

FINDING OF NO SIGNIFICANT IMPACT TENNESSEE VALLEY AUTHORITY

CHANGES TO GREEN POWER PROVIDERS PROGRAM

The Tennessee Valley Authority (TVA) is proposing to close its Green Power Providers (GPP) Program to new customers on December 31, 2019. TVA is also proposing to establish an alternative service offering to assist residential customers interested in solar installations. These proposals would not affect customers that have already entered into participation agreements with TVA or those that apply by the closure date.

In February 2019, the TVA Board of Directors approved closure of the existing GPP Program to new applications at the end of 2019 and delegated authority to the TVA Chief Executive Officer (CEO) to provide for the design and implementation of new renewable offerings consistent with the Board-approved revised metering standard. The Board made these decisions contingent upon the satisfactory completion of any environmental reviews necessary under federal law.

TVA's GPP Program is an end-use consumer (EUC) generation dual metering program that began in 2003 as the Generation Partners Pilot Program. It was developed in an effort to provide distributors the opportunity to support environmental stewardship while responding to the growing consumer interest in generating renewable power. It also provided customers with an alternative to net metering that was compatible with the existing power contracts between TVA and local power companies (LPCs). Participation in the program is optional for LPCs. Through the GPP Program, participating LPCs' residential and commercial EUCs with renewable solar, wind, low-impact hydro, or biomass systems sell all of the generation to TVA for the term of their 20-year Participation Agreement (PA) for a fixed kilowatt-hour (kWh) rate.

TVA has determined that the GPP Program is currently out of balance with the needs of the Valley for three main reasons:

1. Current and forecasted Program underutilization, supported by qualitative and quantitative market research, suggests that the GPP Program is no longer attractive to consumers;
2. Cost-shifting caused by distributed energy resource (DER) systems, including those enrolled in the GPP Program, results in an unfair burden on non-participants; and
3. Utility-scale solar is a lower cost solution than the private-scale generation systems enrolled in GPP.

These three considerations represent the underlying purpose and need for TVA's proposal and are addressed in greater detail in the environmental assessment (EA) finalized by TVA on December 20, 2019, and incorporated herein by reference. The EA was prepared to assess the environmental and socioeconomic impacts of TVA's proposal to end the GPP program and to establish a new service offering, in compliance with the National Environmental Policy Act.

Description of Alternatives

TVA evaluated three alternatives in the EA: taking no action and continuing the GPP program, and two alternatives that include ending the program, one of which would include a new service offering to assist consumers interested in investing in private-scale solar generation.

Under the No Action Alternative (Alternative A), TVA would continue to implement the GPP Program, and there would be no changes to the services or offerings currently available to customers with private-scale renewable generation. The 2019 electricity purchase rates (\$0.075 or \$0.09 per kWh, depending on system capacity and EUC's rate class) would remain the same and the annual total GPP capacity limit for new enrollments would revert to the 10 MW capacity limit set each year between 2013 and 2018, up from the 2019 limit of 7.5 MW. TVA would continue offering Dispersed Power Production (DPP) and Renewable Energy Certificate (REC) purchasing programs to residential and commercial EUCs interested in renewable energy. EUCs would also have the option of installing behind-the-meter (BTM) generation.

Under Alternative B, TVA would close GPP to new applications effective 5:00 PM CST on December 31, 2019, and offer no replacement solution for private-scale renewable generators. Existing GP/GPP PAs and applications submitted prior to the closure date would continue for the duration of the agreement terms. TVA would continue offering DPP and REC purchasing programs to residential and commercial EUCs interested in renewable energy. EUCs would also have the option of installing BTM generation.

Under TVA's Proposed Action (Alternative C), TVA would (1) close GPP to new applications effective 5:00 PM CST on December 31, 2019, and (2) implement a new private-scale service offering shortly after GPP closure. Existing GP/GPP PAs and applications submitted prior to the closure date would continue for the duration of the agreement terms.

The new private-scale solar offering would not include contracts for sale of renewable energy or payments for energy generated by the EUC systems. Rather, the offering would be structured to include features and benefits identified as important by Valley residents and installers during market research conducted for TVA by a third party vendor. The surveyed EUCs identified "confidence in the quality of the installation" as the most important benefit a TVA program could offer and installers pointed to marketing and support as important features. The service offering would be exclusively for residential rate-class EUCs interested in installing private-scale solar PV systems. LPCs would have to elect to participate in the offering for it to be available in their service territory, just as they elect to participate in GPP today.

TVA proposes to establish (1) a Quality Contractor Network (QCN) of vetted solar installers for applicants to choose from when installing their solar systems, (2) installation standards that include best practices and requirements for PV systems and batteries, (3) inspection requirements, and (4) a more standardized interconnection process. The solar installers participating in the QCN would be licensed and insured, have completed special training on TVA installation standards and best practices, and maintain high customer satisfaction. In return, TVA would publicly showcase the solar QCN installers on the private-scale offering website. QCN members could also potentially benefit from more productive leads originating from this website since interested EUCs would have access to educational materials, which could be used to decide whether a solar system is the right investment for their property. Further, the program website would offer a scheduling feature for the installation and inspection process. With the new structure, TVA and LPCs would have visibility into private-scale installations, which is crucial for safety of LPC and/or TVA personnel and equipment.

Another aspect of the proposed service offering would address the disposal of solar arrays and related equipment after their useful life, which usually occurs around 20 to 25 years after installation. Incorporating training and increasing LPC and TVA visibility into private-scale installations may create opportunities to educate the public on proper disposal of solar arrays after they are no longer viable. TVA would continue offering DPP and REC purchasing programs to residential and commercial customers interested in renewable energy. Customers who participate in the private-scale offering could also participate in DPP and REC purchase programs pursuant to the terms of those programs.

Alternative C is TVA's preferred alternative and represents the alternative developed by the TVA staff at the direction of the CEO, following the Board's guidance to the TVA's CEO to develop and implement a renewable offering that is consistent with the TVA's revised metering standard. This alternative best meets TVA's underlying purpose and need, in that it considers the appropriate and fair cost to all TVA consumers, thereby reducing the potential for cost-shifting, while also providing services that would benefit those interested in private-scale solar investment.

Impacts Assessment

In the environmental review, TVA considered the potential impacts of the GPP closure to energy production and use, socioeconomics, air resources, water resources, land use, and production of solid and hazardous waste. The potential for environmental impacts to air quality, water quality, land use, or waste production from the alternatives depends largely on subsequent decisions made by consumers in the region and how TVA provides energy and meets demand in response to those decisions.

The GPP program represents a very small portion of the renewable and total energy generation within the TVA service area. The best projection is that future GPP electricity generation represents at most 0.1 percent of total electricity generation in the TVA Power Service Area (PSA), while the upper bound scenario is 0.2 percent. Of the renewable generation in the TVA PSA, the projected GPP generation would be between 0.5 percent (best estimate) and 1.5 percent (the upper bound scenario). Because the projected generation is so small in relation to total and renewable generation, any changes in TVA electricity generation operations under the three alternatives would not be discernable in the context of the TVA PSA.

Potential impacts to socioeconomics consist of three main factors. First, future potential GPP participants are directly affected by the alternatives, which either allow future GPP enrollment (in Alternative A) or disallow enrollment after 2019 (Alternatives B and C). Second, changes in DER adoption have the potential to affect the amount of cost-shifting in the TVA PSA. Third, the replacement service offering in Alternative C could directly impact future potential DER adopters and current adopters.

It is important to note that, under any alternative, affected current or future EUCs would experience no net negative impact as any impact that may occur is the loss of a future opportunity to benefit. Compared to current conditions, future potential GPP participants would have a minor financial benefit under Alternative A associated with current GPP energy credits. Alternatives B and C would eliminate this financial opportunity. Additional DER in Alternative A could result in \$5 million to \$14 million of cost-shifting, based on the best estimate and upper bound scenarios, respectively. Over a 20-year period ending 2038, total cost-shifting would be about \$67 million in the best estimate and \$146 million in the upper bound scenarios, respectively. Cost-shifting represents an increase in costs to all EUCs resulting from installation of private-scale DER. The amount of cost-shifting in Alternative A is considered minor when

spread evenly across EUCs in the TVA PSA. Alternatives B and C would minimize cost-shifting caused by TVA's subsidies to DER adopters that would occur through the GPP Program in Alternative A. However, some EUCs would likely install BTM if GPP were not available, which would still result in cost-shifting but less than that in Alternative A. Because under all alternatives, potential adverse impacts would generally be spread across all EUCs in the TVA PSA, no disproportionately high adverse impacts on low-income or minority populations have been identified.

The replacement service offering in Alternative C would focus on system quality and safety. This program would benefit future potential private-scale solar adopters. Alternative C would also provide safety benefits to EUCs as well as TVA and LPC workers. The information provided by TVA on the proper disposal of solar systems could also benefit current and future DER adopters.

The potential for the alternatives to result in impacts to air and water resources are highly dependent on whether the alternatives would require TVA to modify its electricity generation operations. Although TVA power system planners do not forecast, under the best estimates, that changes in GPP enrollment would be discernible in the context of TVA energy generation operations, TVA analyzed a worst-case scenario based on several conservative factors in the EA for perspective. TVA found that impacts to air and water resources under the worst-case estimates would be small in intensity with appropriate context and would not be significant.

Land conversion, clearing, or modification is generally not associated with private-scale solar systems typical for those enrolled in the GPP Program. When ground mounting is proposed, the 500 square feet of land required for the typical 5 kW residential system represents a small fraction of the approximately 25,000 acres currently used to support energy production in the TVA PSA (see Section 3.5). Under all three alternatives, the potential land conversion would be a small fraction of the overall area currently used to support energy production in the TVA PSA. Therefore, any potential land use impacts are minor for each alternative.

Solid and hazardous wastes are associated with changes in total energy use, the renewable to non-renewable energy mix, and/or wastes generated as part of system installation and disposal. Under Alternative A, there would be minor increases in the production of solid and hazardous waste compared to current conditions as a result of new users installing systems, and thus, minor negative environmental impact would occur. Alternative B would result in a minor increase equal to or lower than that of Alternative A based on EUCs adoption of BTM systems. Alternative B, therefore, also represents a minor negative environmental impact. Alternative C eliminates waste resulting from future potential GPP participation and provides guidance on the proper disposal of solar panels to all DER adopters, which is likely to result in a minor positive environmental impact.

Given that TVA's proposal addresses energy production in the Valley as well as the market for renewable energy resources, there are other past, present, and foreseeable actions relevant to the consideration of cumulative impacts associated with TVA's proposal. TVA utilizes its Integrated Resource Planning (IRP) process to consider the many cumulative market and social forces that these programs addressing renewable energy resources, expansion of DER, energy efficiency, as well as other relevant inputs, have on TVA's energy generation; TVA also utilizes its IRP process to provide direction on how to best meet future electricity demand. The 2019 IRP provides an important discussion regarding past, present, and foreseeable future activities that influence energy use, and the EIS that accompanied it describes cumulative impacts from combining different scenarios and strategies (TVA 2019a; TVA 2019b).

As noted in the EA, TVA found that under the best projections scenario, it is unlikely that the proposal to end the GPP program or the replacement offering would have a discernable effect on TVA power generation operations because the amount of generation is so small. Any change to operations would not be substantial enough to discern any impacts, including incremental impacts, to air quality, water quality, or waste generation. Therefore, the discussion of cumulative impacts addressed in the 2019 IRP EIS would essentially apply to Alternatives B and C. In the IRP EIS, TVA forecasted reductions in air emissions, including GHG emissions, and declines in water consumption and waste generation over the next 20 years. Even with conservative worst-case estimates, TVA does not foresee that the environmental impacts of Alternatives B or C would alter these reductions, though they may be marginally lessened.

TVA did not identify any potentially significant impacts – direct, indirect or cumulative – that would result from implementing any of the three alternatives considered in the EA. In determining whether the EA adequately addresses the potential impacts of the proposed action on the quality of the human environment, TVA considered the significance criteria identified in the Council on Environmental Quality regulations (40 CFR 1508.27).

Public and Intergovernmental Review

In October 2019, TVA issued the draft EA for public review and comment. TVA received almost 290 comment submissions from the public, numerous industry and environmental organizations, the City of Knoxville, the Metropolitan Government of Nashville and Davidson County, the states of North Carolina and Tennessee, and the Commonwealth of Kentucky. Responses to substantive comments are addressed in Appendix B. TVA considered these comments when completing its review and provided responses in the Final EA. As noted in the respective responses, TVA revised the EA as a result of several comments to improve clarity and provide additional discussion and analysis about relevant issues.

Mitigation

Due to the minor and insignificant impacts identified for the Alternatives, there are no TVA commitments or proposed mitigation measures identified for implementation.

Conclusion and Findings

Based on the findings in the EA, TVA concludes that implementing the preferred action would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



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Date Signed