

Legal Department

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Tanowa Troupe Docketing Division Chief Public Utilities Commission of Ohio 180 East Broad Street Columbus, Ohio 43215-3793

Steven T. Nourse

Vice President- Legal (614) 716-1608 (P) (614) 716-2014 (F) stnourse@aep.com Re: In the Matter of the Annual Alternative Energy Compliance Report Under Rule 4901:1-40-03(C), Ohio Admin. Code, by Ohio Power Company, Case No. 19-933-EL-ACP

Dear Ms. Troupe:

Ohio Power Company (AEP Ohio) submits its 2018 Alternative Energy Portfolio Compliance Plan under Rule 4901:1-40-03(C), Ohio Admin. Code.

Thank you for your attention to this matter.

Respectfully Submitted,

//s/ Steven T. Nourse

# Alternative Energy Portfolio Compliance Plan

## Introduction

In 2008, Amended Substitute Senate Bill 221 ("S.B. 221") was enacted. In Case No. 08-888-EL-ORD, the Public Utilities Commission of Ohio ("Commission" or "PUCO") approved Rules for the Alternative Energy Portfolio Standard for electric utilities ("Rules"). The Rules became effective on December 10, 2009. Applying S.B. 221, the Rules require that each electric utility adhere to specific advanced and renewable energy benchmark percentages. Each electric utility and electric services company is required to file an annual plan for compliance with future annual advanced and renewable energy benchmarks, utilizing a 10-year planning horizon. This plan is to be filed by April fifteenth of each year. Per Ohio Administrative Code ("OAC") 4901:1-40-03(C), the report shall include the following items:

- 1. Baseline for the current and future calendar years.
- 2. Supply portfolio projection, including both generation fleet and power purchases.
- 3. A description of the methodology used by the company to evaluate its compliance options.
- 4. A discussion of any perceived impediments to achieving compliance with required benchmarks, as well as suggestions for addressing any such impediments.

In 2014, Substitute Senate Bill 310 ("S.B. 310") was enacted and, among other things, placed a 2-year freeze on the then-current renewable energy benchmarks and also eliminated the requirement that 50 percent of the renewable energy resources used for compliance with S.B. 221 had to be sourced from renewable resources located within the state of Ohio. In addition, the 12.5 percent benchmark achieved through advanced and/or renewable energy resources by 2024 was eliminated.

## **Projected Baselines**

According to S.B. 310, all generation service providers have the option to establish their benchmarks based on the actual retail sales for the compliance year or through the average of the previous three years' actual sales. Ohio Power Company ("AEP Ohio" or "the Company") has opted to use the actual retail sales for the compliance year beginning with 2014 and plans to do so on a going-forward basis. AEP Ohio has made an adjustment for Economic Growth consistent with OAC 4901:1-40-03(B)(3) for all previous compliance years and plans to do so on a going-forward basis (see Case Nos. 14-0559-EL-ACP, 15-0332-EL-ACP, 16-0746-EL-ACP, 17-0935-EL-ACP, 18-0610-EL-ACP, and 19-814-EL-ACP). Tables 1 and 2 capture the anticipated benchmarks based on AEP Ohio's projected actual retail sales of the SSO Load and adjustments for Economic Growth.

### **Ohio Power Company Renewable Energy Benchmarks**

Solar - Ohio Power						
(all units in MWh unless noted)						
Year	Actual Retail Sales (SSO Load)	Adjustments for Adjusted Economic Growth Baseline			Year-end Solar Target	Year-end Solar Benchmark
2019	12,122,416	(2,119,082)	10,003,334		0.22%	22,007
2020	12,043,995	(2,119,082)	9,924,913		0.26%	25,805
2021	11,986,655	(2,119,082)	9,867,572		0.30%	29,603
2022	11,876,918	(2,119,082)	9,757,835		0.34%	33,177
2023	11,783,095	(2,119,082)	9,664,012		0.38%	36,723
2024	11,731,224	(2,119,082)	9,612,142		0.42%	40,371
2025	11,696,186	(2,119,082)	9,577,104		0.46%	44,055
2026	11,651,141	(2,119,082)	9,532,058		0.50%	47,660
2027	11,640,897	(2,119,082)	9,521,815		0.50%	47,609
2028	11,632,152	(2,119,082)	9,513,070		0.50%	47,565

### Table 1: Solar – (MWh)

Note: Actual Retail Sales and Adjustments for Economic Growth for 2019 - 2028 are estimated and are subject to Commission approval.

Non-Solar - Ohio Power						
(all units in MWh unless noted)						
Year	Actual Retail Sales (SSO Load)	Adjustments for Economic Growth	Adjusted Baseline		Year-end Non-Solar Target	Year-end Non-Solar Benchmark
2019	12,122,416	(2,119,082)	10,003,334		5.28%	528,176
2020	12,043,995	(2,119,082)	9,924,913		6.24%	619,315
2021	11,986,655	(2,119,082)	9,867,572		7.20%	710,465
2022	11,876,918	(2,119,082)	9,757,835		8.16%	796,239
2023	11,783,095	(2,119,082)	9,664,012		9.12%	881,358
2024	11,731,224	(2,119,082)	9,612,142		10.08%	968,904
2025	11,696,186	(2,119,082)	9,577,104		11.04%	1,057,312
2026	11,651,141	(2,119,082)	9,532,058		12.00%	1,143,847
2027	11,640,897	(2,119,082)	9,521,815		12.00%	1,142,618
2028	11,632,152	(2,119,082)	9,513,070		12.00%	1,141,568

## Table 2: Non-Solar – (MWh)

Note: Actual Retail Sales and Adjustments for Economic Growth for 2019 - 2028 are estimated and are subject to Commission approval.

## **Portfolio Projection**

The Company has developed a 10-year strategy in order to meet the renewable energy benchmarks set by S.B. 221. This strategy includes such items as utilizing the RECs supplied from its current long-term Renewable Energy Purchase Agreements ("REPA"), purchasing Renewable Energy Credits/Certificates ("RECs"), and the commitment from customer-sited distributed generation. The Company's 10-year strategy portfolio primarily consists of a mix of solar photovoltaic and wind energy resources.

The Company has secured a number of Non-Solar RECs via wind REPAs totaling 99 MWs of nameplate generation from the Timber Road wind farm located in Paulding County, Ohio. As discussed in previous Compliance Plan filings, the Company also has secured additional Non-Solar generation through two wind REPAs totaling 100 MW with the Fowler Ridge II wind farm, located in Indiana.

The Company has also produced some Solar RECs which are the result of AEP Ohio's two 70 kW solar facilities located atop the Athens and Newark Service Centers and secured solar RECs from the Company's Renewable Energy Technology ("RET") programs for customer-sited distributed generation (Case Nos. 09-1871-EL-ACP and 09-1872-EL-ACP for the RET program). In 2009, the Company entered into a 10.1 MW REPA with Wyandot Solar LLC, which began deliveries of energy and solar RECs to AEP Ohio in April of 2010.

## Methodology

#### **AEP Ohio Planning Methodology**

As previously discussed, AEP Ohio's portfolio of renewable energy resources primarily consists of long-term REPAs with the Timber Road and Fowler Ridge II wind farms, and the Wyandot Solar facility, which were entered into in 2010, 2009, and 2009, respectively. AEP Ohio's Planning Methodology is segmented into Short-Term and Long-Term strategies.

The Short-Term strategy (next 1-2 year period) will be to manage the current AEP Ohio REC inventory and the RECs expected to be produced from its long-term REPAs (Wyandot Solar, Fowler Ridge II & Timber Rd) for compliance. If additional RECs are required for compliance in the Short-Term, they will be purchased in the spot or broker REC market.

The Long-Term strategy will be initiated at the point when AEP Ohio is not able to meet the benchmarks with its inventory of RECs and those RECs expected to be produced by the long-term REPAs. AEP Ohio will then purchase RECs in the spot or broker market, as needed, for compliance until such time when pricing or availability of RECs in the spot or broker markets begin to be problematic. If issues in the REC market are anticipated, the optimal solution for compliance may be through long-term REC purchase agreements. AEP Ohio will continue to engage in market surveillance on long-term REC pricing and availability.

Federal subsidies and incentives affect the timing and the pricing of renewable asset purchases and renewable energy purchase agreements. Congress passed a bill on December 18, 2015, incorporating the Protecting Americans from Tax Hikes Act of 2015 resulting in the extension of the Production Tax Credits ("PTC") and Investment Tax Credit ("ITC") associated with wind energy; and the ITC associated with solar energy (See Tables 3 and 4 below). The PTC is an activity based credit in which the owner is eligible for the PTC based on the amount of electricity generated for a 10-year period beginning on the date the wind facility is placed in service. The ITC is a capital investment based one-time credit in which the owner is eligible for the ITC based on the eligible energy property costs for the solar facility.

	Phase-out of PTC / ITC for Wind Facilities			
Construction Commencement		Placed in Service	% of PTC	ITC Rate
Date		Deadline to Satisfy		
		Continuity Safe Harbor		
Before January 1, 2017		December 31, 2020 (for	100% of PTC	30%
		facilities that began		
		construction in 2016)		
During 2	2017	December 31, 2021	80% of PTC	24%
During 2	2018	December 31, 2022	60% of PTC	18%
During 2	2019	December 31, 2023	40% of PTC	12%
After December 31, 2019		N/A	No PTC	No ITC

Table 3

Table 4				
Phase-out of 30% ITC for Solar Facilities				
Construction Commencement Date	ITC %*			
Construction commences before January 1, 2020	30%			
Construction commences during 2020	26%			
Construction commences during 2021	22%			
Construction commences after December 31, 2021	10%			

\* For solar facilities that commence construction any time prior to January 1, 2022, but which are not placed into service before January 1, 2024, the amount of the ITC will be reduced to 10 percent.

The PTCs for wind energy projects placed in service during 2018 (see Table 3), are calculated at 2.4 cents per kilowatt-hour of renewable energy generated. The PTC rate for post-2018 years is subject to an inflation adjustment during the remaining tenyear credit eligibility period. A PTC rate of 2.4 cents per kilowatt-hour equates to a revenue requirement amount of over 3.04 cents per kilowatt-hour during that same period. Projects not eligible for the 100% PTC level would require higher income, producing higher costs to the customers of the purchasing entity – especially for projects that start construction after December 31, 2019 (no PTC). The 30 percent Solar Investment Tax Credit ("ITC"), which allows renewable developers to claim a one-time tax credit of 30 percent (mainly solar projects), remains in effect for projects with a construction start date before January 1, 2020, and ramps down to 10 percent for projects commencing construction after December 31, 2021, as noted in Table 4.

### Implementation

AEP Ohio will continue to optimize its REC inventory and purchase RECs in the spot or broker market on an as-needed basis and monitor the market for long-term REC pricing.

# Impediments

### Non-Solar Renewable Energy Resources

The Company is meeting the annual benchmarks and is on target to comply with Ohio's renewable energy standard, which requires that AEP Ohio supply 5.5 percent of their resources from renewable energy in 2019 (0.22 percent of which is solar) and 12.5 percent by 2026 (0.5 percent solar).

To help meet its 2018 compliance benchmarks, AEP Ohio relied primarily on a combination of its previously executed REPAs for solar and wind resources (Wyandot, Fowler Ridge II and Timber Road). The addition of new renewable energy utilizing the above mentioned federal incentives serves to buy down the cost of energy over the life of the project.

The ability to commit to long-term contracts or investments, in the face of increasing future benchmarks, is the preferred approach to secure reasonably priced reliable sources of renewable energy and to ensure that this energy will be economically accessible to its customers in the coming years. Simply put, significant new renewable energy generation resources are unlikely to be built in Ohio unless the developers of such proposed resources can execute long-term contracts for the future output of their projects.

As the electricity markets in Ohio continued to move toward deregulation, it has generally become more difficult for investor-owned utilities ("IOU") to plan for the longterm procurement of renewables, which typically has historically been supplied at a higher cost than market priced energy. Planning is further complicated by the fact that CRES providers can choose which customer classes to market to; IOUs must always be prepared to serve their SSO load leaving uncertainty around its actual renewable requirement as customers concurrently have the option to switch energy suppliers.

#### **Solar Renewable Energy Resources**

The Company is meeting the annual benchmarks and is on target to comply with Ohio's renewable energy standard, which requires that 0.22 percent of the Company's load be supplied with solar energy in 2019 and 0.5 percent by 2026. For 2018 compliance, the Company relied on the 10.1 MW Wyandot REPA, which represented one of the first significant solar energy projects commissioned in the state since the advent of the S.B. 221 benchmarks in 2008. The output and inventory of solar RECs from the Wyandot REPA will satisfy the Company's benchmark requirements for 2019.

### **REC Market**

The impediments mentioned above have a direct correlation to the available REC supply. In theory, it is expected that over time the value or cost of a REC will more closely resemble REC costs in the rest of the PJM market area. In markets where there are aggressive renewable energy resource targets, specific In-State requirements and concentrated load centers, there is the potential for demand to outweigh supply of RECs and thus lead to the potential for pricing distortions.

### Conclusion

Renewable energy resource options provide for environmentally-friendly energy solutions and are part of a diversified approach. When considering renewable energy resources, the challenges include, identifying the actual customer base to supply for, selecting a combination of options that minimizes costs to customers, regulatory approval within the state of Ohio and any external factors influencing the planning cycle such as the existence of federal subsidies. The combination of commitments to new solar and non-solar projects has allowed AEP Ohio the opportunity to provide a diversified renewable portfolio.

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Summary: Report - AEP Ohio 2018 Portfolio Compliance Plan electronically filed by Mr. Steven T Nourse on behalf of Ohio Power Company