



## **March 2021 Newsletter**

### **TVA, Facebook Sign Another Green Invest Solar Deal**

The Tennessee Valley Authority's nationally recognized Green Invest program has secured its latest win, landing another Facebook agreement, for the fourth renewable energy project and first battery storage project the companies have collaborated on.

This announcement maintains TVA's green energy leadership with the greatest amount of renewable generation in the Southeast.

"Our region is ready for companies who want to use renewable energy to achieve their sustainability goals," said Chris Hansen, TVA vice president, Origination and Renewables. "Green Invest is more than a renewables program; when businesses relocate here, jobs are created and people can find work - revitalizing both rural and urban communities."

TVA is partnering with Origis Energy to develop the 150-megawatt solar and 50-megawatt battery storage facility in Lowndes County, Mississippi, to support Facebook's two data centers in the Tennessee Valley. Origis, through a long-term power purchase agreement with TVA that was signed on Facebook's behalf, will own and operate the plant using industry-leading land stewardship techniques. The project will create more than 250 construction jobs, with additional employment for 3-5 full-time operations and maintenance staff. Origis will complete the facility in late 2023, pending environmental reviews.

"This is our second utility-scale solar facility in Mississippi with TVA, and it demonstrates the success of Green Invest in connecting local communities, private business and public power through renewable energy," said Johan Vanhee, Origis Energy chief commercial officer and chief procurement officer. "We are excited to use TVA's innovative program to contribute to economic activity in Lowndes County while helping Facebook achieve its carbon reduction goals."

Facebook is committed to support its operations with 100% renewable energy starting in 2020. To support that goal, in August, Facebook signed a Green Invest agreement for a 70-megawatt solar facility that will be built in Madison County, Tennessee. In total since 2018, Facebook has announced purchases of 597-megawatts of power generated by multiple solar farms linked into the TVA electric grid in Alabama, Tennessee and Mississippi.

"Partnering with TVA on the Green Invest program has made it possible for our operations in the Tennessee Valley to be supported by new solar energy constructed in the region," said Urvi Parekh, head of Renewable Energy at Facebook. "This solar farm will be Facebook's first renewable energy project in Mississippi and first large-scale energy storage project, which marks an important milestone for our global portfolio."

TVA sees a bright future for solar fueling the region's economy because it has increased its contracted solar capacity by 60% since October 2020.

"Facebook is a great partner, and it takes a great renewable energy team to close these deals," said Hansen. "TVA's public power model is the secret that makes our region the prime destination for any business who wants to achieve its environmental goals."



### **Spacewalking Astronauts Tackle More Solar Panel Advance Work**

For the second time within a week, a pair of astronauts worked outside to get the International Space Station ready for new solar panels. NASA's Kate Rubins and Japan's Soichi Noguchi headed toward the unfinished work from Sunday's March 7<sup>th</sup> spacewalk, located on the far port end of the orbiting lab. They needed to finish installing mounting brackets and struts, and tighten some sticky bolts.

The equipment will support the first set of improved solar panels, due to arrive in June.

NASA is upgrading the space station's power grid to accommodate more astronauts and experiments, now that SpaceX is launching crews and Boeing should be too by year's end. The eight solar panels up there now have degraded over time; the oldest were launched 20 years ago.

The six new solar wings all smaller but much more efficient will fit over the older ones and boost the station's power capability by up to 30%. Boeing is supplying the panels, which will be launched in pairs by SpaceX over the next year. During the recent spacewalk, Rubins and NASA astronaut Victor Glover encountered a number of stubborn bolts that prevented them from completing the support set-up. NASA decided the leftover work was more important than the other chores that had been scheduled for the next spacewalk, namely venting and rearranging hoses for ammonia coolant. Future spacewalkers will deal with that.

The latest spacewalk should be the last for the station's current residents, whose half-year missions are coming to a close. Rubins will return to Earth in mid-April in a Russian capsule, along with two Russians. Noguchi, Glover and two other NASA astronauts will fly SpaceX back in late April or May.

ATVG will be holding its July summer meeting in Huntsville, AL at the Space Center. Please see the insert pages of this newsletter for registration information.



### **"Built for the people" | TVA Issues Statement Supporting Diversity, Opposing Racism**

TVA said it was built for all people and that diversity was and is its greatest strength. The statement comes after eight people died in a shooting rampage in Atlanta.

There have been several reports of increases in violence against Asian American people across the U.S. The Tennessee Valley Authority wanted to take a stand against it. They issued a statement on Twitter, saying that they stand with the Asian-Pacific Islander community.

"There are four words — 'built for the people' — that simply and eloquently describe TVA's mission to make life better for all the people we are privileged to serve," said Jeff Lyash, President of TVA. "These are more than words, it's a standard we hold ourselves accountable to each and every day."

Reports said that anti-Asian American hate crimes spiked over the previous year, due to rhetoric linking Asian Americans to the COVID-19 pandemic.

"We stand proudly with the Asian-Pacific Islander community," Lyash said. "Our sympathy and support go out to all victims of hate including those most recently affected by the tragedy in Georgia."

### **New Equipment and Technology Installed at TVA's Browns Ferry Nuclear Plant to Add More Power and Reliability**

The Tennessee Valley Authority has begun the biggest equipment upgrade in part of its oldest and biggest nuclear power plant as the federal utility looks to continue to extend and improve the performance of its atomic reactors.

More than 500 extra TVA contractors and employees are at the Browns Ferry Nuclear Power Plant this month to refuel and replace the turbine equipment for the Unit 2 reactor. The workers will make 600 separate crane lifts to install new rotors weighing 327,888 pounds and new inner castings weighing up to 200,000 pounds. The new equipment and related steam piping and bellows comprise the biggest turbine upgrade at Browns Ferry in its 48-year history and will help boost the electricity output from the unit by 7 megawatts, or enough to power more than 4,000 additional homes.

"This will result in greater efficiency and improved equipment reliability which means less time in maintenance," TVA spokeswoman Malinda Hunter said. "Think of it as putting a brand-new engine, transmission and controls in a classic car."

The additional power from the Unit 2 reactor at Browns Ferry is coming just two years after TVA completed a 4-year, \$475 million power upgrade at all three of the Browns Ferry reactors which collectively added 465 megawatts of additional generating capacity at the three-reactor plant. When the latest refueling and equipment replacement is complete, Browns Ferry will have a total generating capacity of more than 3.4 gigawatts, making Browns Ferry the second biggest nuclear power plant in America behind only the Palo Verde nuclear plant in Arizona.

"TVA's investment in Browns Ferry and the infrastructure of our power systems ensures that we can continue to provide reliable power for our local power companies and communities when they need us most," Browns Ferry Site Vice President Matt Rasmussen said.

With these upgrades, Unit 2 will essentially have three brand-new low-pressure turbines, which help convert steam into electricity. While major upgrades are happening on the turbine deck, the refueling team also will load four new 3D-printed



fuel assembly brackets in the reactor. The brackets demonstrate the latest innovations in additive manufacturing and artificial intelligence. They will be the first of their kind loaded into a commercial reactor.

The components were recently manufactured at Oak Ridge National Laboratory in a joint project with TVA and the utility's fuel supplier, Framatome, as part of the lab's Transformational Challenge Reactor program. "Being the first to use these additive manufactured components supports an innovative manufacturing approach that could pave the path for use across the existing nuclear fleet and in advanced reactors and small modular reactors," said Dan Stout, TVA's director of nuclear technology innovation.

Ala Alzaben, senior vice president of the commercial and customer center of the Fuel Business Unit at Framatome, said the 3-D printing of the components will help to reduce costs while maintaining plant safety and reliability, describing it as a "major advancement for Framatome and the nuclear energy industry".

In total, the Unit 2 outage at Browns Ferry will include more than 14,800 scheduled work activities, including the installation of 320 new fuel assemblies along with upgrades, modifications, repairs and testing of other plant equipment, inspections of reactor components and maintenance of key safety systems. Due to the equipment upgrades, the usual 4-week refueling outage is expected to last about six weeks, Hunter said.

Browns Ferry Unit 2, which began operation in 1974, is one of seven nuclear reactors TVA operates. The initial 40-year license for Browns Ferry gained a 20-year extension until 2033 and TVA is now studying getting another 20-year extension for its oldest nuclear plant.

TVA President Jeff Lyash, a former Nuclear Regulatory Commission employee who earned his senior reactor licenses at Progress Energy, said he is confident that TVA's nuclear plants can operate for 80 or more years with the right maintenance and repairs.

Collectively, TVA's nuclear fleet is the third largest in the nation and last year generated more than 40% of all electricity used by nearly 10 million people in the Tennessee Valley.



**ATVG Meetings**

Summer 2021

July 8/9<sup>th</sup>

**Marriott Huntsville** (ATVG room block available)

**256-830-2222**

**July 8<sup>th</sup>**

11:30; Lunch

1:00; ATVG Membership Meeting

- TVA Update
- TVPPA Presentation
- Seven States Power Corporation Presentation
- Moon Mission Update
- Cummings Research Park Presentation  
(4<sup>th</sup> largest in the world)
- *And much more...*

4:30 ATVG Board Meeting

6:00 Reception/Dinner

**July 9<sup>th</sup>**

9:00 Tour of Huntsville Space and Rocket Center

**Fall 2021 ATVG Meeting**

Save the Date: October 26/27<sup>th</sup> – Gatlinburg Marriott



Please help us make necessary arrangements by letting us know if you will be attending. Send the enclosed registration form by email to: [registration@atvg.org](mailto:registration@atvg.org) or by U.S. mail to: ATVG, P.O. Box 3578, Clarksville, TN 37043.

**Association of Tennessee Valley Governments Meeting Registration Form**

*Registration Fee: \$100.00 for members and affiliates; \$200.00 for non-members*

Name: \_\_\_\_\_

E-Mail: \_\_\_\_\_

Spouse's Name: \_\_\_\_\_

*Registration Fee for spouse is included/No additional charge*

Company/Organization: \_\_\_\_\_

Full Address: \_\_\_\_\_

*Make checks payable to: Association of Tennessee Valley Governments- P.O. Box 3578 – Clarksville, TN 37043*



### **TVA Champion Eleanor Roosevelt Becomes the Newest Barbie**

Former first lady Eleanor Roosevelt is remembered fondly in history books, but a new endeavor is aiming to bring her into the homes of kids across the world.

As part of Mattel’s “Inspiring Women” series, which pays tribute to inspirational women throughout history, Roosevelt will soon become the only United States first lady to have a Barbie doll made in her likeness. Mattel’s newest release comes as the brand celebrates International Women’s Day, which was March 8<sup>th</sup>. It is a day that commemorates the social, economic, cultural and political achievements of women.

Roosevelt certainly deserves the honor. Characterized as an American political figure, diplomat and activist, her achievements are many. She is the longest-serving first lady of the United States and the first to hold regular press conferences. She served as United States delegate to the United National General Assembly from 1945 to 1952, and President Truman dubbed her the “First Lady of the World” in tribute to her human rights achievements.

As wife of President Franklin D. Roosevelt, she visited the Tennessee Valley on multiple occasions. David Lilienthal, one of the first TVA directors, had several opportunities to be in Mrs. Roosevelt’s company. He described her in his journals as having a “crinkly-eyed smile, charming, gracious, simple.” Roosevelt was also quite adventurous. In a 1935 visit she famously hitched a ride on a cableway over the Norris Dam construction site.

Even after FDR died, Roosevelt kept a soft spot in her heart for TVA. In fact, in her newspaper column, “My Day,” she wrote about a February 1955 visit to the town of Norris and Norris Dam. In her eyes, Norris had not changed much. She still found it a “charming residential area.” She was delighted to return to the dam, noting that the map in the reception room “shows the whole development along the Tennessee River.” Championing TVA in her column, she wrote: “I sometimes wonder if the Congress realizes that TVA is perhaps one of our strongest manifestations against communism. Visitors come to see what a democracy has done to improve the opportunities for private enterprise and to make the life of the people through a whole area infinitely better than it was before this development took place.”

A representative of the National Women’s History Museum shares why Mrs. Roosevelt is historically significant: “Eleanor Roosevelt was one of the most influential First Ladies in history. She was a fierce advocate for peace, racial justice, and civil rights; a keen and savvy political adviser; and a tireless champion of women’s equality and economic opportunity. She truly devoted her life to making the world a better, more just place.” What better role model for kids and adults alike today?

### **A True Power Partnership**

In 1933 when TVA went to work building dams to harness the Tennessee River, a system of recreational trails that ran the entire 652-mile length of the river would have been unthinkable. Now it’s becoming a reality thanks to the University of Tennessee’s Tennessee RiverLine project and its partnership with TVA. RiverLine is designed to provide a continuous system of hiking, biking and on-water experiences from Knoxville, Tennessee to Paducah, Kentucky. The new recreation system will serve as a catalyst for economic, social and environmental benefits for the dozens of cities, towns and rural communities along the river.

As RiverLine’s principal partner, TVA will commit \$1.2 million to the effort over the next three years. “TVA has been supporting the RiverLine since soon after it was established in 2016,” said Rachel Terrell, TVA Natural Resources Public Outreach manager. “This is part of TVA’s commitment to making life better for the people of the Tennessee Valley, by boosting public health, economic investment and environmental stewardship all along the way.”



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ATVG is a 501(c) (4), not-for-profit, public interest  
organization.

ATVG advocates for the interests of county and  
city/town governments residing within the seven  
state TVA region and their partners in the public  
and private sectors.

*For details about ATVG's mission and program  
of work,  
visit us on line at: [www.atvg.org](http://www.atvg.org)*