to restore the power from the tornadoes. He said he has a unique viewpoint after working on the power side for 24 years before coming to the Parks and Recreation side.

Jordan said he looked at the website for the Council and noticed a couple distinctions between the park side of what they do and what TVA is trying to accomplish. TVA's mission is to harness the potential of the rich resources in the Tennessee Valley region to make life better for the

people who call it home. He said he has had the great opportunity to work and partner with TVA, TVPPA and the great folks who work for TVA, and he sees the dedication to the quality of life, whether on the public power side or on the recreation side. He is working closely now with Derek South on a project, and Derek has been a wealth of information and a real partner in getting a project done. Jordan said a lot of people view TVA as more an obstacle, whereas he looks at TVA as a partner, because it is trying to enhance the resources, save the resources of the cultural part of what Florence is trying to do. He said for the McFarland Park project, the City of Florence is trying to redevelop a park that is 350 acres and has 2.7 miles of shoreline. He looked at the focus of the Council and saw a distinction between what Florence is trying to do in the park and the mission and vision of the Council, and the alignment is really good. Florence's vision for the park is the front yard of the community, where communities are built and connected for future generations.

Jordan said the Parks and Recreation Department's goal is to improve physical, psychological, economic health and make its city and neighborhoods more attractive for its citizens to live, play and work. He noted that the mission and goal for TVA's sustainability is to provide a healthy environment and prosperous economy without comprising the ability of future generations to do the same. He said that aligns closely with what his department is trying to do. On the environmental stewardship and land management side, with the 2.7 miles of shoreline, Florence's Parks and Recreation Department wants to enhance, develop and create a long-term improvement plan based on the citizens' wants and needs, all while protecting the integrity of the culture and historical rich features of the park, and that is in line with what TVA and the Council are trying to do. He said it is an honor and a pleasure to be before the Council. Employees he has worked with at TVA are his lifelong friends, and he is grateful for what the Council does and for those employees. He thanked the Council for allowing him to speak.

10. River Management Update (Presentation can be found at www.tva.gov/lerc) — **James Everett, Senior Manager, TVA River Forecast Center**

James Everett said that through March of this year, Tennessee Valley is at 113% of normal rainfall and at about 100% of normal runoff, so conditions are looking good. TVA is transitioning a lot of the lakes, tributaries are starting to fill and TVA will be filling the main river pools pretty soon. There weren't any large flood events this winter. There was one heavy rain on the Clinch and Powell rivers above Norris Dam, and TVA used the dam to avert about \$8 million in flood damages in Clinton, Tennessee. Everett also highlighted partnerships, including work with Oak Ridge National Laboratory and the Department of Energy to advance hydropower, which includes studying climate change to inform risks and manage flood control.

Regarding navigation, record-low water levels in the Ohio and Mississippi rivers in October 2022 impacted barges' ability to navigate the waterways. TVA worked with the U.S. Army Corps of Engineers, the U.S. Coast Guard and the towing industry to support navigation and stabilize conditions on the Mississippi River. Everett discussed the locks that TVA manages, updating the status of replacements at Kentucky Lock and Chickamauga Lock and describing work to address a Wilson Lock guard rail that was torn off during a storm. TVA has funding to pursue a temporary barge fix, and it has project approval to seek the funding needed for a permanent fix. Everett said TVA has challenges ahead, but it has a plan to get the lock back to normal operations.

Everett said TVA's hydro system performed really well during Winter Storm Elliott. It is one of TVA's most-flexible resources, and during the storm, it had every hydro unit that was available generating power. In the two days of the storm, the hydro system produced about 136 gigawatt

hours. When TVA learned of the high demand event, it quickly advanced the hydro power on the schedule and kept it going for the two days. Total hydro value realized in calendar year 2022 was close to \$1 billion, which is almost double a normal year.

In other work, Everett said River Management:

- Works to control aquatic vegetation, which can clog intakes and impact generating facilities. TVA has conducted modeling and uses regular field observations as well as technology to detect plant masses moving toward the plants, and it continues to look for better ways to detect and deal with the vegetation.
- Is stabilizing the weir structure to help decrease erosion, stabilize water flow and support habitat at Hibbs Island in Norris, Tennessee.
- Is working with numerous partners on things like drought management plans for the Duck River, the most biodiverse river system in North America, to ensure it can support its intended functions, including drinking water, economic development opportunities and protected habitat in a drought situation.
- Participated in the largely popular Bassmaster's Classic, hosted in Knoxville, on the headwaters of the Tennessee River
- Has followed the RRSC's guidance to do more outreach. In 2023 to date, TVA's River Forecast Center has hosted 31 tours and briefings that have reached 656 people.

11. Natural Resources Update (Presentation can be found at www.tva.gov/lerc) — **Rebecca Hayden, Director, Natural Resources**

Rebecca Hayden reviewed TVA's mission to provide energy, economic development and environmental stewardship in the region. She noted that TVA's Natural Resources Plan has 10 focus areas that can be divided into three categories – program-oriented, resource-oriented and user-oriented, with five of the focus areas being user-oriented. She emphasized that partnerships are key to TVA's Natural Resources work.

In the Land and Habitat Stewardship focus area, Natural Resources has implemented a five-year action plan that lays out how TVA will balance the competing demands on the resources and provide for use now while continuing to ensure the resource is available in the future. Hayden said that Natural Resources determines what opportunities to pursue by considering if the project meets the department's objectives and aligns with the most benefits.

Hayden touched on eight programs within the Land and Habitat Stewardship focus area. TVA has a dewatering program, and the structures were built in the late 1930s/1940s to help control malaria. Once they were made, it was determined that they also attracted migratory birds and ducks. A Tennessee Wildlife Resources Agency economic study on Tier 1 hunting areas found that each hunter brings about \$2,000 to the community. TVA has nine dewatering projects. TVA is in a maintenance phase with the dewatering structures, and it will need to invest in pump replacement in the future.

In other work, Hayden said:

- TVA's grassland and agricultural lands management program includes leaving grass and open land as part of the mix. In a lot of cases, TVA partners with farmers and asks that they leave a strip of land on the property as habitat for plants and animals. The work in this area also ties to pollinators and biodiversity on public land.
- TVA is a founding partner with the Tennessee RiverLine. The University of Tennessee has done an excellent job fostering discussions and working on the trail system. TVA

would like to see it expand into tributary reservoirs. In some areas, this is the first-time communities are making long-term recreational plans, and some communities are trying to tie together the water and downtown business districts.

- TVA often gets people connected through cleanups. Hayden said that last year, TVA attracted about 5,000 volunteers to clean-up events.
- TVA's floating cabins regulations are established, and those regulations were made collectively with groups providing input on what can work. All of the states have a path forward on their 401 and water-quality certification, and the first permits will be offered soon. TVA continues to engage with the floating home alliance ambassadors and with marina operators.
- Outreach is important to TVA. Hayden said outreach efforts are broken into three areas: general public, people who use the resources, and youth and children. TVA also staffs four visitor centers. TVA created the Rockpile Recreation Area at the base of Wilson Dam. The area had been desolate and a place where TVA police were called, and TVA invested in the development of trails and built a playground that is used by families today. Hayden said that Natural Resources' projects help make the Tennessee Valley a better place to live, work and play.

Bucky Edmondson, retired Director of TVA Natural Resources and a now TVA contractor, provided an update on Fontana Village, a chartered town in North Carolina with a TVA agreement. A lodge on the land has 125 rooms and cabins and had been bringing in \$5 million to \$6 million in recreation to the area. At the start of the Covid-19 pandemic in April 2020, the long-time operator told TVA that it no longer wanted to run the business. After hiring a contractor to operate the facility and putting out two requests for proposal, TVA is now close to closing on an agreement with a company that wants to renovate and operate the facility. The company would agree to reinvest money earned into the village, building and infrastructure.

After Edmondson's presentation, Rebecca Hayden, TVA Director of Natural Resources, Rebecca Tolene, Vice President of TVA's Environment group, Kendra Mansur, TVA Attorney and Realty Legal Manager and on behalf Realty Services, Sr. Manager Aaron Nix, and RRSC Chair Tom Littlepage recognized Edmondson for his leadership over the years at TVA.

QUESTIONS

Tom Littlepage asked when Rockpile Recreation Area opened and if TVA has seen positive use of the area. Hayden said the recreation area opened in 2013 or 2014 and attracts families and positive use in the area. She said TVA works closely with partners on projects such as Rockpile Recreation Area.

12. Closing Comments

Melanie Farrell thanked Council members for joining the meeting.

She said the next RRSC meeting is planned for Aug. 21 and 22 and will cover Cultural Compliance in Guntersville, Alabama. The RRSC is planning to have a joint meeting with the RERC on Sept. 26 and 27 in Nashville to provide an advice statement related to Valley Vision 2035. She also thanked the two members of the public who participated in the public listening session. Tom Littlepage thanked the staff for facilitating the meeting.

Appendix A Non-Council Meeting Attendees

TVA Staff Members (In person)	Holly Hoyle
Cindy Searcy Adams	Hunter Hydas (Day 2) (presenter)
Todd Amacker (Day 1) (presenter)	Susan Jacks (Day 1)
Tom Barnett	Althea Jones
Nikki Berger (Day 2)	Bradley Landers (Day 2)
Rebecca Brinkley	Jo Anne Lavender
Derrick Chatman	Kendra Mansur
Allen Clare (Day 1)	Jared Mitchem (Day 1)
Adam Dattilo (Day 1) (presenter)	Shannon O'Quinn (presenter)
Erin Dunsmore (Day 1) (presenter)	Barbie Perdue
Bucky Edmondson (presenter)	Marylee Sauder
James Everett (presenter)	Chance Silvers
Ashley Farless	Logan Stephens
Melanie Farrell	Doug White (Day 1) (presenter)
Bekim Haliti	Aaron Nix (Virtual)
Kelie Hammond	Jennifer Bogus (Virtual)
Liz Hamrick (Day 1) (presenter)	Ellen Hill (Virtual)
Rebecca Hayden (presenter)	James Osborne (Virtual)
Julie Reed (Virtual)	Heather Kulisek (Virtual)
Michael Moore (Virtual)	Tammie Belcher (Virtual)

Stakeholders (Virtually)	
David Bordenkircher (virtual)	
Bill Jordan (in-person)	

**Regional Resource Stewardship Council Meeting Agenda
March 27th and 28th
Florence, Alabama**

**Hotel – Marriott Shoals Hotel & Spa
10 Hightower Pl
Florence, AL 35630**

Meeting – Marriott Shoals Hotel & Spa, Florence Alabama

Objectives:

- Update and Inform RRSC Council members about Valley Vision 2035 as well as TVA's Land and Habitat Stewardship work.

Day 1 – Mar 27

1:00 – 1:20	Welcome / Call Meeting to Order
1:20 – 1:40	Introductions and Agenda Review
1:40 – 1:55	OGC Briefing
1:55 – 2:15	DFO Briefing
2:15 – 2:30	Break
2:30 – 4:30	TVA Land & Habitat Stewardship
4:30	Adjourn Meeting and Day 1 Closing Remarks

Day 2 – Mar 28

12:30 – 12:40	Welcome and Recap of Day 1
12:40 – 1:40	Valley Vision 2035 Presentation
1:40 – 1:45	Break
1:45 – 2:45	Public Listening Session
2:45 – 3:00	Break
3:00 – 3:30	River Management Update
3:30 – 4:00	Natural Resource Update
4:00 – 4:15	Adjourn Meeting and Day 2 Closing Remarks