Legal Department

American Electric Power 1 Riverside Plaza Columbus, Ohio 43215-2373 AEP.com

January 27, 2023

Barcy F. McNeal<br>Docketing Division Chief<br>Public Utilities Commission of Ohio<br>180 East Broad Street<br>Columbus Ohio 43215-3793

## Steven T. Nourse

VP - Legal (614) 716-1608 (P) (614) 716-2014 (F) stnourse@aep.com

## Re: In the Matter of the gridSMART Rider for Ohio Power Company, Case No. 22-473-EL-RDR

Dear Ms. McNeal:
Consistent with the April 28, 2017, Application filed to initiate this case and in accordance with the February 1, 2017 Opinion and Order in Case No. 13-1939-ELRDR (gridSMART Phase 2 Order), and the December 1, 2021 Opinion and Order in Case No. 19-1475-EL-RDR (gridSMART Phase 3 Order), Ohio Power Company (AEP Ohio) hereby submits its gridSMART update for the fourth quarter 2022.

Consistent with the gridSMART Phase 3 Order, gridSMART Phase 2 costs can be recalculated to include the Phase 3 programs beginning December 1, 2021.

The gridSMART Phase 2 Order requires quarterly filings with automatic approval 30 days after the filing unless otherwise determined by the Commission. Therefore, absent Commission intervention the rates from this filing will become effective Cycle 1 March 2023.

Attachment 1 reflects the actual O\&M spending and Capital Carrying Charges from October through December 2022. The update includes the Capital Carrying Charges related to the movement of twenty-two thousand additional AMI meters to Phase 2 as Ordered in the Phase 2 Order (at Page 14), and the allocation between the Residential and Non-Residential classes as Ordered in the Global Settlement (Case No. 10-2929-EL-RDR et.al) and retained in the gridSMART Phase 3 Order.

Attached as Attachment 2 is the revised tariff sheet 410-1, reflecting the revised gridSMART Rider Rates. Workpaper 1 details the calculation of carrying charges for Capital Spending. Workpaper 2 details the additional twenty-two thousand meters mentioned above through February 2019. As agreed to with Staff, effective with March 2019 plant, the Company began tracking the total Net Book Value of AMI meters less the gridSMART Phase 1 AMI meters in account 370.16 (AMI Meters in Service).

Additionally, the gridSMART Phase 2 Order (at Page 15, par 37) requires the Company to report the non-financial metrics as shown on Attachment 3 of the Phase 2 Stipulation and Recommendation (filed on April 7, 2016) in this case, annually for the next six annual rider filings for the prior calendar year. However, in the Finding and Order filed on November 21, 2019, in Case No 18-1618-EL-RDR (at Page 9, par I) the Company agreed to extend this reporting obligation through 2024. Please find the non-financial metrics report for 2022 included as modified by discussions with the Staff as Attachment 3. Refer to the appendix for each metric for details regarding the change. Please note: "Appendix Z - VVO and MWh Saved" and "Appendix AB - Reduction in greenhouse gases due to VVO" have been restated. See the notes on the respective appendices for details.

Thank you for your attention to this matter.

## Regards,

/s/ Steven T. Nourse
cc: parties of record

## Ohio Power Company <br> gridSMART Rider <br> 4th Quarter 2022 True-up



Effective Cycle 1 December 2022March 2023, all customer bills subject to the provisions of this Rider, including any bills rendered under special contract, shall be adjusted by the monthly gridSMART Phase 2 charge. This rider shall be adjusted periodically to recover amounts authorized by the Commission. This Rider is subject to reconciliation, including, but not limited to, refunds to customers, based upon the impact to the carrying charge rate recovered through this Rider of changes in Federal corporate income taxes due to the Tax Cuts and Jobs Act of 2017 or based upon the results of audits ordered by the Commission in accordance with the February 1, 2017 Opinion and Order in Case No. 13-1939-EL-RDR.

Residential Customers
$\$ 1.911 .95$
Non-Residential
$\$ 15.57 \underline{15.89}$

Filed pursuant to Order dated November 17, 2021 in Case No. 20-585-EL-AIR
Issued: October 27, 2022January 27, 2023
Effective: Cycle 1 December 2022March 2023
Issued by
Marc Reitter, President
AEP Ohio

Workpaper 1
Page 1 of 18
gridSMART Phase 2 NBV
Depreciation Tables

| Intangible Property - Account 303 5 Year Life |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gross Capital Expenditure (booked cost) | Cumulative Gross Plant | Net Plant | $\begin{gathered} \text { Depreciation } \\ \text { Reserve } \\ \hline \end{gathered}$ | Accumulated Depreciation | Annual Depreciation Expense | Return Carrying Charge Rate | Depreciation Carrying Charge Rate | Property Carrying Charge | Annual Carrying Charge |
| \$0.00 | - | - | \$0.00 |  |  |  | - | - |  |
| \$0.00 | - | - | \$0.00 |  |  | - | - | - |  |
| \$0.00 | - | - | \$0.00 |  |  | - | - | - | - |
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| \$0.00 | - | - | \$0.00 | - |  | - | - | - |  |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$491,762.92 | 491,762.92 | 460,535.66 | \$31,227.26 | 31,227.26 |  | 3,534.61 | 81.96 | 1,170.53 | 4,787.10 |
| \$0.00 | 491,762.92 | 436,394.67 | \$24,140.99 | 55,368.25 |  | 3,349.33 | 81.96 | 1,109.17 | 9,327.56 |
| \$0.00 | 491,762.92 | 383,614.90 | \$52,779.77 | 108,148.02 |  | 2,944.24 | 81.96 | 975.02 | 13,328.79 |
| \$29,563.47 | 521,326.39 | 360,398.60 | \$52,779.77 | 160,927.79 |  | 2,766.06 | 86.89 | 916.01 | 17,097.75 |
| (\$29,563.47) | 491,762.92 | 277,562.64 | \$53,272.49 | 214,200.28 | \$214,200.28 | 2,130.29 | 81.96 | 705.47 | 20,015.47 |
| \$0.00 | 491,762.92 | 224,782.87 | \$52,779.77 | 266,980.05 |  | 1,725.21 | 49,254.29 | 571.32 | 51,550.82 |
| \$0.00 | 491,762.92 | 172,003.10 | \$52,779.77 | 319,759.82 |  | 1,320.12 | 8,196.05 | 437.17 | 61,504.17 |
| \$0.00 | 491,762.92 | 119,223.33 | \$52,779.77 | 372,539.59 |  | 915.04 | 8,196.05 | 303.03 | 70,918.28 |
| \$0.00 | 491,762.92 | 108,402.87 | \$10,820.46 | 383,360.05 |  | 831.99 | 8,196.05 | 275.52 | 80,221.85 |
| \$747,266.15 | 1,239,029.07 | 844,848.56 | \$10,820.46 | 394,180.51 |  | 6,484.21 | 20,650.48 | 2,147.32 | 109,503.87 |
| \$57,008.81 | 1,296,037.88 | 878,582.48 | \$23,274.89 | 417,455.40 |  | 6,743.12 | 21,600.63 | 2,233.06 | 140,080.68 |
| \$2,252,815.93 | 3,548,853.81 | 3,109,797.76 | \$21,600.65 | 439,056.05 |  | 23,867.70 | 59,147.56 | 7,904.07 | 231,000.01 |
| \$44,215.69 | 3,593,069.50 | 3,094,865.89 | \$59,147.56 | 498,203.61 |  | 23,753.10 | 59,884.49 | 7,866.12 | 322,503.72 |
| \$146.50 | 3,593,216.00 | 2,656,293.58 | \$438,718.81 | 936,922.42 |  | 20,387.05 | 59,886.93 | 6,751.41 | 409,529.12 |
| \$531,342.22 | 4,124,558.22 | 3,127,748.86 | \$59,886.94 | 996,809.36 |  | 24,005.47 | 68,742.64 | 7,949.70 | 510,226.92 |
| \$98,429.60 | 4,222,987.82 | 3,157,435.84 | \$68,742.62 | 1,065,551.98 |  | 24,233.32 | 70,383.13 | 8,025.15 | 612,868.52 |
| \$0.00 | 4,222,987.82 | 3,069,341.30 | \$88,094.54 | 1,153,646.52 | \$939,446.24 | 23,557.19 | 70,383.13 | 7,801.24 | 714,610.09 |
| \$0.00 | 4,222,987.82 | 2,998,958.16 | \$70,383.14 | 1,224,029.66 |  | 23,017.00 | 70,383.13 | 7,622.35 | 101,022.49 |
| \$0.00 | 4,222,987.82 | 2,928,575.02 | \$70,383.14 | 1,294,412.80 |  | 22,476.81 | 70,383.13 | 7,443.46 | 201,325.89 |
| \$0.00 | 4,222,987.82 | 2,858,191.90 | \$70,383.12 | 1,364,795.92 |  | 21,936.62 | 70,383.13 | 7,264.57 | 300,910.22 |
| \$2,267,187.68 | 6,490,175.50 | 5,054,996.47 | \$70,383.11 | 1,435,179.03 |  | 38,797.10 | 108,169.59 | 12,848.12 | 460,725.02 |
| \$4,564.72 | 6,494,740.22 | 4,951,391.58 | \$108,169.61 | 1,543,348.64 |  | 38,001.93 | 108,245.67 | 12,584.79 | 619,557.41 |
| \$503.81 | 6,495,244.03 | 4,838,667.10 | \$113,228.29 | 1,656,576.93 |  | 37,136.77 | 108,254.07 | 12,298.28 | 777,246.52 |
| \$2,213.48 | 6,497,457.51 | 4,732,626.52 | \$108,254.06 | 1,764,830.99 |  | 36,322.91 | 108,290.96 | 12,028.76 | 933,889.15 |
| \$0.00 | 6,497,457.51 | 4,624,335.53 | \$108,290.99 | 1,873,121.98 |  | 35,491.78 | 108,290.96 | 11,753.52 | 1,089,425.40 |
| \$0.00 | 6,497,457.51 | 4,516,044.60 | \$108,290.93 | 1,981,412.91 |  | 34,660.64 | 108,290.96 | 11,478.28 | 1,243,855.28 |
| (\$130,797.21) | 6,366,660.30 | 4,276,956.43 | \$108,290.96 | 2,089,703.87 |  | 32,825.64 | 106,111.01 | 10,870.60 | 1,393,662.53 |
| \$2,189,875.95 | 8,556,536.25 | 6,360,721.35 | \$106,111.03 | 2,195,814.90 |  | 48,818.54 | 142,608.94 | 16,166.83 | 1,601,256.84 |
| \$390,580.08 | 8,947,116.33 | 6,074,600.88 | \$676,700.55 | 2,872,515.45 | \$1,718,868.93 | 46,622.56 | 149,118.61 | 15,439.61 | 1,812,437.61 |
| \$383,321.24 | 9,330,437.57 | 6,309,769.50 | \$148,152.62 | 3,020,668.07 |  | 48,427.48 | 155,507.29 | 16,037.33 | 219,972.10 |
| \$18,688.50 | 9,349,126.07 | 6,171,210.57 | \$157,247.43 | 3,177,915.50 |  | 47,364.04 | 155,818.77 | 15,685.16 | 438,840.07 |
| \$1,764,733.64 | 11,113,859.71 | 7,735,791.97 | \$200,152.24 | 3,378,067.74 |  | 59,372.20 | 185,231.00 | 19,661.80 | 703,105.08 |
| \$110,951.43 | 11,224,811.14 | 7,660,230.98 | \$186,512.42 | 3,564,580.16 |  | 58,792.27 | 187,080.19 | 19,469.75 | 968,447.29 |
| \$0.00 | 11,224,811.14 | 7,472,033.67 | \$188,197.31 | 3,752,777.47 |  | 57,347.86 | 187,080.19 | 18,991.42 | 1,231,866.75 |
| \$0.00 | 11,224,811.14 | 7,081,682.69 | \$390,350.98 | 4,143,128.45 |  | 54,351.91 | 187,080.19 | 17,999.28 | 1,491,298.13 |
| \$7,114,417.20 | 18,339,228.34 | 13,994,876.96 | \$201,222.93 | 4,344,351.38 |  | 107,410.68 | 305,653.81 | 35,570.31 | 1,939,932.93 |
| \$158,611.69 | 18,497,840.03 | 13,847,626.93 | \$305,861.72 | 4,650,213.10 |  | 106,280.54 | 308,297.33 | 35,196.05 | 2,389,706.85 |
| \$530.21 | 18,498,370.24 | 13,534,539.85 | \$313,617.29 | 4,963,830.39 |  | 103,877.59 | 308,306.17 | 34,400.29 | 2,836,290.90 |
| \$551,533.21 | 19,049,903.45 | 12,836,939.26 | \$1,249,133.80 | 6,212,964.19 |  | 98,523.51 | 317,498.39 | 32,627.22 | 3,284,940.02 |
| \$562.07 | 19,050,465.52 | 12,520,075.57 | \$317,425.76 | 6,530,389.95 |  | 91,187.88 | 317,507.76 | 52,584.32 | 3,746,219.98 |
| \$476.79 | 19,050,942.31 | 12,203,120.63 | \$317,431.73 | 6,847,821.68 | \$3,975,306.23 | 88,879.40 | 317,515.71 | 51,253.11 | 4,203,868.19 |
| \$30,002.39 | 19,080,944.70 | 11,915,570.62 | \$317,552.40 | 7,165,374.08 |  | 86,785.07 | 318,015.75 | 50,045.40 | 454,846.21 |
| \$351,070.59 | 19,432,015.29 | 11,948,563.98 | \$318,077.23 | 7,483,451.31 |  | 87,025.37 | 323,866.92 | 50,183.97 | 915,922.48 |
| \$0.00 | 19,432,015.29 | 11,621,793.01 | \$326,770.97 | 7,810,222.28 |  | 84,645.39 | 323,866.92 | 48,811.53 | 1,373,246.32 |
| \$534,337.17 | 19,966,352.46 | 11,832,122.49 | \$324,007.69 | 8,134,229.97 |  | 86,177.29 | 332,772.54 | 49,694.91 | 1,841,891.07 |
| \$230,442.58 | 20,196,795.04 | 11,729,473.22 | \$333,091.85 | 8,467,321.82 |  | 85,429.66 | 336,613.25 | 49,263.79 | 2,313,197.77 |
| \$180,720.85 | 20,377,515.89 | 11,527,649.20 | \$382,544.87 | 8,849,866.69 |  | 83,959.71 | 339,625.26 | 48,416.13 | 2,785,198.88 |
| \$7,918,313.72 | 28,295,829.61 | 19,102,161.91 | \$343,801.01 | 9,193,667.70 |  | 139,127.41 | 471,597.16 | 80,229.08 | 3,476,152.53 |
| \$143,411.52 | 28,439,241.13 | 18,774,526.82 | \$471,046.61 | 9,664,714.31 |  | 136,741.14 | 473,987.35 | 78,853.01 | 4,165,734.03 |
| \$4,997.14 | 28,444,238.27 | 18,258,527.76 | \$520,996.20 | 10,185,710.51 |  | 132,982.94 | 474,070.64 | 76,685.82 | 4,849,473.43 |
| \$104,382.80 | 28,548,621.07 | 17,893,681.03 | \$469,229.53 | 10,654,940.04 |  | 130,325.64 | 475,810.35 | 75,153.46 | 5,530,762.88 |
| (\$89,626.86) | 28,458,994.21 | 17,329,104.88 | \$474,949.29 | 11,129,889.33 |  | 126,213.65 | 474,316.57 | 72,782.24 | 6,204,075.34 |
|  | - |  | - |  | 4,282,067.65 | - | - | - | 6,204,075.34 |
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Workpaper 1
Page 3 of 18
gridSMART Phase 2 NBV Depreciation Tables

| $\begin{aligned} & \text { Structures and Improvements - Account } 361 \\ & 70 \text { Year Life } \end{aligned}$ |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gross Capital Expenditure (booked cost) | Cumulative Gross Plant | Net Plant | $\begin{aligned} & \text { Depreciation } \\ & \text { Reserve } \\ & \hline \end{aligned}$ | Accumulated Depreciation | Annual Depreciation Expense | Return Carrying Charge Rate | Depreciation Carrying Charge Rate | Property Carrying Charge | Annual Carrying Charge |
| \$0.00 | - | - | \$0.00 |  |  |  |  |  |  |
| \$0.00 | - | - | \$0.00 |  |  | - | - | - |  |
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| \$0.00 | - | - | \$0.00 | - |  | - | - |  |  |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$61,189.29 | 61,189.29 | 60,967.17 | \$222.12 | 222.12 |  | 467.92 | 90.25 | 154.96 | 713.14 |
| \$208,245.28 | 269,434.57 | 268,260.95 | \$951.50 | 1,173.62 |  | 2,058.90 | 397.42 | 681.83 | 3,851.28 |
| \$14,708.60 | 284,143.17 | 282,699.41 | \$270.14 | 1,443.76 |  | 2,169.72 | 419.11 | 718.53 | 7,158.64 |
| \$4,378.48 | 288,521.65 | 286,846.25 | \$231.64 | 1,675.40 |  | 2,201.54 | 425.57 | 729.07 | 10,514.82 |
| \$2,789.46 | 291,311.11 | 289,408.10 | \$227.61 | 1,903.01 |  | 2,221.21 | 429.68 | 735.58 | 13,901.29 |
| \$0.00 | 291,311.11 | 289, 196.63 | \$211.47 | 2,114.48 |  | 2,219.58 | 429.68 | 735.04 | 17,285.60 |
| \$39.83 | 291,350.94 | 289,024.70 | \$211.76 | 2,326.24 |  | 2,218.26 | 429.74 | 734.60 | 20,668.21 |
| (\$26.37) | 291,324.57 | 288,787.19 | \$211.14 | 2,537.38 | \$2,537.38 | 2,216.44 | 429.70 | 734.00 | 24,048.36 |
| \$1.98 | 291,326.55 | 288,367.18 | \$421.99 | 2,959.37 |  | 2,213.22 | 429.71 | 732.93 | 3,375.86 |
| \$0.00 | 291,326.55 | 287,945.15 | \$422.03 | 3,381.40 |  | 2,209.98 | 429.71 | 731.86 | 6,747.40 |
| \$0.00 | 291,326.55 | 287,522.97 | \$422.18 | 3,803.58 |  | 2,206.74 | 429.71 | 730.79 | 10,114.64 |
| \$0.02 | 291,326.57 | 287,101.01 | \$421.98 | 4,225.56 |  | 2,203.50 | 429.71 | 729.72 | 13,477.56 |
| \$37,761.61 | 329,088.18 | 324,303.42 | \$559.20 | 4,784.76 |  | 2,489.03 | 485.41 | 824.27 | 17,276.26 |
| \$229.76 | 329,317.94 | 324,082.27 | \$450.91 | 5,235.67 |  | 2,487.33 | 485.74 | 823.71 | 21,073.05 |
| \$3,105.57 | 332,423.51 | 326,721.94 | \$465.90 | 5,701.57 |  | 2,507.59 | 490.32 | 830.42 | 24,901.38 |
| \$199.77 | 332,623.28 | 326,470.25 | \$451.46 | 6,153.03 |  | 2,505.66 | 490.62 | 829.78 | 28,727.44 |
| \$280.47 | 332,903.75 | 326,297.32 | \$453.40 | 6,606.43 |  | 2,504.33 | 491.03 | 829.34 | 32,552.14 |
| \$3.74 | 332,907.49 | 325,848.74 | \$452.32 | 7,058.75 |  | 2,500.89 | 491.04 | 828.20 | 36,372.27 |
| \$6.58 | 332,914.07 | 325,403.22 | \$452.10 | 7,510.85 |  | 2,497.47 | 491.05 | 827.07 | 40,187.85 |
| \$0.00 | 332,914.07 | 324,957.35 | \$445.87 | 7,956.72 | \$5,419.34 | 2,494.05 | 491.05 | 825.93 | 43,998.88 |
| \$0.00 | 332,914.07 | 324,480.14 | \$477.21 | 8,433.93 |  | 2,490.39 | 491.05 | 824.72 | 3,806.15 |
| \$0.00 | 332,914.07 | 324,000.19 | \$479.95 | 8,913.88 |  | 2,486.70 | 491.05 | 823.50 | 7,607.40 |
| \$0.00 | 332,914.07 | 323,543.62 | \$456.57 | 9,370.45 |  | 2,483.20 | 491.05 | 822.34 | 11,403.99 |
| \$0.00 | 332,914.07 | 323,064.97 | \$478.65 | 9,849.10 |  | 2,479.52 | 491.05 | 821.12 | 15,195.68 |
| \$0.00 | 332,914.07 | 322,587.16 | \$477.81 | 10,326.91 |  | 2,475.86 | 491.05 | 819.91 | 18,982.50 |
| \$0.00 | 332,914.07 | 322,111.68 | \$475.48 | 10,802.39 |  | 2,472.21 | 491.05 | 818.70 | 22,764.45 |
| \$0.00 | 332,914.07 | 321,651.34 | \$460.34 | 11,262.73 |  | 2,468.67 | 491.05 | 817.53 | 26,541.71 |
| \$0.00 | 332,914.07 | 321,174.03 | \$477.31 | 11,740.04 |  | 2,465.01 | 491.05 | 816.32 | 30,314.08 |
| \$0.00 | 332,914.07 | 320,699.18 | \$474.85 | 12,214.89 |  | 2,461.37 | 491.05 | 815.11 | 34,081.61 |
| \$0.00 | 332,914.07 | 320,221.58 | \$477.60 | 12,692.49 |  | 2,457.70 | 491.05 | 813.90 | 37,844.25 |
| \$0.00 | 332,914.07 | 319,747.26 | \$474.32 | 13,166.81 |  | 2,328.83 | 482.73 | 1,342.94 | 41,998.74 |
| \$0.00 | 332,914.07 | 320,366.22 | (\$618.96) | 12,547.85 | \$4,591.13 | 2,333.33 | 482.73 | 1,345.54 | 46,160.34 |
| \$0.00 | 332,914.07 | 319,927.30 | \$438.92 | 12,986.77 |  | 2,330.14 | 482.73 | 1,343.69 | 4,156.56 |
| \$0.00 | 332,914.07 | 319,484.95 | \$442.35 | 13,429.12 |  | 2,326.92 | 482.73 | 1,341.84 | 8,308.03 |
| \$0.00 | 332,914.07 | 319,036.28 | \$448.67 | 13,877.79 |  | 2,323.65 | 482.73 | 1,339.95 | 12,454.36 |
| \$0.00 | 332,914.07 | 318,598.48 | \$437.80 | 14,315.59 |  | 2,320.46 | 482.73 | 1,338.11 | 16,595.66 |
| \$0.00 | 332,914.07 | 318,161.52 | \$436.96 | 14,752.55 |  | 2,317.28 | 482.73 | 1,336.28 | 20,731.94 |
| \$0.00 | 332,914.07 | 317,723.10 | \$438.42 | 15,190.97 |  | 2,314.08 | 482.73 | 1,334.44 | 24,863.18 |
| \$0.00 | 332,914.07 | 317,277.48 | \$445.62 | 15,636.59 |  | 2,310.84 | 482.73 | 1,332.57 | 28,989.31 |
| \$0.00 | 332,914.07 | 316,848.04 | \$429.44 | 16,066.03 |  | 2,307.71 | 482.73 | 1,330.76 | 33,110.51 |
| \$0.00 | 332,914.07 | 316,406.40 | \$441.64 | 16,507.67 |  | 2,304.49 | 482.73 | 1,328.91 | 37,226.64 |
| \$0.00 | 332,914.07 | 315,964.03 | \$442.37 | 16,950.04 |  | 2,301.27 | 482.73 | 1,327.05 | 41,337.68 |
| \$0.00 | 332,914.07 | 315,527.71 | \$436.32 | 17,386.36 |  | 2,298.09 | 482.73 | 1,325.22 | 45,443.72 |
| - | - | - | - | - | \$4,838.51 | - | - | - | - |
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Workpaper 1
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gridSMART Phase 2 NBV
Depreciation Tables

| $\begin{gathered} \text { Station Equipment - Account } 362 \\ 55 \text { Year Life } \end{gathered}$ |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gross <br> Capital Expenditure (booked cost) | Cumulative Gross Plant | Net Plant | $\begin{aligned} & \text { Depreciation } \\ & \text { Reserve } \\ & \hline \end{aligned}$ | Accumulated Depreciation | Annual Depreciation Expense | Return Carrying Charge Rate | Depreciation Carrying Charge Rate | Property Carrying Charge | Annual Carrying Charge |
| \$0.00 | - |  | \$0.00 |  |  |  |  |  |  |
| \$0.00 | - | - | \$0.00 |  |  |  |  |  |  |
| \$0.00 | - | - | \$0.00 |  |  |  |  |  |  |
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| \$0.00 | - | - | \$0.00 | - |  |  |  |  |  |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - |  |
| \$0.00 | - | - | \$0.00 | - |  | - | - |  |  |
| \$503,049.09 | 503,049.09 | 499,959.66 | \$3,089.43 | 3,089.43 |  | 3,837.19 | 1,035.44 | 1,270.73 | 6,143.36 |
| \$126,232.08 | 629,281.17 | 624,930.92 | \$1,260.82 | 4,350.25 |  | 4,796.34 | 1,295.27 | 1,588.37 | 13,823.35 |
| \$589,364.93 | 1,218,646.10 | 1,209,279.93 | \$5,015.92 | 9,366.17 |  | 9,281.22 | 2,508.38 | 3,073.59 | 28,686.54 |
| \$474,964.87 | 1,693,610.97 | 1,679,284.07 | \$4,960.73 | 14,326.90 |  | 12,888.51 | 3,486.02 | 4,268.18 | 49,329.24 |
| \$3,044,257.65 | 4,737,868.62 | 4,694,124.28 | \$29,417.44 | 43,744.34 | \$43,744.34 | 36,027.40 | 9,752.11 | 11,930.90 | 107,039.65 |
| (\$32,095.68) | 4,705,772.94 | 4,655,060.41 | \$6,968.19 | 50,712.53 |  | 35,727.59 | 9,686.05 | 11,831.61 | 57,245.25 |
| (\$137,870.58) | 4,567,902.36 | 4,511,612.00 | \$5,577.83 | 56,290.36 |  | 34,626.62 | 9,402.27 | 11,467.01 | 112,741.15 |
| \$1,340,550.96 | 5,908,453.32 | 5,840,500.21 | \$11,662.75 | 67,953.11 |  | 44,825.84 | 12,161.57 | 14,844.60 | 184,573.16 |
| \$661,756.13 | 6,570,209.45 | 6,491,532.05 | \$10,724.29 | 78,677.40 |  | 49,822.51 | 13,523.68 | 16,499.31 | 264,418.66 |
| \$339,422.36 | 6,909,631.81 | 6,820,677.72 | \$10,276.69 | 88,954.09 |  | 52,348.70 | 14,222.33 | 17,335.89 | 348,325.58 |
| \$993,041.12 | 7,902,672.93 | 7,799,937.02 | \$13,781.82 | 102,735.91 |  | 59,864.52 | 16,266.34 | 19,824.84 | 444,281.27 |
| \$455,932.64 | 8,358,605.57 | 8,244,783.41 | \$11,086.25 | 113,822.16 |  | $63,278.71$ | 17,204.80 | 20,955.49 | 545,720.27 |
| (\$80,168.84) | 8,278,436.73 | 8,156,932.11 | \$7,682.46 | 121,504.62 |  | 62,604.45 | 17,039.78 | 20,732.20 | 646,096.71 |
| \$879,459.88 | 9,157,896.61 | 9,020,256.41 | \$16,135.58 | 137,640.20 |  | 69,230.47 | 18,850.00 | 22,926.49 | 757,103.67 |
| \$1,377,371.96 | 10,535,268.57 | 10,376,353.15 | \$21,275.22 | 158,915.42 |  | 79,638.51 | 21,685.09 | 26,373.23 | 884,800.50 |
| \$7,061,545.57 | 17,596,814.14 | 17,366,542.32 | \$71,356.40 | 230,271.82 |  | 133,288.21 | 36,220.11 | 44,139.96 | 1,098,448.78 |
| \$3,282,282.06 | 20,879,096.20 | 20,601,402.55 | \$47,421.83 | 277,693.65 | \$233,949.31 | 158,115.76 | 42,976.14 | 52,361.90 | 1,351,902.59 |
| \$1,117,079.79 | 21,996,175.99 | 21,676,152.04 | \$42,330.30 | 320,023.95 |  | 166,364.47 | 45,275.46 | 55,093.55 | 266,733.48 |
| \$754,421.60 | 22,750,597.59 | 22,389,069.64 | \$41,504.00 | 361,527.95 |  | 171,836.11 | 46,828.31 | 56,905.55 | 542,303.46 |
| \$2,687,946.49 | 25,438,544.08 | 25,037,712.87 | \$39,303.26 | 400,831.21 |  | 192,164.45 | 52,361.00 | 63,637.52 | 850,466.43 |
| \$617,167.03 | 26,055,711.11 | 25,615,106.10 | \$39,773.80 | 440,605.01 |  | 196,595.94 | 53,631.34 | 65,105.06 | 1,165,798.77 |
| \$2,403,626.92 | 28,459,338.03 | 27,972,616.10 | \$46,116.92 | 486,721.93 |  | 214,689.83 | 58,578.80 | 71,097.07 | 1,510,164.46 |
| \$266,770.38 | 28,726,108.41 | 28,199,142.04 | \$40,244.44 | 526,966.37 |  | 216,428.42 | 59,127.91 | 71,672.82 | 1,857,393.61 |
| \$391,397.92 | 29,117,506.33 | 28,549,245.04 | \$41,294.92 | 568,261.29 |  | 219,115.46 | 59,933.53 | 72,562.66 | 2,209,005.26 |
| \$103,194.70 | 29,220,701.03 | 28,612,485.19 | \$39,954.55 | 608,215.84 |  | 219,600.82 | 60,145.94 | 72,723.40 | 2,561,475.43 |
| \$785,961.25 | 30,006,662.28 | 29,353,609.60 | \$44,836.84 | 653,052.68 |  | 225,288.95 | 61,763.71 | 74,607.09 | 2,923,135.18 |
| \$274,798.91 | 30,281,461.19 | 29,586,218.15 | \$42,190.36 | 695,243.04 |  | 227,074.22 | 62,329.34 | 75,198.30 | 3,287,737.05 |
| \$19,100.47 | 30,300,561.66 | 29,564,915.91 | \$40,402.71 | 735,645.75 |  | 226,910.73 | 62,368.66 | 75,144.16 | 3,652,160.60 |
| \$917,506.17 | 31,218,067.83 | 30,434,601.67 | \$47,820.41 | 783,466.16 | \$505,772.51 | 233,585.57 | 64,257.19 | 77,354.61 | 4,027,357.97 |
| \$1,811,770.03 | 33,029,837.86 | 32,193,084.31 | \$53,287.39 | 836,753.55 |  | 247,081.92 | 67,986.42 | 81,824.09 | 396,892.43 |
| \$1,454,102.43 | 34,483,940.29 | 33,595,140.29 | \$52,046.45 | 888,800.00 |  | 257,842.70 | 70,979.44 | 85,387.65 | 811,102.22 |
| \$165,267.52 | 34,649,207.81 | 33,709,708.90 | \$50,698.91 | 939,498.91 |  | 258,722.02 | 71,319.62 | 85,678.84 | 1,226,822.70 |
| \$19,020.65 | 34,668,228.46 | 33,678,000.09 | \$50,729.46 | 990,228.37 |  | 258,478.65 | 71,358.77 | 85,598.25 | 1,642,258.37 |
| \$4,724.42 | 34,672,952.88 | 33,632,147.83 | \$50,576.68 | 1,040,805.05 |  | 258,126.73 | 71,368.49 | 85,481.71 | 2,057,235.31 |
| (\$39,536.42) | 34,633,416.46 | 33,543,600.07 | \$49,011.34 | 1,089,816.39 |  | 257,447.13 | 71,287.12 | 85,256.65 | 2,471,226.21 |
| \$1,858,062.90 | 36,491,479.36 | 35,341,475.86 | \$60,187.11 | 1,150,003.50 |  | 271,245.83 | 75,111.63 | 89,826.25 | 2,907,409.91 |
| \$362.70 | 36,491,842.06 | 35,289,539.17 | \$52,299.39 | 1,202,302.89 |  | 250,429.10 | 69,636.51 | 82,932.55 | 3,310,408.06 |
| \$68.72 | 36,491,910.78 | 35,238,080.44 | \$51,527.45 | 1,253,830.34 |  | 270,452.27 | 75,112.52 | 89,563.45 | 3,745,536.30 |
| \$189.12 | 36,492,099.90 | 35,187,054.03 | \$51,215.53 | 1,305,045.87 |  | 270,060.64 | 75,112.91 | 89,433.76 | 4,180,143.61 |
| (\$189.04) | 36,491,910.86 | 35,135,058.37 | \$51,806.62 | 1,356,852.49 |  | 255,900.34 | 62,340.35 | 147,567.25 | 4,645,951.55 |
| \$0.07 | 36,491,910.93 | 35,119,289.14 | \$15,769.30 | 1,372,621.79 | \$589,155.63 | 255,785.49 | 62,340.35 | 147,501.01 | 5,111,578.40 |
| \$0.00 | 36,491,910.93 | 35,068,771.73 | \$50,517.41 | 1,423,139.20 |  | 255,417.55 | 62,340.35 | 147,288.84 | 465,046.74 |
| \$0.00 | 36,491,910.93 | 35,016,847.85 | \$51,923.88 | 1,475,063.08 |  | 255,039.38 | 62,340.35 | 147,070.76 | 929,497.23 |
| \$0.00 | 36,491,910.93 | 34,965,372.80 | \$51,475.05 | 1,526,538.13 |  | 254,664.47 | 62,340.35 | 146,854.57 | 1,393,356.61 |
| \$0.00 | 36,491,910.93 | 34,913,323.72 | \$52,049.08 | 1,578,587.21 |  | 254,285.37 | 62,340.35 | 146,635.96 | 1,856,618.29 |
| \$0.00 | 36,491,910.93 | 34,861,830.52 | \$51,493.20 | 1,630,080.41 |  | 253,910.33 | 62,340.35 | 146,419.69 | 2,319,288.66 |
| \$0.00 | 36,491,910.93 | 34,809,766.30 | \$52,064.22 | 1,682,144.63 |  | 253,531.13 | 62,340.35 | 146,201.02 | 2,781,361.15 |
| \$0.00 | 36,491,910.93 | 34,757,766.14 | \$52,000.16 | 1,734,144.79 |  | 253,152.40 | 62,340.35 | 145,982.62 | 3,242,836.52 |
| (\$0.97) | 36,491,909.96 | 34,706,846.14 | \$50,919.03 | 1,785,063.82 |  | 252,781.53 | $62,340.35$ | 145,768.75 | 3,703,727.15 |
| \$0.00 | 36,491,909.96 | 34,655,122.41 | \$51,723.73 | 1,836,787.55 |  | 252,404.81 | 62,340.35 | 145,551.51 | 4,164,023.81 |
| \$0.00 | 36,491,909.96 | 34,603,933.16 | \$51,189.25 | 1,887,976.80 |  | 252,031.98 | 62,340.35 | 145,336.52 | 4,623,732.66 |
| \$0.00 | 36,491,909.96 | 34,552,131.33 | \$51,801.83 | 1,939,778.63 |  | 251,654.69 | 62,340.35 | 145,118.95 | 5,082,846.65 |
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gridSMART Phase 2 NBV Depreciation Tables


Workpaper 1
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Workpaper 1
Page 7 of 18
gridSMART Phase 2 NBV
Depreciation Tables

| Overhead Conductors, Devices - Account 365 32 Year Life |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gross Capital Expenditure (booked cost) | Cumulative Gross Plant | Net Plant | $\begin{gathered} \text { Depreciation } \\ \text { Reserve } \\ \hline \end{gathered}$ | Accumulated Depreciation | Annual Depreciation Expense | Return Carrying Charge Rate | Depreciation Carrying Charge Rate | Property Carrying Charge | Annual Carrying Charge |
| \$0.00 | - | - | \$0.00 |  |  |  |  |  |  |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
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| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$816.71 | 816.71 | 811.88 | \$4.83 | 4.83 |  | 6.23 | 2.47 | 2.06 | 10.77 |
| \$83.94 | 900.65 | 893.70 | \$2.12 | 6.95 |  | 6.86 | 2.72 | 2.27 | 22.62 |
| \$2.42 | 903.07 | 894.97 | \$1.15 | 8.10 |  | 6.87 | 2.73 | 2.27 | 34.50 |
| \$96,671.09 | 97,574.16 | 96,572.90 | \$993.16 | 1,001.26 |  | 741.20 | 295.16 | 245.46 | 1,316.31 |
| \$18,445.55 | 116,019.71 | 114,680.65 | \$337.80 | 1,339.06 |  | 880.17 | 350.96 | 291.48 | 2,838.92 |
| \$16,619.47 | 132,639.18 | 130,938.78 | \$361.34 | 1,700.40 |  | 1,004.96 | 401.23 | 332.80 | 4,577.92 |
| \$153,030.51 | 285,669.69 | 281,641.94 | \$2,327.35 | 4,027.75 |  | 2,161.60 | 864.15 | 715.84 | 8,319.51 |
| \$61,013.35 | 346,683.04 | 341,351.01 | \$1,304.28 | 5,332.03 | \$5,332.03 | 2,619.87 | 1,048.72 | 867.60 | 12,855.69 |
| \$34,573.53 | 381,256.57 | 374,528.69 | \$1,395.85 | 6,727.88 |  | 2,874.51 | 1,153.30 | 951.93 | 4,979.74 |
| \$10,651.76 | 391,908.33 | 384,212.31 | \$968.14 | 7,696.02 |  | 2,948.83 | 1,185.52 | 976.54 | 10,090.63 |
| \$428,103.30 | 820,011.63 | 809,076.07 | \$3,239.54 | 10,935.56 |  | 6,209.66 | 2,480.54 | 2,056.40 | 20,837.22 |
| \$394,751.41 | 1,214,763.04 | 1,199,440.17 | \$4,387.31 | 15,322.87 |  | 9,205.70 | 3,674.66 | 3,048.58 | 36,766.16 |
| \$118,100.93 | 1,332,863.97 | 1,314,668.50 | \$2,872.60 | 18,195.47 |  | 10,090.08 | 4,031.91 | 3,341.45 | 54,229.61 |
| \$55,464.61 | 1,388,328.58 | 1,367,443.36 | \$2,689.75 | 20,885.22 |  | 10,495.13 | 4,199.69 | 3,475.59 | 72,400.01 |
| \$41,122.38 | 1,429,450.96 | 1,405,576.47 | \$2,989.27 | 23,874.49 |  | 10,787.80 | 4,324.09 | 3,572.51 | 91,084.41 |
| \$36,017.69 | 1,465,468.65 | 1,438,453.93 | \$3,140.23 | 27,014.72 |  | 11,040.13 | 4,433.04 | 3,656.07 | 110,213.65 |
| (\$70,620.74) | 1,394,847.91 | 1,368,639.01 | (\$805.82) | 26,208.90 |  | 10,504.30 | 4,219.41 | 3,478.62 | 128,416.00 |
| \$20,625.14 | 1,415,473.05 | 1,386,794.68 | \$2,469.47 | 28,678.37 |  | 10,643.65 | 4,281.81 | 3,524.77 | 146,866.22 |
| \$46,533.98 | 1,462,007.03 | 1,430,443.23 | \$2,885.43 | 31,563.80 |  | 10,978.65 | 4,422.57 | 3,635.71 | 165,903.16 |
| \$363,383.51 | 1,825,390.54 | 1,785,773.94 | \$8,052.80 | 39,616.60 | \$34,284.57 | 13,705.81 | 5,521.81 | 4,538.84 | 189,669.62 |
| \$156,727.87 | 1,982,118.41 | 1,936,931.91 | \$5,569.90 | 45,186.50 |  | 14,865.95 | 5,995.91 | 4,923.04 | 25,784.90 |
| \$125,085.32 | 2,107,203.73 | 2,057,221.17 | \$4,796.06 | 49,982.56 |  | 15,789.17 | 6,374.29 | 5,228.77 | 53,177.13 |
| \$322,326.94 | 2,429,530.67 | 2,372,554.08 | \$6,994.03 | 56,976.59 |  | 18,209.35 | 7,349.33 | 6,030.24 | 84,766.05 |
| \$658,501.30 | 3,088,031.97 | 3,022,454.20 | \$8,601.18 | 65,577.77 |  | 23,197.34 | 9,341.30 | 7,682.07 | 124,986.76 |
| \$276,723.09 | 3,364,755.06 | 3,291,564.41 | \$7,612.88 | $73,190.65$ |  | 25,262.76 | 10,178.38 | 8,366.06 | 168,793.96 |
| \$400,706.10 | 3,765,461.16 | 3,682,391.23 | \$9,879.28 | 83,069.93 |  | 28,262.35 | 11,390.52 | 9,359.41 | 217,806.24 |
| \$251,895.02 | 4,017,356.18 | 3,923,477.03 | \$10,809.22 | 93,879.15 |  | 30,112.69 | 12,152.50 | 9,972.17 | 270,043.60 |
| \$1,072,989.88 | 5,090,346.06 | 4,978,101.95 | \$18,364.96 | 112,244.11 |  | 38,206.93 | 15,398.30 | 12,652.68 | 336,301.51 |
| \$1,939,154.23 | 7,029,500.29 | 6,885,292.19 | \$31,963.99 | 144,208.10 |  | 52,844.62 | 21,264.24 | 17,500.12 | 427,910.48 |
| \$1,748,557.37 | 8,778,057.66 | 8,599,100.72 | \$34,748.84 | 178,956.94 |  | 65,998.10 | 26,553.62 | 21,856.05 | 542,318.25 |
| \$2,194,168.27 | 10,972,225.93 | 10,748,770.30 | \$44,498.69 | 223,455.63 |  | 82,496.81 | 33,190.98 | 27,319.79 | 685,325.84 |
| \$4,519,595.99 | 15,491,821.92 | 15,181,853.95 | \$86,512.34 | 309,967.97 | \$270,351.37 | 116,520.73 | 46,862.76 | 38,587.21 | 887,296.54 |
| \$3,466,632.59 | 18,958,454.51 | 18,576,503.54 | \$71,983.00 | 381,950.97 |  | 142,574.66 | 57,349.32 | 47,215.28 | 247,139.27 |
| \$1,887,343.91 | 20,845,798.42 | 20,391,419.26 | \$72,428.19 | 454,379.16 |  | 156,504.14 | 63,058.54 | 51,828.19 | 518,530.14 |
| \$3,663,635.19 | 24,509,433.61 | 23,987,160.85 | \$67,893.60 | 522,272.76 |  | 184,101.46 | 74,141.04 | 60,967.37 | 837,740.01 |
| \$2,514,538.81 | 27,023,972.42 | 26,435,202.19 | \$66,497.47 | 588,770.23 |  | 202,890.18 | 81,747.52 | 67,189.47 | 1,189,567.17 |
| \$3,627,163.11 | 30,651,135.53 | 29,984,068.44 | \$78,296.86 | 667,067.09 |  | 230,127.73 | 92,719.68 | 76,209.51 | 1,588,624.09 |
| \$2,632,098.08 | 33,283,233.61 | 32,534,406.60 | \$81,759.92 | 748,827.01 |  | 249,701.57 | 100,681.78 | 82,691.62 | 2,021,699.06 |
| \$4,783,135.61 | 38,066,369.22 | 37,211,990.01 | \$105,552.20 | $854,379.21$ |  | 285,602.02 | 115,150.77 | 94,580.47 | 2,517,032.32 |
| \$2,622,773.99 | 40,689,143.21 | 39,730,824.51 | \$103,939.49 | 958,318.70 |  | 304,934.08 | 123,084.66 | 100,982.51 | 3,046,033.57 |
| \$5,179,698.03 | 45,868,841.24 | 44,764,281.88 | \$146,240.66 | 1,104,559.36 |  | 343,565.86 | 138,753.24 | 113,775.88 | 3,642,128.56 |
| \$3,153,697.60 | 49,022,538.84 | 47,794,587.96 | \$123,391.52 | 1,227,950.88 |  | 366,823.46 | 148,293.18 | 121,477.91 | 4,278,723.12 |
| \$2,559,597.34 | 51,582,136.18 | 50,239,379.16 | \$114,806.14 | 1,342,757.02 |  | 365,910.14 | 158,615.07 | 211,005.39 | 5,014,253.72 |
| \$4,587,100.34 | 56,169,236.52 | 54,635,455.52 | \$191,023.98 | 1,533,781.00 | \$1,223,813.03 | 397,928.23 | 172,720.40 | 229,468.91 | 5,814,371.27 |
| \$2,844,977.37 | 59,014,213.89 | 57,335,143.54 | \$145,289.35 | 1,679,070.35 |  | 417,590.96 | 181,468.71 | 240,807.60 | 839,867.27 |
| \$2,250,115.85 | 61,264,329.74 | 59,449,808.29 | \$135,451.10 | 1,814,521.45 |  | 432,992.77 | 188,387.81 | 249,689.19 | 1,710,937.05 |
| \$1,784,461.19 | 63,048,790.93 | 61,073,025.10 | \$161,244.38 | 1,975,765.83 |  | 444,815.20 | 193,875.03 | 256,506.71 | 2,606,133.99 |
| \$1,685,285.28 | 64,734,076.21 | 62,619,476.66 | \$138,833.72 | 2,114,599.55 |  | 456,078.52 | 199,057.28 | 263,001.80 | 3,524,271.60 |
| \$763,791.17 | 65,497,867.38 | 63,251,875.40 | \$131,392.43 | 2,245,991.98 |  | 460,684.49 | 201,405.94 | 265,657.88 | 4,452,019.91 |
| \$1,335,811.09 | 66,833,678.47 | 64,442,313.60 | \$145,372.89 | 2,391,364.87 |  | 469,354.85 | 205,513.56 | 270,657.72 | 5,397,546.04 |
| \$2,322,582.15 | 69,156,260.62 | 66,606,912.71 | \$157,983.04 | 2,549,347.91 |  | 485,120.35 | 212,655.50 | 279,749.03 | 6,375,070.92 |
| \$3,233,187.16 | 72,389,447.78 | 69,674,136.55 | \$165,963.32 | 2,715,311.23 |  | 507,459.96 | 222,597.55 | 292,631.37 | 7,397,759.81 |
| \$2,439,399.43 | 74,828,847.21 | 71,946,822.67 | \$166,713.31 | 2,882,024.54 |  | 524,012.69 | 230,098.71 | 302,176.66 | 8,454,047.86 |
| \$959,015.33 | 75,787,862.54 | 72,752,190.56 | \$153,647.44 | 3,035,671.98 |  | 529,878.45 | 233,047.68 | 305,559.20 | 9,522,533.19 |
| \$1,336,979.68 | 77,124,842.22 | 73,922,155.02 | \$167,015.22 | 3,202,687.20 |  | 538,399.70 | 237,158.89 | 310,473.05 | 10,608,564.83 |
| - | - | - | - | - | \$1,668,906.20 | - | - | - | - |
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| Depreciation Tables |  | Installs Customer Premises AMI - Account 37100 15 Year Life |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Gross Capital Expenditure (booked cost) | Cumulative Gross Plant | Net Plant | $\begin{gathered} \text { Depreciation } \\ \text { Reserve } \\ \hline \end{gathered}$ | Accumulated | $\begin{gathered} \text { Annual } \\ \text { Depreciation } \\ \text { Expense } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Return } \\ \text { Carrying } \\ \text { Charge Rate } \end{gathered}$ | Depreciation Carrying Charge Rate | Property Carrying Charge | Annual <br> Carrying Charge |
| 2017 | January <br> February March |  |  |  |  |  |  |  |  |  |  |
|  | April | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | May | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | June | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | July | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | August | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | September | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | October | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | November | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | December | \$0.00 | - | - | \$0.00 | - | \$0.00 | - | - | - | - |
| 2018 | January | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | February | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | March | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | April | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | May | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | June | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | July | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | August | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | September | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | October | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | November | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | December | \$0.00 | - | - | \$0.00 | - | \$0.00 | - | - | - | - |
| 2019 | January | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | February | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | March | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | April | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | May | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | June | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | July | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | August | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | September | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | October | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | November | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | December | \$0.00 | - | - | \$0.00 | - | \$0.00 | - | - | - | - |
| 2020 | January | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | February | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | March | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | April | \$0.00 | - | - | \$0.00 | - |  | - | \% | - | - |
|  | May | \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
|  | June | \$357.64 | 357.64 | 350.79 | \$6.85 | 6.85 |  | 2.69 | 2.72 | 0.89 | 6.31 |
|  | July | \$25.23 | 382.87 | 374.26 | \$1.76 | 8.61 |  | 2.87 | 2.92 | 0.95 | 13.05 |
|  | August | \$7.20 | 390.07 | 379.99 | \$1.47 | 10.08 |  | 2.92 | 2.97 | 0.97 | 19.90 |
|  | September | \$0.30 | 390.37 | 378.96 | \$1.33 | 11.41 |  | 2.91 | 2.97 | 0.96 | 26.75 |
|  | October | \$0.00 | 390.37 | 377.63 | \$1.33 | 12.74 |  | 2.90 | 2.97 | 0.96 | 33.58 |
|  | November | \$80.51 | 470.88 | 453.88 | \$4.26 | 17.00 |  | 3.48 | 3.59 | 1.15 | 41.80 |
|  | December | \$14.47 | 485.35 | 466.14 | \$2.21 | 19.21 | \$19.21 | 3.58 | 3.70 | 1.18 | 69.47 |
| 2021 | January | \$0.00 | 485.35 | 463.32 | \$2.82 | 22.03 |  | 3.56 | 3.70 | 1.18 | 8.43 |
|  | February | \$17.85 | 503.20 | 477.38 | \$3.79 | 25.82 |  | 3.66 | 3.83 | 1.21 | 17.14 |
|  | March | \$3.37 | 506.57 | 477.56 | \$3.19 | 29.01 |  | 3.67 | 3.86 | 1.21 | 25.88 |
|  | April | \$31.35 | 537.92 | 505.44 | \$3.47 | 32.48 |  | 3.88 | 4.10 | 1.28 | 35.14 |
|  | May | \$36.27 | 574.19 | 537.90 | \$3.81 | 36.29 |  | 4.13 | 4.37 | 1.37 | 45.01 |
|  | June | \$0.85 | 575.04 | 535.41 | \$3.34 | 39.63 |  | 4.11 | 4.38 | 1.36 | 54.86 |
|  | July | \$2.19 | 577.23 | 534.13 | \$3.47 | 43.10 |  | 4.10 | 4.40 | 1.36 | 64.71 |
|  | August | \$6.57 | 583.80 | 537.07 | \$3.63 | 46.73 |  | 4.12 | 4.45 | 1.37 | 74.65 |
|  | September | \$130.55 | 714.35 | 660.36 | \$7.26 | 53.99 |  | 5.07 | 5.44 | 1.68 | 86.83 |
|  | October | \$35.27 | 749.62 | 690.50 | \$5.13 | 59.12 |  | 5.30 | 5.71 | 1.76 | 99.60 |
|  | November | (\$483.23) | 266.39 | 256.81 | (\$49.54) | 9.58 |  | 1.87 | 1.89 | 1.08 | 104.44 |
|  | December | \$50.83 | 317.22 | 305.46 | \$2.18 | 11.76 | (\$7.45) | 2.22 | 2.25 | 1.28 | 102.75 |
| 2022 | January | \$222.59 | 539.81 | 516.62 | \$11.43 | 23.19 |  | 3.76 | 3.84 | 2.17 | \$9.77 |
|  | February | \$365.34 | 905.15 | 837.37 | \$44.59 | 67.78 |  | 6.10 | 6.43 | 3.52 | \$25.82 |
|  | March | \$825.28 | 1,730.43 | 1,615.59 | \$47.06 | 114.84 |  | 11.77 | 12.30 | 6.79 | \$56.67 |
|  | April | (\$720.27) | 1,010.16 | 929.93 | (\$34.61) | 80.23 |  | 6.77 | 7.18 | 3.91 | \$74.53 |
|  | May | \$374.89 | 1,385.05 | 1,276.16 | \$28.66 | 108.89 |  | 9.29 | 9.85 | 5.36 | \$99.03 |
|  | June | \$505.16 | 1,890.21 | 1,739.93 | \$41.39 | 150.28 |  | 12.67 | 13.44 | 7.31 | \$132.45 |
|  | July | (\$460.25) | 1,429.96 | 1,305.53 | (\$25.85) | 124.43 |  | 9.51 | 10.16 | 5.48 | \$157.60 |
|  | August | \$4.42 | 1,434.38 | 1,302.24 | \$7.71 | 132.14 |  | 9.48 | 10.20 | 5.47 | \$182.75 |
|  | September | (\$1,219.61) | 214.77 | 185.23 | (\$102.60) | 29.54 |  | 1.35 | 1.53 | 0.78 | \$186.41 |
|  | October | \$1,886.30 | 2,101.07 | 1,894.26 | \$177.27 | 206.81 |  | 13.80 | 14.94 | 7.96 | \$223.10 |
|  | November | (\$335.61) | 1,765.46 | 1,599.98 | (\$41.33) | 165.48 |  | 11.65 | 12.55 | 6.72 | \$254.02 |
|  | December | - | - | . | . | - | \$153.72 | . |  |  |  |
| 2023 | January | - | - | - | - | - |  | - | - | - |  |
|  | February | $:$ | - | - | - | - |  | - | - | - |  |
|  | March | - | - | - | - | - |  | - | - | - |  |
|  | April | - | - | - | - | - |  | - | - | - |  |
|  | May | - | - | - | - | - |  | - | - | - |  |
|  | June July | - | - | - | - | - |  | $\div$ | - | - |  |
|  | August | - | - | - | - | - |  | - | - | - |  |
|  | September | - | - | - | - | - |  | - | - | - |  |
|  | October | - | - | - | - | - |  | - | - | - |  |
|  | November | - | - | - | - | - |  | - | - | - |  |
| 2024 | December | - | - | - | - | - | - | - | - | - |  |
|  | January February | - | - | - | - | - |  | - | - | - |  |
|  | March | - | - | - | - | - |  | - | - | - |  |
|  | April | - | - | - | - | - |  | - | - | - |  |
|  | May | - | - | - | - | - |  | - | - | - |  |
|  | June | - | - | - | - | - |  | - | - | - |  |
|  | July | - | - | - | - | - |  | - | - | - |  |
|  | August | - | - | - | - | - |  | - | - | - |  |
|  | September | - | - | - | - | - |  | - | - | - |  |
|  | October | - | - | - | - | - |  | - | - | - |  |
|  | November | - | - | - | - | - |  | - | - | - |  |
|  | December | - | - | - | - | - | - | - | - | - |  |

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gridSMART Phase 2 NBV
Depreciation Tables

| Office Furniture \& Equip 391 30 Year Life |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gross Capital Expenditure (booked cost) | Cumulative Gross Plant | Net Plant | $\begin{aligned} & \text { Depreciation } \\ & \text { Reserve } \\ & \hline \end{aligned}$ | Accumulated Depreciation | Annual Depreciation Expense | Return Carrying Charge Rate | Depreciation Carrying Charge Rate | Property Carrying Charge | Annual Carrying Charge |
| \$0.00 | - | - | \$0.00 |  |  |  |  |  | - |
| \$0.00 | - | - | \$0.00 |  |  |  |  |  | - |
| \$0.00 | - | - | \$0.00 |  |  |  |  |  | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - |  | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
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| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - | \$0.00 | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - |  | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$0.00 | - | - | \$0.00 | - |  | - | - | - | - |
| \$112,941.71 | 112,941.71 | 112,941.71 | \$0.00 | - |  | 866.83 | 313.41 | 287.06 | 1,467.30 |
| \$0.00 | 112,941.71 | 112,941.71 | \$0.00 | - |  | 866.83 | 313.41 | 287.06 | 2,934.60 |
| \$0.00 | 112,941.71 | 112,941.71 | \$0.00 | - |  | 866.83 | 313.41 | 287.06 | 4,401.90 |
| \$29,211.53 | 142,153.24 | 139,890.54 | \$2,262.70 | 2,262.70 |  | 1,073.66 | 394.48 | 355.56 | 6,225.59 |
| \$0.00 | 142,153.24 | 139,677.46 | \$213.08 | 2,475.78 | \$2,475.78 | 1,072.02 | 394.48 | 355.01 | 8,047.11 |
| \$0.00 | 142,153.24 | 139,246.62 | \$430.84 | 2,906.62 |  | 1,068.72 | 394.48 | 353.92 | 1,817.11 |
| \$0.00 | 142,153.24 | 138,811.51 | \$435.11 | 3,341.73 |  | 1,065.38 | 394.48 | 352.81 | 3,629.78 |
| \$0.00 | 142,153.24 | 138,372.52 | \$438.99 | 3,780.72 |  | 1,062.01 | 394.48 | 351.70 | 5,437.96 |
| \$0.00 | 142,153.24 | 137,930.05 | \$442.47 | 4,223.19 |  | 1,058.61 | 394.48 | 350.57 | 7,241.62 |
| \$0.00 | 142,153.24 | 137,486.87 | \$443.18 | 4,666.37 |  | 1,055.21 | 394.48 | 349.45 | 9,040.75 |
| \$0.00 | 142,153.24 | 137,040.98 | \$445.89 | 5,112.26 |  | 1,051.79 | 394.48 | 348.31 | 10,835.33 |
| \$0.00 | 142,153.24 | 136,591.43 | \$449.55 | 5,561.81 |  | 1,048.34 | 394.48 | 347.17 | 12,625.31 |
| \$0.00 | 142,153.24 | 136,140.33 | \$451.10 | 6,012.91 |  | 1,044.88 | 394.48 | 346.02 | 14,410.69 |
| \$0.00 | 142,153.24 | 135,686.28 | \$454.05 | 6,466.96 |  | 1,041.39 | 394.48 | 344.87 | 16,191.43 |
| \$0.00 | 142,153.24 | 135,233.07 | \$453.21 | 6,920.17 |  | 1,037.91 | 394.48 | 343.72 | 17,967.53 |
| \$0.00 | 142,153.24 | 134,784.45 | \$448.62 | 7,368.79 |  | 1,034.47 | 394.48 | 342.58 | 19,739.06 |
| \$0.00 | 142,153.24 | 134,339.07 | \$445.38 | 7,814.17 | \$5,338.39 | 1,031.05 | 394.48 | 341.45 | 21,506.03 |
| \$0.00 | 142,153.24 | 133,878.83 | \$460.24 | 8,274.41 |  | 1,027.52 | 394.48 | 340.28 | 1,762.27 |
| \$0.00 | 142,153.24 | 133,417.97 | \$460.86 | 8,735.27 |  | 1,023.98 | 394.48 | 339.10 | 3,519.83 |
| \$0.00 | 142,153.24 | 132,957. 21 | \$460.76 | 9,196.03 |  | 1,020.45 | 394.48 | 337.93 | 5,272.69 |
| \$0.00 | 142,153.24 | 132,496.24 | \$460.97 | 9,657.00 |  | 1,016.91 | 394.48 | 336.76 | 7,020.83 |
| \$0.00 | 142,153.24 | 132,035.32 | \$460.92 | 10,117.92 |  | 1,013.37 | 394.48 | 335.59 | 8,764.27 |
| \$0.00 | 142,153.24 | 131,574.80 | \$460.52 | 10,578.44 |  | 1,009.84 | 394.48 | 334.42 | 10,503.00 |
| \$0.00 | 142,153.24 | 131,115.06 | \$459.74 | 11,038.18 |  | 1,006.31 | 394.48 | 333.25 | 12,237.03 |
| \$0.00 | 142,153.24 | 130,656.25 | \$458.81 | 11,496.99 |  | 1,002.79 | 394.48 | 332.08 | 13,966.38 |
| \$0.00 | 142,153.24 | 130,198.64 | \$457.61 | 11,954.60 |  | 999.27 | 394.48 | 330.92 | 15,691.05 |
| \$0.00 | 142,153.24 | 129,742.65 | \$455.99 | 12,410.59 |  | 995.77 | 394.48 | 329.76 | 17,411.06 |
| \$0.00 | 142,153.24 | 129,288.77 | \$453.88 | 12,864.47 |  | 992.29 | 394.48 | 328.61 | 19,126.44 |
| \$0.00 | 142,153.24 | 128,846.78 | \$441.99 | 13,306.46 | \$5,492.29 | 988.90 | 394.48 | 327.49 | 20,837.30 |
| \$0.00 | 142,153.24 | 128,398.01 | \$448.77 | 13,755.23 |  | 985.45 | 394.48 | 326.34 | 1,706.27 |
| \$0.00 | 142,153.24 | 127,954.29 | \$443.72 | 14,198.95 |  | 982.05 | 394.48 | 325.22 | 3,408.02 |
| \$0.00 | 142,153.24 | 127,507.54 | \$446.75 | 14,645.70 |  | 978.62 | 394.48 | 324.08 | 5,105.19 |
| \$0.00 | 142,153.24 | 127,067.22 | \$440.32 | 15,086.02 |  | 975.24 | 394.48 | 322.96 | 6,797.87 |
| \$0.00 | 142,153.24 | 126,631.61 | \$435.61 | 15,521.63 |  | 971.90 | 394.48 | 321.86 | 8,486.10 |
| \$0.00 | 142,153.24 | 126,202.48 | \$429.13 | 15,950.76 |  | 968.60 | 394.48 | 320.76 | 10,169.94 |
| \$206.98 | 142,360.22 | 125,978.29 | \$431.17 | 16,381.93 |  | 966.88 | 395.05 | 320.19 | 11,852.07 |
| \$0.00 | 142,360.22 | 125,551.27 | \$427.02 | 16,808.95 |  | 963.61 | 395.05 | 319.11 | 13,529.84 |
| \$0.00 | 142,360.22 | 125,128.29 | \$422.98 | 17,231.93 |  | 960.36 | 395.05 | 318.03 | 15,203.28 |
| \$0.00 | 142,360.22 | 124,709.37 | \$418.92 | 17,650.85 |  | 957.14 | 395.05 | 316.97 | 16,872.44 |
| \$0.00 | 142,360.22 | 124,294.77 | \$414.60 | 18,065.45 |  | 905.28 | 395.05 | 522.04 | 18,694.81 |
| \$0.00 | 142,360.22 | 123,885.48 | \$409.29 | 18,474.74 | \$5,168.28 | 902.30 | 395.05 | 520.32 | 20,512.48 |
| \$0.00 | 142,360.22 | 123,480.94 | \$404.54 | 18,879.28 |  | 899.35 | 395.05 | 518.62 | 1,813.02 |
| \$0.00 | 142,360.22 | 123,081.25 | \$399.69 | 19,278.97 |  | 896.44 | 395.05 | 516.94 | 3,621.46 |
| \$0.00 | 142,360.22 | 122,673.13 | \$408.12 | 19,687.09 |  | 893.47 | 395.05 | 515.23 | 5,425.20 |
| \$0.00 | 142,360.22 | 122,256.95 | \$416.18 | 20,103.27 |  | 890.44 | 395.05 | 513.48 | 7,224.17 |
| \$0.00 | 142,360.22 | 121,843.61 | \$413.34 | 20,516.61 |  | 887.43 | 395.05 | 511.74 | 9,018.39 |
| \$0.00 | 142,360.22 | 121,433.86 | \$409.75 | 20,926.36 |  | 884.44 | 395.05 | 510.02 | 10,807.90 |
| \$0.00 | 142,360.22 | 121,025.68 | \$408.18 | 21,334.54 |  | 881.47 | 395.05 | 508.31 | 12,592.73 |
| \$0.00 | $142,360.22$ | 120,621.20 | \$404.48 | 21,739.02 |  | 878.52 | 395.05 | 506.61 | 14,372.91 |
| \$0.00 | 142,360.22 | 120,219.79 | \$401.41 | 22,140.43 |  | 875.60 | 395.05 | 504.92 | 16,148.49 |
| \$0.00 | 142,360.22 | 119,821.58 | \$398.21 | 22,538.64 |  | 872.70 | 395.05 | 503.25 | 17,919.49 |
| \$0.00 | 142,360.22 | 119,426.93 | \$394.65 | 22,933.29 |  | 869.83 | 395.05 | 501.59 | 19,685.96 |
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Workpaper 1
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gridSMART Phase 2 NBV
Depreciation Tables

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| Communications Equipment 397 35 Year Life |  |  |  |  |  |  |  |  |  |
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| Gross Capital Expenditure (booked cost) | Cumulative Gross Plant | Net Plant | Depreciation Reserve | Accumulated Depreciation | Annual Depreciation Expense | Return Carrying Charge Rate | Depreciation Carrying Charge Rate | Property Carrying Charge | Annual Carrying Charge |
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| \$77,086.89 | 77,086.89 | 76,353.51 | \$733.38 | 733.38 |  | 586.01 | 247.32 | 194.07 | 1,027.40 |
| \$24,944.92 | 102,031.81 | 100,939.93 | \$358.50 | 1,091.88 |  | 774.71 | 327.35 | 256.56 | 2,386.02 |
| \$83,341.45 | 185,373.26 | 183,169.86 | \$1,111.52 | 2,203.40 |  | 1,405.83 | 594.74 | 465.56 | 4,852.15 |
| \$56,283.69 | 241,656.95 | 238,500.76 | \$952.79 | 3,156.19 |  | 1,830.49 | 775.32 | 606.19 | 8,064.14 |
| \$367,291.96 | 608,948.91 | 600,275.20 | \$5,517.52 | 8,673.71 | \$8,673.71 | 4,607.11 | 1,953.71 | 1,525.70 | 16,150.67 |
| \$1,804.00 | 610,752.91 | 600,611.32 | \$1,467.88 | 10,141.59 |  | 4,609.69 | 453.17 | 1,526.55 | 6,589.41 |
| $(\$ 9,326.07)$ | 601,426.84 | 590,238.25 | \$1,047.00 | 11,188.59 |  | 4,530.08 | 1,433.40 | 1,500.19 | 14,053.08 |
| \$69,854.61 | 671,281.45 | 658,193.72 | \$1,899.14 | 13,087.73 |  | 5,051.64 | 1,599.89 | 1,672.91 | 22,377.51 |
| \$124,005.88 | 795,287.33 | 780,011.88 | \$2,187.72 | 15,275.45 |  | 5,986.59 | 1,895.43 | 1,982.53 | 32,242.07 |
| \$19,845.01 | 815,132.34 | 798,044.90 | \$1,811.99 | 17,087.44 |  | 6,124.99 | 1,942.73 | 2,028.36 | 42,338.16 |
| \$3,036.10 | 818,168.44 | 799,387.94 | \$1,693.06 | 18,780.50 |  | 6,135.30 | 1,949.97 | 2,031.78 | 52,455.21 |
| \$72,053.88 | 890,222.32 | 869,341.52 | \$2,100.30 | 20,880.80 |  | 6,672.20 | 2,121.70 | 2,209.58 | 63,458.68 |
| \$129,762.13 | 1,019,984.45 | 996,619.09 | \$2,484.56 | 23,365.36 |  | 7,649.05 | 2,430.96 | 2,533.07 | 76,071.77 |
| \$88,396.73 | 1,108,381.18 | 1,082,211.33 | \$2,804.49 | 26,169.85 |  | 8,305.97 | 2,641.64 | 2,750.62 | 89,770.00 |
| \$147,022.65 | 1,255,403.83 | 1,225,524.34 | \$3,709.64 | 29,879.49 |  | 9,405.90 | 2,992.05 | 3,114.87 | 105,282.82 |
| \$446,281.16 | 1,701,684.99 | 1,663,856.97 | \$7,948.53 | 37,828.02 |  | 12,770.10 | 4,055.68 | 4,228.97 | 126,337.58 |
| \$254,467.55 | 1,956,152.54 | 1,912,059.56 | \$6,264.96 | 44,092.98 | \$35,419.27 | 14,675.06 | 4,662.16 | 4,859.82 | 150,534.61 |
| \$120,549.52 | 2,076,702.06 | 2,025,845.37 | \$6,763.71 | 50,856.69 |  | 15,548.36 | 4,949.47 | 5,149.02 | 25,646.86 |
| \$42,187.01 | 2,118,889.07 | 2,062,580.33 | \$5,452.05 | 56,308.74 |  | 15,830.30 | 5,050.02 | 5,242.39 | 51,769.57 |
| \$186,253.72 | 2,305,142.79 | 2,243,367.15 | \$5,466.90 | 61,775.64 |  | 17,217.84 | 5,493.92 | 5,701.89 | 80,183.23 |
| (\$16,207.56) | 2,288,935.23 | 2,225,010.69 | \$2,148.90 | 63,924.54 |  | 17,076.96 | 5,455.30 | 5,655.24 | 108,370.72 |
| \$358,951.98 | 2,647,887.21 | 2,577,003.64 | \$6,959.03 | 70,883.57 |  | 19,778.50 | 6,310.80 | 6,549.88 | 141,009.91 |
| \$37,919.31 | 2,685,806.52 | 2,609,467.69 | \$5,455.26 | 76,338.83 |  | 20,027.66 | 6,401.17 | 6,632.40 | 174,071.14 |
| \$12,536.75 | 2,698,343.27 | 2,616,668.48 | \$5,335.96 | 81,674.79 |  | 20,082.93 | 6,431.05 | 6,650.70 | 207,235.82 |
| \$41,018.05 | 2,739,361.32 | 2,651,283.47 | \$6,403.06 | 88,077.85 |  | 20,348.60 | 6,528.81 | 6,738.68 | 240,851.91 |
| \$289,332.04 | 3,028,693.36 | 2,932,227.67 | \$8,387.84 | 96,465.69 |  | 22,504.85 | 7,218.39 | 7,452.75 | 278,027.89 |
| \$63,258.97 | 3,091,952.33 | 2,989,545.50 | \$5,941.14 | 102,406.83 |  | 22,944.76 | 7,369.15 | 7,598.43 | 315,940.23 |
| (\$541.16) | 3,091,411.17 | 2,983,414.51 | \$5,589.83 | 107,996.66 |  | 22,897.71 | 7,367.86 | 7,582.85 | 353,788.65 |
| \$70,809.02 | 3,162,220.19 | 3,046,669.12 | \$7,554.41 | 115,551.07 | \$71,458.09 | 23,383.19 | 7,536.62 | 7,743.62 | 392,452.08 |
| \$114,818.13 | 3,277,038.32 | 3,153,027.16 | \$8,460.09 | 124,011.16 |  | 24,199.48 | 7,810.27 | 8,013.94 | 40,023.70 |
| \$116,924.20 | 3,393,962.52 | 3,262,227.33 | \$7,724.03 | 131,735.19 |  | 25,037.59 | 8,088.94 | 8,291.49 | 81,441.74 |
| \$11,306.23 | 3,405,268.75 | 3,265,870.91 | \$7,662.65 | 139,397.84 |  | 25,065.56 | 8,115.89 | 8,300.76 | 122,923.94 |
| \$3,467.99 | 3,408,736.74 | 3,261,843.30 | \$7,495.60 | 146,893.44 |  | 25,034.65 | 8,124.16 | 8,290.52 | 164,373.26 |
| \$601.19 | 3,409,337.93 | 3,255,093.11 | \$7,351.38 | 154,244.82 |  | 24,982.84 | 8,125.59 | 8,273.36 | 205,755.05 |
| \$56.19 | 3,409,394.12 | 3,247,936.01 | \$7,213.29 | 161,458.11 |  | 24,927.91 | 8,125.72 | 8,255.17 | 247,063.85 |
| \$43,153.67 | 3,452,547.79 | 3,283,364.18 | \$7,725.50 | 169,183.61 |  | 25,199.82 | 8,228.57 | 8,345.22 | 288,837.46 |
| \$10.83 | 3,452,558.62 | 3,275,934.67 | \$7,440.34 | 176,623.95 |  | 23,598.06 | 7,748.91 | 7,814.78 | 327,999.21 |
| \$2.05 | 3,422,560.67 | 3,268,605.46 | \$7,331.26 | 183,955.21 |  | 25,086.55 | 8,228.60 | 8,307.71 | 369,622.07 |
| \$0.03 | 3,422,560.70 | 3,261,336.36 | \$7,269.13 | 191,224.34 |  | 25,030.76 | 8,228.60 | 8,289.23 | 411,170.66 |
| \$0.00 | 3,422,560.70 | 3,253,955.42 | \$7,380.94 | 198,605.28 |  | 23,699.64 | 8,631.40 | 13,666.61 | 457,168.31 |
| (\$0.02) | 3,452,560.68 | 3,240,212.54 | \$13,742.86 | 212,348.14 | \$96,797.07 | 23,599.55 | 8,631.40 | 13,608.89 | 503,008.15 |
| \$0.00 | 3,452,560.68 | 3,232,540.45 | \$7,672.09 | 220,020.23 |  | 23,543.67 | 8,631.40 | 13,576.67 | 45,751.74 |
| \$0.00 | 3,422,560.68 | 3,224,923.32 | \$7,617.13 | 227,637.36 |  | 23,488.19 | 8,631.40 | 13,544.68 | 91,416.01 |
| \$0.00 | 3,422,560.68 | 3,217,399.06 | \$7,524.26 | 235,161.62 |  | 23,433.39 | 8,631.40 | 13,513.08 | 136,993.88 |
| \$0.00 | 3,452,560.68 | 3,210,018.60 | \$7,380.46 | 242,542.08 |  | 23,379.64 | 8,631.40 | 13,482.08 | 182,487.00 |
| \$0.00 | 3,422,560.68 | 3,202,924.41 | \$7,094.19 | 249,636.27 |  | 23,327.97 | 8,631.40 | 13,452.28 | 227,898.65 |
| \$0.00 | 3,422,560.68 | 3,195,694.31 | \$7,230.10 | 256,866.37 |  | 23,275.31 | 8,631.40 | 13,421.92 | 273,227.27 |
| \$0.00 | 3,422,560.68 | 3,188,616.42 | \$7,077.89 | 263,944.26 |  | 23,223.76 | 8,631.40 | 13,392.19 | 318,474.62 |
| \$0.00 | 3,422,560.68 | 3,181,557.66 | \$7,058.76 | 271,003.02 |  | 23,172.34 | 8,631.40 | 13,362.54 | 363,640.91 |
| \$0.00 | 3,422,560.68 | 3,174,180.06 | \$7,377.60 | 278,380.62 |  | 23,118.61 | 8,631.40 | 13,331.56 | 408,722.48 |
| \$0.00 | 3,452,560.68 | 3,166,758.64 | \$7,421.42 | 285,802.04 |  | 23,064.56 | 8,631.40 | 13,300.39 | 453,718.82 |
| \$0.00 | 3,452,560.68 | 3,159,380.19 | \$7,378.45 | 293,180.49 |  | 23,010.82 | 8,631.40 | 13,269.40 | 498,630.44 |
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## ATTACHMENT 3

## NON FINANCIAL METRICS

NON FINANCIAL METRICS

| AMI / Meter Metrics |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Physical Meters | Metric Definition | Baseline Detail and Timeline | Baseline Value | 2021 YE Value | 2022 YE Value |
| \# of Certified Meters <br> See Appendix A for monthly detail | The number of AMI meters installed, communicating, and available for billing within the Phase 1 and Phase 2 deployment area. | Start of Phase 2 <br> - \# of Phase 1 Meters as of 2/1/2017 <br> - Snapshot at baseline date | 134,349 | 1,064,641 | 1,070,596 |
| AMI meters installed, but not certified See Appendix B for monthly detail | The number of AMI meters installed, but not communicating and considered Active within the Phase 2 deployment area. | Start of Phase 2 <br> - \# of Phase 1 Meters as of $2 / 1 / 2017$ <br> - Snapshot at baseline date | n/a | 711 | 749 |
| Certified smart meter failures See Appendix C for monthly detail | The number of certified AMI Meters that are removed due to defect. <br> - Includes Phase 1 \& Phase 2 areas | End of Phase 1 <br> - Total \# of failures between $1 / 15 / 2009$ and $12 / 31 / 2013$ <br> - Phase 1 footprint | 403 | 2,303 | 1,920 |
| Meters salvaged (\#) <br> See Appendix D for monthly detail | The number of meters removed from Phase 2 premises and sent to salvage. | End of Phase 1 <br> - Total \# of meters that were removed from Phase 1 premises | 48,663 | 0 | 0 |
| Meters salvaged (\$) <br> See Appendix D for monthly detail | The dollar value of meters removed from Phase 2 premises and sent to salvage. | End of Phase 1 <br> - Total \$ of meters that were removed from Phase 1 premises | \$48,176 | \$0 | \$0 |
| Meters transferred (\#) ${ }^{1}$ <br> See Appendix E for monthly detail | The number of meters removed from Phase 2 Premises and transferred between AEP operating companies outside of Ohio. | End of Phase 1 <br> - Total \# of meters that were removed from Phase 1 premises between 12/1/2009 and 12/31/2013 and transferred to AEP operating companies outside of Ohio | 9,522 | 365 | 1,234 |
| Meters transferred (\$) ${ }^{1}$ <br> See Appendix E for monthly detail | The dollar value of meters removed from Phase 2 Premises and transferred between AEP operating companies outside of Ohio. | End of Phase 1 <br> - Total $\$$ of meters that were removed from Phase 1 premises between 12/1/2009 and 12/31/2013 and transferred to AEP operating companies outside of Ohio | \$260,177 | \$32,421 | \$63,816 |
| Meter Reading | Metric Definition | Baseline Detail and Timeline | Baseline Value | 2021 YE Value | 2022 YE Value |
| Manual Meter Reads See Appendix F for monthly detail | Within the Phase 2 deployment area, the number of meter reads conducted by an individual onsite for monthly billing. | Start of Phase 2 <br> - 12 months ending 2/1/2017 <br> - Total of monthly data <br> - Within Phase 2 Footprint | 7,913,659 | 8,138 | 2,076 |
| Successful ("actual" for the purpose of billing) AMI meter reads <br> See Appendix $G$ for monthly detail | Within the Phase 2 deployment area, the total of "Actual" reads recorded from AMI meters. | Start with actuals as of first report date | n/a | 11,378,455 | 11,461,200 |
| Successful ("actual" for the purpose of billing) AMR meter reads <br> See Appendix H for monthly detail | Within the Phase 2 deployment area, the total of "Actual" reads recorded from AMR meters. | Start with actuals as of first report date | n/a | 4,072 | 1,394 |
| Successful Cellular Meter Reads See Appendix I for monthly detail | Within the Phase 2 deployment area, the total of "Actual" reads recorded from Cellular meters. | Start with actuals as of first report date | n/a | 438 | 168 |
| Meter readers employed by AEP Ohio, expressed in FTEs <br> See Appendix J for monthly detail | Number of meter readers (expressed in FTE) employed by AEP Ohio each month | End of Phase 1 <br> - \# of AEP Ohio meter readers as of $12 / 31 / 2013$ <br> - Snapshot at baseline date | 101 | 0 | 0 |
| Meter readers employed by external contractor, expressed in FTEs See Appendix J for monthly detail | Number of meter readers (expressed in FTE) employed by contractor each month | End of Phase 1 <br> - \# of contracted meter readers as of 12/31/2013 <br> - Snapshot at baseline date | 47 | 0 | 0 |
| Billing Related | Metric Definition | Baseline Detail and Timeline | Baseline Value | 2021 YE Value | 2022 YE Value |
| Residential bills issued See Appendix K for monthly detail | Number of residential bills issued each month, system-wide | Start of Phase 2 <br> - 12 months ending $2 / 1 / 2017$ <br> - Total of monthly data | 15,669,629 | 16,056,011 | 16,126,086 |
| Residential bills based upon estimated read See Appendix for K monthly detail | Number of estimated residential bills issued each month, system-wide | Start of Phase 2 <br> - 12 months ending $2 / 1 / 2017$ <br> - Total of monthly data | 1,204,165 | 53,339 | 58,420 |
| Customers eligible for disconnect due to non-pay (System) <br> See Appendix L for monthly detail | Number of customers eligible for disconnection each month, system-wide | Start with actuals as of first report date | n/a | 489,469 | 402,762 |
| Customers eligible for disconnect due to non-pay (Phase 2) <br> See Appendix L for monthly detail | Number of customers eligible for disconnection each month, Phase 2 deployment area only | Start with actuals as of first report date | n/a | 304,122 | 251,747 |
| Non-Pay Disconnects (System) See Appendix L for monthly detail | Number of customers disconnected due to non-pay each month, system-wide | Start with actuals as of first report date | n/a | 166,136 | 108,151 |
| Non-Pay Disconnects (Phase 2) See Appendix L for monthly detail | Number of customers disconnected due to non-pay each month, Phase 2 only | Start with actuals as of first report date | n/a | 125,406 | 82,590 |
| Power theft cases (\#) <br> See Appendix M for monthly detail | Number of power theft cases found each month, system-wide | Start of Phase 2 <br> - Average monthly number as of $2 / 1 / 2017$ <br> - Average taken over 12 month period $(2 / 2016$ to $1 / 2017)$ | 139 cases per month | 956 cases per month | 818 cases per month |
| Power theft cases (\$) <br> See Appendix $N$ for monthly detail | Monetary value of power theft cases found each month, system-wide | Start of Phase 2 <br> - Average monthly number as of $2 / 1 / 2017$ <br> - Average taken over 12 month period (2/2016 to $1 / 2017$ ) | \$222 per case per month <br> $\$ 30,726$ total per month | $\$ 155$ per case per <br> month <br>  <br> $\$ 148,137$ total <br> per month | ```$173 per case per month $141,286 total per month``` |
| Customers Impact Measures | Metric Definition | Baseline Detail and Timeline | Baseline Value | 2021 YE Value | 2022 YE Value |
| Total call center calls See Appendix O for monthly detail | Number of call center calls received each month, system-wide. Total of monthly data. | Start of Phase 2 <br> - 12 months ending $2 / 1 / 2017$ <br> - Total of monthly data | 5,489,826 | 4,102,308 | 4,289,772 |
| Call center calls related to meter reading (IO40 Check Read Orders initiated at call center) <br> See Appendix P for monthly detail | Number of call center calls related to meter reading received each month, system-wide <br> - Metric is being tracked as total of Check Read Orders (IO40s) issued by the call center. | Start with actuals as of first report date | n/a | 1,562 | 529 |
| Call center calls related to billing complaints (IOO4 HI/LO Bill Orders initiated at call center) See Appendix Q for monthly detail | Number of call center calls related to billing complaints received each month, system-wide. <br> - Metric is being tracked as total of High/Low Bill complaint orders (1004s) issued by the call center. | Start with actuals as of first report date | n/a | 1,247 | 1,452 |
| DACR Metrics |  |  |  |  |  |
| **No Phase 2 DACR Circuit Schemes were added in 2017** |  |  |  |  |  |
| DACR Circuit Metrics | Metric Definition | Baseline Detail and Timeline | Baseline Value | 2021 YE Value | 2022 YE Value |
| Circuits equipped with DACR See Appendix R for monthly detail | Number of Phase 2 circuits newly equipped with DACR each month | End of Phase 1 <br> - \# of circuits as of $12 / 31 / 2013$ | 70 | 144 | 252 |
| DACR opportunities See Appendix S for monthly detail | For Phase 2 circuits, number of opportunities for DACR to operate each month | Start with actuals as of first report date | n/a | 78 | 106 |
| DACR successes <br> See Appendix T for monthly detail | For Phase 2 circuits, number opportunities when DACR operated as intended each month | Start with actuals as of first report date | n/a | 70.9 | 101.7 |
| DACR failures <br> See Appendix U for monthly detail | For Phase 2 circuits, number of opportunities when DACR did not operate as intended each month | Start with actuals as of first report date | n/a | 7.1 | 4.3 |

## NON FINANCIAL METRICS

| DACR Operational Efficiency Gains | Metric Definition | Baseline Detail and Timeline | Baseline Value | 2021 YE Value | 2022 YE Value |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Truck rolls related to an outage See Appendix V for monthly detail | For Phase 2 circuits, number of truck rolls related to an outage each month | Start with actuals as of first report date | n/a | 3433 | 6752 |
| Outage-related truck rolls avoided See Appendix W for monthly detail | For Phase 2 circuits, number of avoided truck rolls related to an outage each month | Start with actuals as of first report date | n/a | 6 | 15 |
| DACR Direct Customer Benefits | Metric Definition | Baseline Detail and Timeline | Baseline Value | 2021 YE Value | 2022 YE Value |
| Customer Minutes Saved See Appendix X for monthly detail | For Phase 2 circuits, the total customer minutes interrupted (CMI) avoided monthly due to successful self-healing events. <br> - Number of customers saved by DACR multiplied by an estimated outage duration <br> - The estimated outage duration is an average of historical first step of restoration durations for outages in the impacted area | Start of Phase 2 <br> - 12 months ending $2 / 1 / 2017$ <br> - Total of monthly data <br> - Excluding Ohio major events | 2,602,115 | 1,920,710 | 4,245,280 |
|  |  | Commercial | N/A | 252,193 | 507,543 |
|  |  | Industrial | N/A | 8,074 | 22,762 |
| Allocated Customer Minutes Saved | Customer minutes saved allocated by the customer class | Other | N/A | 534 | 2,302 |
|  |  | Public Authority | N/A | 19,119 | 32,724 |
|  |  | Residential | N/A | 1,640,791 | 3,679,950 |
| Customer interruptions saved from DACR events <br> See Appendix Y for monthly detail | For Phase 2 circuits, the total customer interruptions saved each month due to successful DACR events | Start with actuals as of first report date | n/a | 15,990 | 36,297 |
| VVO Metrics |  |  |  |  |  |
| **No Phase 2 VVO Circuits were added in 2017*or 2018** |  |  |  |  |  |
| VVO Energy Efficiency | Metric Definition | Baseline Detail and Timeline | Baseline Value | 2021 YE Value | 2022 YE Value |
| Average MW saved due to Vvo See Appendix Z for monthly detail | Provided by Utilidata from M\&V data; Phase 2 VVO circuits only <br> - Total MW saved due to VVO per month, system-wide | Start with actuals as of first report date | n/a | 4.7 | 7.0 |
| MWh saved due to VVo See Appendix Z for monthly detail | Provided by Utilidata from M\&V data; Phase 2 VVO circuits only <br> - Total MWh saved due to VVO per month, system-wide | Start with actuals as of first report date | n/a | 23,918 | 35,332 |
| Average system voltage See Appendix AA for monthly detail | For Phase 2 VVO circuits only, the average of the voltage at the substation on the secondary side of regulation. This an average of all 3 phases over the entire month. | Start with actuals as of first report date | n/a | 120 | 120 |
| VVO GHG Impact | Metric Definition | Baseline Detail and Timeline | Baseline Value | 2021 YE Value | 2022 YE Value |
| Reduction in greenhouse gases due to VVo (estimate metric tons) <br> See Appendix AB for monthly detail | For Phase 2 circuits, the estimated reduction in greenhouse gases due to VVO per month <br> - The number of MWh saved due to VVO on Phase 2 circuits, multiplied by $0.88442^{*}$ <br> *Based on 2014 EPA eGRID number for RFC West subregion of $1,949.8 \mathrm{lbs}$ of cO2 per MWh, converted to metric tons per MWh. | Start with actuals as of first report date | n/a | 21,153 | 31,248 |

## Appendix A - Number of Certified Meters

| Phase 1 Footprint | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | 134,012 | 134,090 | 134,183 | 134,232 | 134,267 | 134,318 | 134,342 | 134,365 | 134,375 | 134,391 | 134,415 | 134,449 |
| 2018 | 134,459 | 134,479 | 134,501 | 134,513 | 134,512 | 134,534 | 134,523 | 134,534 | 134,554 | 134,590 | 134,615 | 134,631 |
| 2019 | 134,907 | 134,848 | 134,896 | 134,954 | 135,186 | 135,151 | 135,212 | 135,045 | 135,374 | 135,261 | 135,170 | 135,236 |
| 2020 | 135,370 | 135,087 | 135,115 | 134,979 | 135,159 | 135,335 | 135,654 | 135,635 | 135,289 | 135,158 | 135,194 | 135,229 |
| 2021 | 135,199 | 135,054 | 135,074 | 135,060 | 135,061 | 135,136 | 135,181 | 135,150 | 135,021 | 134,936 | 134,844 | 134,750 |
| 2022 | 134,639 | 134,676 | 134,711 | 134,757 | 134,815 | 134,767 | 134,795 | 134,580 | 134,553 | 134,417 | 134,472 | 134,412 |


| Phase 2 Footprint | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 542 | 4,336 | 6,735 | 9,511 | 16,642 |
| 2018 | 33,357 | 65,510 | 106,753 | 148,870 | 186,393 | 227,388 | 272,129 | 325,190 | 373,746 | 440,703 | 493,084 | 536,674 |
| 2019 | 579,229 | 610,987 | 647,058 | 680,883 | 719,661 | 756,286 | 795,898 | 831,138 | 863,001 | 881,070 | 885,452 | 891,651 |
| 2020 | 897,441 | 901,586 | 904,884 | 907,353 | 909,410 | 912,059 | 913,788 | 915,988 | 917,820 | 919,381 | 920,038 | 921,620 |
| 2021 | 922,632 | 922,954 | 923,915 | 924,825 | 925,535 | 926,297 | 927,111 | 927,722 | 928,236 | 929,187 | 929,512 | 929,891 |
| 2022 | 930,476 | 930,634 | 932,363 | 932,666 | 933,317 | 933,725 | 934,472 | 934,396 | 934,631 | 935,224 | 936,013 | 936,184 |


| Total Certified AMI Meters | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | 134,012 | 134,090 | 134,183 | 134,232 | 134,267 | 134,318 | 134,349 | 134,907 | 138,711 | 141,126 | 143,926 | 151,091 |
| 2018 | 167,816 | 199,989 | 241,254 | 283,383 | 320,905 | 361,922 | 406,652 | 459,724 | 508,300 | 575,293 | 627,699 | 671,305 |
| 2019 | 714,136 | 745,835 | 781,954 | 815,837 | 854,847 | 891,437 | 931,110 | 966,183 | 998,375 | 1,016,331 | 1,020,622 | 1,026,887 |
| 2020 | 1,032,811 | 1,036,673 | 1,039,999 | 1,042,332 | 1,044,569 | 1,047,394 | 1,049,442 | 1,051,623 | 1,053,109 | 1,054,539 | 1,055,232 | 1,056,849 |
| 2021 | 1,057,831 | 1,058,008 | 1,058,989 | 1,059,885 | 1,060,596 | 1,061,433 | 1,062,292 | 1,062,872 | 1,063,257 | 1,064,123 | 1,064,356 | 1,064,641 |
| 2022 | 1,065,115 | 1,065,310 | 1,067,074 | 1,067,423 | 1,068,132 | 1,068,492 | 1,069,267 | 1,068,976 | 1,069,184 | 1,069,641 | 1,070,485 | 1,070,596 |

## Appendix B - AMI Meters Installed but Not Certified

| Phase 1 <br> Footprint | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2021 | 164 | 99 | 77 | 114 | 217 | 141 | 150 | 108 | 102 | 96 | 135 | 137 |
| 2022 | 86 | 125 | 71 | 196 | 71 | 77 | 164 | 128 | 198 | 110 | 220 | 166 |


| Phase 2 <br> Footprint | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2021 | 639 | 574 | 548 | 482 | 591 | 607 | 486 | 442 | 390 | 379 | 604 | 711 |
| 2022 | 482 | 699 | 472 | 884 | 528 | 513 | 716 | 532 | 786 | 566 | 1,074 | 749 |


| Total Certified <br> AMI <br> Meters | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2021 | 803 | 673 | 625 | 596 | 808 | 748 | 636 | 550 | 492 | 475 | 739 | 848 |
| 2022 | 568 | 824 | 543 | 1,080 | 599 | 590 | 880 | 660 | 984 | 676 | 1,294 | 915 |

## Appendix C - Certified Smart Meter Failures

| Phase 1 Footprint | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2017 | 188 | 395 | 127 | 137 | 148 | 180 | 145 | 54 | 301 | 270 | 45 | 62 | 2,052 |
| 2018 | 95 | 218 | 142 | 98 | 160 | 210 | 84 | 166 | 117 | 141 | 97 | 63 | 1,591 |
| 2019 | 175 | 53 | 62 | 100 | 275 | 254 | 199 | 115 | 256 | 240 | 174 | 299 | 2,202 |
| 2020 | 309 | 69 | 74 | 7 | 99 | 240 | 459 | 474 | 145 | 71 | 69 | 68 | 2,084 |
| 2021 | 98 | 48 | 29 | 44 | 78 | 147 | 313 | 318 | 262 | 242 | 169 | 112 | 1,860 |
| 2022 | 58 | 84 | 58 | 101 | 157 | 68 | 179 | 199 | 189 | 91 | 94 | 62 | 1,340 |


| Phase 2 Footprint | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2017 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 4 |
| 2018 | 1 | 0 | 1 | 1 | 3 | 3 | 0 | 6 | 18 | 21 | 32 | 43 | 129 |
| 2019 | 8 | 28 | 27 | 40 | 31 | 18 | 25 | 12 | 16 | 11 | 30 | 27 | 273 |
| 2020 | 18 | 13 | 8 | 29 | 22 | 19 | 39 | 49 | 27 | 47 | 44 | 110 | 425 |
| 2021 | 28 | 11 | 25 | 40 | 31 | 39 | 39 | 39 | 41 | 51 | 61 | 38 | 443 |
| 2022 | 23 | 27 | 32 | 36 | 66 | 57 | 78 | 59 | 66 | 34 | 64 | 38 | 580 |


| Total Smart Meter Failures | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2017 | 188 | 395 | 127 | 137 | 148 | 180 | 145 | 54 | 302 | 271 | 47 | 62 | 2,056 |
| 2018 | 96 | 218 | 143 | 99 | 163 | 213 | 84 | 172 | 135 | 162 | 129 | 106 | 1,720 |
| 2019 | 183 | 81 | 89 | 140 | 306 | 272 | 224 | 127 | 272 | 251 | 204 | 326 | 2,475 |
| 2020 | 327 | 82 | 82 | 36 | 121 | 259 | 498 | 523 | 172 | 118 | 113 | 178 | 2,509 |
| 2021 | 126 | 59 | 54 | 84 | 109 | 186 | 352 | 357 | 303 | 293 | 230 | 150 | 2,303 |
| 2022 | 81 | 111 | 90 | 137 | 223 | 125 | 257 | 258 | 255 | 125 | 158 | 100 | 1,920 |

## Appendix D - Meters Salvaged

| METERS SALVAGED | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2018 | - | - | - | - | 13,365 | - | - | 63,098 | 9,759 | 57,619 | 45,355 | - | 189,196 |
| 2019 | 18,673 | 29,040 | 67,958 | 30,086 | 49,136 | 20,140 | - | 60,786 | 57,066 | - | 56,190 | 38,631 | 427,706 |
| 2020 | 77,300 | - | 38,424 | 43,324 | - | 6,718 | 7,368 | - | - | - | - | 37,520 | 210,654 |
| 2021 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2022 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Salvaged Meters | 95,973 | 29,040 | 106,382 | 73,410 | 62,501 | 26,858 | 7,368 | 123,884 | 66,825 | 57,619 | 101,545 | 76,151 | 827,556 |


| METERS SALVAGED \$ | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2018 | \$ - | \$ | \$ | \$ | \$ 11,546 | \$ | \$ | \$ 54,510 | \$ 8,431 | \$ 49,777 | \$ 20,410 | \$ | \$ 144,674 |
| 2019 | \$ 8,403 | \$ 13,068 | \$ 30,581 | \$ 13,539 | \$ 22,111 | \$ 9,063 | \$ | \$ 27,354 | \$ 25,680 | \$ | \$ 25,286 | \$ 17,384 | \$ 192,468 |
| 2020 | \$ 34,785 | \$ | \$ 17,291 | \$ 19,496 | \$ | \$ 3,023 | \$ 3,316 | \$ | \$ | \$ | \$ | \$ 16,884 | \$ 94,794 |
| 2021 | \$ | \$ | \$ | \$ | \$ - | \$ | \$ | \$ | \$ | \$ | \$ | \$ | \$ |
| 2022 | \$ - | \$ - | \$ - | \$ | \$ | \$ | \$ - | \$ | \$ | \$ | \$ | \$ | \$ |
| Value of Salvaged Meters | \$ 43,188 | \$ 13,068 | \$ 47,872 | \$ 33,035 | \$ 33,657 | \$ 12,086 | \$ 3,316 | \$ 81,864 | \$ 34,111 | \$ 49,777 | \$ 45,695 | \$ 34,268 | \$ 431,936 |

## Appendix E - Meters Transferred

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2017 | - | - | - | - | - | - | - | - | - | 1 | - | 1 | $\mathbf{2}$ |
| 2018 | - | - | 1 | - | 2 | - | 7 | 98 | 2,350 | 6 | 4,805 | 4 | $\mathbf{7 , 2 7 3}$ |
| 2019 | 5 | 6 | 2,822 | 2 | - | 3 | 20 | 115 | 33 | 1 | 114 | 1 | $\mathbf{3 , 1 2 2}$ |
| 2020 | 3 | 2,694 | 1,147 | 4,255 | 2,026 | 1,200 | 954 | 587 | 606 | 396 | 455 | 78 | $\mathbf{1 4 , 4 0 1}$ |
| 2021 | 92 | 4 | 98 | 4 | 144 | 4 | 3 | 7 | 2 | 6 | - | - | $\mathbf{3 6 4}$ |
| 2022 | 24 | - | 24 | 4 | 41 | 19 | 239 | 1 | 24 | 484 | 3 | 371 | $\mathbf{1 , 2 3 4}$ |
| Total Meters Transferred | $\mathbf{1 2 4}$ | $\mathbf{2 , 7 0 4}$ | $\mathbf{4 , 0 9 2}$ | $\mathbf{4 , 2 6 5}$ | $\mathbf{2 , 2 1 3}$ | $\mathbf{1 , 2 2 6}$ | $\mathbf{1 , 2 2 3}$ | $\mathbf{8 0 8}$ | $\mathbf{3 , 0 1 5}$ | $\mathbf{8 9 4}$ | $\mathbf{5 , 3 7 7}$ | $\mathbf{4 5 5}$ | $\mathbf{2 6 , 3 9 6}$ |


| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$67 | \$0 | \$67 | \$135 |
| 2018 | \$0 | \$0 | \$179 | \$0 | \$358 | \$0 | \$2,079 | \$17,520 | \$172,325 | \$769 | \$352,351 | \$293 | \$545,874 |
| 2019 | \$357 | \$428 | \$220,153 | \$143 | \$0 | \$214 | \$6,105 | \$29,871 | \$9,930 | \$71 | \$29,612 | \$71 | \$296,955 |
| 2020 | \$751 | \$455,244 | \$86,446 | \$318,800 | \$151,696 | \$89,712 | \$125,428 | \$44,370 | \$46,762 | \$29,605 | \$34,712 | \$5,831 | \$1,389,359 |
| 2021 | \$5,833 | \$676 | \$6,213 | \$254 | \$17,587 | \$286 | \$190 | \$812 | \$127 | \$380 | \$0 | \$0 | \$32,357 |
| 2022 | \$17,617 | \$0 | \$11,658 | \$669 | \$975 | \$1,260 | \$5,681 | \$24 | \$3,805 | \$11,505 | \$71 | \$10,551 | \$63,816 |
| Value of Meters Transferred | \$24,557 | \$456,348 | \$324,649 | \$319,866 | \$170,615 | \$91,472 | \$139,483 | \$92,598 | \$232,950 | \$42,398 | \$416,746 | \$16,814 | \$2,328,496 |

## Appendix F - Manual Meter Reads

| AEP Ohio <br> Manual Meter Reads | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2017 | 709,595 | 677,614 | 698,824 | 652,591 | 707,760 | 664,633 | 607,446 | 643,087 | 623,200 | 633,843 | 619,079 | 577,524 | $7,815,196$ |
| 2018 | 590,558 | 613,152 | 662,313 | 625,957 | 593,752 | 549,628 | 502,539 | 492,671 | 426,390 | 444,237 | 345,679 | 276,154 | $6,123,030$ |
| 2019 | 252,658 | 236,534 | 239,313 | 204,441 | 193,485 | 147,294 | 125,524 | 98,483 | 62,895 | 33,398 | 17,948 | 17,016 | $1,628,989$ |
| 2020 | 15,273 | 11,815 | 8,447 | 6,780 | 6,148 | 6,052 | 4,633 | 3,838 | 2,575 | 2,089 | 1,248 | 1,282 | 70,180 |
| 2021 | 1,188 | 966 | 1,034 | 842 | 739 | 677 | 612 | 564 | 488 | 424 | 342 | 262 | 8,138 |
| 2022 | 299 | 269 | 272 | 202 | 201 | 172 | 146 | 131 | 122 | 91 | 87 | 84 | 2,076 |
| TOTAL | $\mathbf{1 , 5 6 9 , 5 1 1}$ | $\mathbf{1 , 5 4 0 , 3 5 0}$ | $\mathbf{1 , 6 1 0 , 2 0 3}$ | $\mathbf{1 , 4 9 0 , 8 1 3}$ | $\mathbf{1 , 5 0 2 , 0 8 5}$ | $\mathbf{1 , 3 6 8 , 4 5 6}$ | $\mathbf{1 , 2 4 0 , 9 0 0}$ | $\mathbf{1 , 2 3 8 , 7 7 4}$ | $\mathbf{1 , 1 1 5 , 6 7 0}$ | $\mathbf{1 , 1 1 4 , 0 8 2}$ | $\mathbf{9 8 4 , 3 8 3}$ | $\mathbf{8 7 2 , 3 2 2}$ | $\mathbf{1 5 , 6 4 7 , 6 0 9}$ |

## Appendix G - Successful AMI Meter Reads

| AEP Ohio <br> AMI Meter Reads | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 1,063 | 10,896 | 11,299 | 12,536 | 24,697 | 60,501 |
| 2018 | 55,353 | 108,939 | 174,916 | 213,689 | 246,435 | 297,471 | 353,586 | 423,963 | 430,488 | 562,775 | 569,528 | 573,313 | 4,010,456 |
| 2019 | 686,349 | 647,984 | 726,907 | 759,735 | 819,479 | 810,647 | 906,337 | 937,088 | 916,447 | 949,426 | 848,458 | 888,131 | 9,896,988 |
| 2020 | 940,575 | 895,496 | 945,293 | 941,035 | 901,928 | 956,131 | 966,436 | 965,755 | 960,716 | 964,580 | 873,821 | 957,710 | 11,269,476 |
| 2021 | 909,155 | 902,811 | 961,906 | 962,445 | 920,852 | 971,449 | 978,153 | 981,517 | 968,709 | 969,153 | 929,558 | 922,747 | 11,378,455 |
| 2022 | 962,674 | 911,766 | 969,527 | 927,277 | 975,149 | 978,734 | 935,573 | 990,884 | 976,001 | 973,953 | 935,745 | 923,917 | 11,461,200 |
| TOTAL | 3,554,106 | 3,466,996 | 3,778,549 | 3,804,181 | 3,863,843 | 4,014,432 | 4,140,095 | 4,300,270 | 4,263,257 | 4,431,186 | 4,169,646 | 4,290,515 | 48,077,076 |

February 2021 excludes additional reads created to handle the AMI meters getting reset to 0 .

## Appendix H - Successful AMR Meter Reads

| AEP Ohio <br> AMR Meter Reads | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| :---: | ---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2017 | 171,353 | 159,809 | 178,198 | 169,211 | 180,349 | 175,940 | 172,471 | 175,852 | 171,437 | 178,198 | 175,864 | 168,719 |
| $2,077,401$ |  |  |  |  |  |  |  |  |  |  |  |  |
| 2018 | 184,935 | 178,407 | 180,450 | 174,142 | 164,455 | 160,883 | 159,448 | 152,324 | 117,513 | 122,447 | 104,032 | 87,408 |
| $1,786,444$ |  |  |  |  |  |  |  |  |  |  |  |  |
| 2019 | 82,397 | 74,324 | 69,905 | 63,011 | 56,522 | 46,742 | 39,869 | 31,825 | 22,893 | 16,167 | 11,136 | 10,451 |
| 2020,242 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2021 | 10,157 | 7,270 | 6,169 | 4,807 | 3,775 | 3,344 | 2,771 | 2,387 | 1,602 | 1,378 | 742 | 634 |
| 45,036 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2022 | 646 | 527 | 528 | 423 | 394 | 332 | 301 | 253 | 226 | 190 | 160 | 92 |
| 4,072 |  |  |  |  |  |  |  |  |  |  |  |  |
| TOTAL | 170 | 171 | 155 | 136 | 115 | 108 | 109 | 91 | 95 | 72 | 85 | 87 |

## Appendix I-Successful Cellular Meter Reads

| AEP Ohio <br> AMR Meter Reads | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2018 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2019 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2020 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2021 | 73 | 57 | 64 | 44 | 38 | 31 | 24 | 27 | 25 | 21 | 15 | 19 | 438 |
| 2022 | 24 | 16 | 16 | 15 | 14 | 17 | 9 | 11 | 11 | 11 | 8 | 16 | 168 |
| TOTAL | 97 | 73 | 80 | 59 | 52 | 48 | 33 | 38 | 36 | 32 | 23 | 35 | 606 |

## Appendix J - AEP Ohio Meter Readers

|  | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| AEP_Employee |  |  |  |  |  |  |  |  |  |  |  |  |
| 2017 | 84 | 83 | 79 | 81 | 80 | 79 | 74 | 77 | 80 | 83 | 85 | 84 |
| 2018 | 86 | 82 | 85 | 82 | 74 | 72 | 67 | 61 | 56 | 53 | 52 | 48 |
| 2019 | 39 | 37 | 40 | 39 | 34 | 31 | 27 | 20 | 20 | 17 | 14 | 14 |
| 2020 | 7 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2021 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2022 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |


| AEP_Contractor |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2017 | 26 | 26 | 25 | 23 | 23 | 19 | 16 | 19 | 17 | 17 | 15 | 18 |
| 2018 | 19 | 21 | 24 | 25 | 23 | 20 | 23 | 21 | 18 | 15 | 15 | 18 |
| 2019 | 15 | 13 | 14 | 12 | 11 | 8 | 7 | 4 | 2 | 2 | 2 | 0 |
| 2020 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2021 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2022 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |


| Total Meter Readers |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | 110 | 109 | 104 | 104 | 103 | 98 | 90 | 96 | 97 | 100 | 100 | 102 |
| 2018 | 105 | 103 | 109 | 107 | 97 | 92 | 90 | 82 | 74 | 68 | 67 | 66 |
| 2019 | 54 | 50 | 54 | 51 | 45 | 39 | 34 | 24 | 22 | 19 | 16 | 14 |
| 2020 | 7 | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2021 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2022 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Appendix K - Residential Bills Issued

| Bill Type | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ACTUAL |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2017 | 1,264,131 | 1,258,424 | 1,249,191 | 1,240,257 | 1,255,288 | 1,213,603 | 1,188,161 | 1,182,690 | 1,199,948 | 1,197,442 | 1,208,339 | 1,215,671 | 14,673,145 |
| 2018 | 1,153,566 | 1,222,227 | 1,266,174 | 1,273,102 | 1,264,095 | 1,252,904 | 1,262,397 | 1,267,514 | 1,271,318 | 1,291,192 | 1,275,449 | 1,267,009 | 15,066,947 |
| 2019 | 1,257,476 | 1,267,604 | 1,303,637 | 1,304,553 | 1,311,075 | 1,306,480 | 1,308,667 | 1,318,970 | 1,312,483 | 1,312,795 | 1,316,420 | 1,317,708 | 15,637,868 |
| 2020 | 1,315,660 | 1,317,586 | 1,321,613 | 1,318,197 | 1,322,467 | 1,325,257 | 1,330,372 | 1,335,003 | 1,330,958 | 1,329,362 | 1,326,770 | 1,327,803 | 15,901,048 |
| 2021 | 1,327,211 | 1,321,467 | 1,333,199 | 1,330,318 | 1,333,037 | 1,335,626 | 1,337,910 | 1,342,580 | 1,335,846 | 1,333,395 | 1,336,297 | 1,335,786 | 16,002,672 |
| 2022 | 1,334,484 | 1,336,316 | 1,336,468 | 1,338,328 | 1,340,772 | 1,328,262 | 1,342,953 | 1,349,806 | 1,340,758 | 1,337,778 | 1,341,335 | 1,340,406 | 16,067,666 |


| ESTIMATE |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | 40,078 | 42,292 | 64,819 | 67,027 | 58,256 | 97,934 | 126,651 | 133,562 | 83,771 | 115,225 | 104,672 | 90,943 | 1,025,230 |
| 2018 | 163,630 | 88,520 | 50,344 | 44,931 | 54,079 | 66,379 | 60,082 | 59,059 | 45,546 | 25,884 | 43,040 | 49,880 | 751,374 |
| 2019 | 58,200 | 49,447 | 16,767 | 18,124 | 12,507 | 16,717 | 20,400 | 11,982 | 10,664 | 10,216 | 6,968 | 7,127 | 239,119 |
| 2020 | 6,407 | 5,133 | 5,697 | 4,883 | 4,468 | 5,055 | 4,344 | 4,058 | 5,241 | 5,843 | 4,114 | 4,968 | 60,211 |
| 2021 | 3,792 | 7,726 | 3,999 | 3,920 | 3,779 | 4,568 | 4,123 | 3,598 | 4,849 | 5,041 | 4,350 | 3,594 | 53,339 |
| 2022 | 3,839 | 3,638 | 3,322 | 3,469 | 3,433 | 13,566 | 4,112 | 4,113 | 4,339 | 4,496 | 4,038 | 6,055 | 58,420 |


| TOTAL BILLS ISSUED |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | 1,304,209 | 1,300,716 | 1,314,010 | 1,307,284 | 1,313,544 | 1,311,537 | 1,314,812 | 1,316,252 | 1,283,719 | 1,312,667 | 1,313,011 | 1,306,614 | 15,698,375 |
| 2018 | 1,317,196 | 1,310,747 | 1,316,518 | 1,318,033 | 1,318,174 | 1,319,283 | 1,322,479 | 1,326,573 | 1,316,864 | 1,317,076 | 1,318,489 | 1,316,889 | 15,818,321 |
| 2019 | 1,315,676 | 1,317,051 | 1,320,404 | 1,322,677 | 1,323,582 | 1,323,197 | 1,329,067 | 1,330,952 | 1,323,147 | 1,323,011 | 1,323,388 | 1,324,835 | 15,876,987 |
| 2020 | 1,322,067 | 1,322,719 | 1,327,310 | 1,323,080 | 1,326,935 | 1,330,312 | 1,334,716 | 1,339,061 | 1,336,199 | 1,335,205 | 1,330,884 | 1,332,771 | 15,961,259 |
| 2021 | 1,331,003 | 1,329,193 | 1,337,198 | 1,334,238 | 1,336,816 | 1,340,194 | 1,342,033 | 1,346,178 | 1,340,695 | 1,338,436 | 1,340,647 | 1,339,380 | 16,056,011 |
| 2022 | 1,338,323 | 1,339,954 | 1,339,790 | 1,341,797 | 1,344,205 | 1,341,828 | 1,347,065 | 1,353,919 | 1,345,097 | 1,342,274 | 1,345,373 | 1,346,461 | 16,126,086 |

The increase in estimations for February 2021 is due to the AMI issue where the meters all get reset to 0 .

## Appendix L-Customer Disconnects

| Customers Eligible <br> for Disconnect | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AEP Ohio - System Wide |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{2 0 1 7}$ | 66,500 | 65,972 | 75,112 | 58,855 | 69,578 | 53,681 | 52,877 | 70,041 | 71,973 | 76,428 | 68,789 | 63,487 | 793,293 |
| $\mathbf{2 0 1 8}$ | 73,589 | 72,567 | 71,110 | 65,889 | 65,120 | 65,759 | 64,598 | 72,629 | 64,736 | 76,991 | 67,475 | 57,110 | 817,573 |
| $\mathbf{2 0 1 9}$ | 50,426 | 51,629 | 48,883 | 51,405 | 54,351 | 48,191 | 50,180 | 53,485 | 52,848 | 62,684 | 51,650 | 49,990 | 625,722 |
| $\mathbf{2 0 2 0}$ | $\mathbf{1 4 , 2 0 0}$ | 49,184 | 58,185 | 78,848 | 82,398 | 90,699 | 92,185 | 136,491 | 109,777 | 55,196 | 41,663 | 43,078 | 885,904 |
| $\mathbf{2 0 2 1}$ | 35,628 | 37,090 | 44,215 | 34,471 | 36,456 | 41,248 | 38,200 | 44,192 | 45,113 | 46,993 | 45,620 | 40,243 | 489,469 |
| $\mathbf{2 0 2 2}$ | 42,082 | 44,135 | 48,048 | 43,735 | 41,809 | 42,873 | 41,235 | 20,653 | 19,270 | 21,753 | 19,798 | 17,371 | 402,762 |


| AEP Ohio - Phase 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | 41,196 | 41,744 | 46,238 | 37,048 | 42,205 | 33,129 | 33,352 | 43,418 | 46,259 | 47,620 | 43,196 | 40,493 | 495,898 |
| 2018 | 45,532 | 45,917 | 45,373 | 41,764 | 39,787 | 40,301 | 39,440 | 44,804 | 39,932 | 48,083 | 41,698 | 35,487 | 508,118 |
| 2019 | 30,502 | 31,261 | 29,623 | 30,581 | 32,878 | 29,659 | 30,448 | 33,020 | 32,486 | 39,312 | 31,585 | 31,286 | 382,641 |
| $2020{ }^{1}$ | 29,702 | 30,497 | 35,206 | 48,629 | 52,010 | 56,692 | 58,888 | 85,440 | 70,199 | 35,093 | 25,443 | 37,127 | 564,926 |
| 2021 | 22,621 | 23,323 | 27,398 | 21,121 | 22,400 | 24,983 | 23,440 | 27,559 | 27,913 | 29,378 | 28,220 | 25,766 | 304,122 |
| 2022 | 26,582 | 27,848 | 29,560 | 27,760 | 25,850 | 25,634 | 25,359 | 13,253 | 12,294 | 13,920 | 12,437 | 11,250 | 251,747 |


| Non Pay Disconnects | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AEP Ohio - System Wide |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{2 0 1 7}$ | 9,157 | 6,517 | 9,590 | 8,222 | 11,174 | 9,322 | 7,413 | 10,858 | 9,248 | 11,516 | 8,421 | 3,103 | 104,541 |
| $\mathbf{2 0 1 8}$ | 4,444 | 7,191 | 8,330 | 9,928 | 12,053 | 11,959 | 10,515 | 13,026 | 11,434 | 16,402 | 10,077 | 7,691 | 123,050 |
| $\mathbf{2 0 1 9}$ | 6,469 | 10,461 | 11,217 | 15,035 | 16,886 | 14,703 | 14,599 | 15,774 | 15,532 | 19,357 | 13,952 | 11,877 | 165,862 |
| $\mathbf{2 0 2 0}^{\boldsymbol{1}}$ | 12,737 | 11,531 | 5,801 | 0 | 0 | 0 | 0 | 0 | 14,629 | 23,930 | 14,923 | 14,133 | 97,684 |
| $\mathbf{2 0 2 1}^{\mathbf{2 0 2 2}^{\boldsymbol{2}}} \boldsymbol{1 1 , 0 7 2}$ | 5,790 | 16,087 | 13,323 | 14,227 | 14,869 | 13,891 | 15,964 | 16,091 | 17,472 | 15,152 | 12,198 | 166,136 |  |


| AEP Ohio - Phase 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{2 0 1 7}$ | 4,661 | 3,789 | 4,626 | 4,197 | 5,626 | 4,738 | 3,819 | 5,673 | 4,339 | 5,526 | 4,029 | 1,326 | 52,349 |
| $\mathbf{2 0 1 8}$ | 2,209 | 2,848 | 3,838 | 4,750 | 6,383 | 6,332 | 5,516 | 7,231 | 6,453 | 10,920 | 6,600 | 5,097 | 68,177 |
| $\mathbf{2 0 1 9}$ | 4,221 | 7,177 | 7,200 | 10,443 | 11,832 | 10,585 | 10,407 | 11,249 | 10,951 | 14,288 | 10,338 | 9,172 | 117,863 |
| $\mathbf{2 0 2 0}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{2 0 2 1}^{\mathbf{2 0 2 2}^{2}}$ | 9,383 | 8,713 | 4,387 | 0 | 0 | 0 | 0 | 0 | 9,303 | 18,137 | 11,096 | 11,026 | 72,045 |

${ }^{1}$ Impacts due to COVID pandemic and PUCO order to cease disconnections
${ }^{2}$ Disconnects for non-payment were held from June 14, 2022 to July 5, 2022 due to impacts from Major Storm

## Appendix M - Number of Power Theft Cases

| AEP Ohio <br> Service Area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL | Avg Monthly <br> Number of Cases |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | ---: | ---: | ---: |
| 2017 | 158 | 169 | 145 | 65 | 99 | 111 | 126 | 118 | 138 | 119 | 174 | 127 | 1,549 |  |
| 2018 | 145 | 117 | 117 | 131 | 130 | 131 | 153 | 123 | 117 | 90 | 172 | 220 | 1,646 | 129 |
| 2019 | 153 | 459 | 750 | 892 | 946 | 910 | 1,214 | 1,330 | 1,360 | 1,493 | 1,271 | 1,027 | 11,805 | 137 |
| 2020 | 1,229 | 984 | 775 | 609 | 1,181 | 746 | 723 | 860 | 1,055 | 1,187 | 993 | 1,101 | 11,443 |  |
| 2021 | 993 | 882 | 1,225 | 827 | 763 | 1,026 | 1,034 | 1,046 | 1,075 | 1,014 | 894 | 702 | 11,481 | 983 |
| 2022 | 884 | 802 | 939 | 776 | 750 | 632 | 774 | 1,137 | 946 | 793 | 759 | 626 | 9,818 |  |
| Total Power Theft | $\mathbf{3 , 5 6 2}$ | $\mathbf{3 , 4 1 3}$ | $\mathbf{3 , 9 5 1}$ | $\mathbf{3 , 3 0 0}$ | $\mathbf{3 , 8 6 9}$ | $\mathbf{3 , 5 5 6}$ | $\mathbf{4 , 0 2 4}$ | $\mathbf{4 , 6 1 4}$ | $\mathbf{4 , 6 9 1}$ | $\mathbf{4 , 6 9 6}$ | $\mathbf{4 , 2 6 3}$ | $\mathbf{3 , 8 0 3}$ | $\mathbf{4 7 , 7 4 2}$ |  |

## Appendix N - Total Value of Power Theft Cases

| AEP Ohio Service Area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL | Avg Monthly Total Value of Power Theft Cases | Average Value <br> of <br> Power Theft Per <br> Case |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | \$37,443 | \$39,060 | \$33,422 | \$12,849 | \$18,862 | \$22,711 | \$19,818 | \$19,489 | \$30,582 | \$20,489 | \$37,563 | \$34,166 | \$326,454 | \$27,205 | \$211 |
| 2018 | \$36,888 | \$22,918 | \$23,288 | \$22,831 | \$28,845 | \$16,786 | \$22,418 | \$21,953 | \$19,166 | \$16,056 | \$40,255 | \$93,085 | \$364,488 | \$30,374 | \$221 |
| 2019 | \$33,038 | \$86,357 | \$139,775 | \$147,213 | \$98,099 | \$77,714 | \$129,172 | \$191,855 | \$188,901 | \$203,912 | \$287,975 | \$451,339 | \$2,035,350 | \$169,612 | \$172 |
| 2020 | \$302,153 | \$190,788 | \$137,808 | \$55,331 | \$255,263 | \$234,757 | \$77,704 | \$189,102 | \$200,219 | \$224,079 | \$104,073 | \$410,538 | \$2,381,815 | \$198,485 | \$208 |
| 2021 | \$389,551 | \$185,151 | \$184,285 | \$148,573 | \$99,579 | \$139,100 | \$129,849 | \$123,999 | \$98,512 | \$125,586 | \$79,266 | \$74,195 | \$1,777,646 | \$148,137 | \$155 |
| 2022 | \$124,228 | \$187,251 | \$153,418 | \$113,717 | \$109,167 | \$98,825 | \$84,416 | \$183,935 | \$142,571 | \$167,789 | \$145,297 | \$184,824 | \$1,695,437 | \$141,286 | \$173 |
| Total Power Theft | \$923,301 | \$711,525 | \$671,996 | \$500,514 | \$609,815 | \$589,892 | \$463,377 | \$730,332 | \$679,952 | \$757,911 | \$694,429 | \$1,248,147 | \$8,581,191 |  |  |

## Appendix O-Total Call Center Calls

| Call Volume | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{2 0 1 7}$ | 448,912 | 403,026 | 477,019 | 402,742 | 478,182 | 520,115 | 540,028 | 511,067 | 445,988 | 444,667 | 418,167 | 391,260 |
| $5,481,173$ |  |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{2 0 1 8}$ | 473,970 | 434,948 | 474,639 | 413,955 | 460,527 | 527,573 | 454,707 | 467,438 | 447,635 | 546,325 | 516,171 | 376,568 |
| $2,594,456$ |  |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{2 0 1 9}$ | 415,584 | 472,111 | 412,256 | 416,927 | 485,648 | 501,139 | 505,245 | 459,528 | 410,105 | 443,147 | 416,265 | 357,517 |
| $\mathbf{2 0 2 0}$ | 386,317 | 331,659 | 346,671 | 274,353 | 310,428 | 336,914 | 383,218 | 361,877 | 388,044 | 392,645 | 413,733 | 317,297 |
| $\mathbf{2 0 2 1} 243,156$ |  |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{2 0 2 2}$ | 333,338 | 376,198 | 367,219 | 284,805 | 317,327 | 369,082 | 354,822 | 365,092 | 331,854 | 350,249 | 320,720 | 331,602 |
| $4,102,308$ |  |  |  |  |  |  |  |  |  |  |  |  |

## Appendix P - Call Center Calls Related to Meter Reading

| IO40 (Check Read) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | 1,875 | 1,407 | 1,473 | 1,596 | 1,487 | 1,985 | 1,755 | 3,581 | 3,765 | 2,358 | 1,917 | 2,514 | 25,713 |
| 2018 | 3,249 | 2,953 | 2,419 | 1,715 | 1,370 | 1,571 | 1,514 | 1,739 | 1,145 | 1,319 | 886 | 745 | 20,625 |
| 2019 | 740 | 926 | 1,181 | 855 | 713 | 432 | 410 | 438 | 409 | 417 | 235 | 172 | 6,928 |
| 2020 | 185 | 211 | 161 | 186 | 138 | 135 | 306 | 147 | 124 | 124 | 132 | 90 | 1,939 |
| 2021 | 141 | 169 | 111 | 133 | 90 | 155 | 152 | 170 | 133 | 106 | 102 | 100 | 1,562 |
| 2022 | 129 | 127 | 144 | 12 | 5 | 9 | 14 | 21 | 14 | 12 | 20 | 22 | 529 |

## Appendix Q - Call Center Calls Related to Billing Complaints

| IOO4 (High/Low Bill) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2017 | 436 | 271 | 223 | 148 | 152 | 118 | 145 | 181 | 231 | 221 | 193 | 336 | 2,655 |
| 2018 | 624 | 559 | 373 | 283 | 242 | 221 | 291 | 331 | 254 | 285 | 154 | 275 | 3,892 |
| 2019 | 331 | 212 | 217 | 171 | 106 | 109 | 115 | 159 | 146 | 97 | 41 | 108 | 1,812 |
| 2020 | 167 | 89 | 82 | 47 | 56 | 54 | 118 | 112 | 46 | 40 | 39 | 98 | 948 |
| 2021 | 244 | 149 | 201 | 74 | 52 | 56 | 63 | 65 | 95 | 49 | 42 | 157 | 1,247 |
| 2022 | 175 | 299 | 158 | 89 | 51 | 77 | 125 | 157 | 90 | 72 | 81 | 78 | 1,452 |

## Appendix R - Circuits Equipped with DACR

| CIRCUITS EQUIPPED WITH DACR | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2018 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| 2019 | 2 | 2 | 2 | 2 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 2020 | 7 | 7 | 7 | 7 | 11 | 11 | 11 | 11 | 15 | 19 | 19 | 38 |
| 2021 | 43 | 43 | 43 | 52 | 67 | 89 | 89 | 112 | 118 | 119 | 125 | 144 |
| 2022 | 144 | 157 | 171 | 180 | 193 | 193 | 205 | 205 | 209 | 217 | 238 | 252 |

## Appendix S - DACR Opportunities

| DACR OPPORTUNITIES | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2018 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2019 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 2020 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 6 |
| 2021 | 1 | 4 | 0 | 2 | 6 | 10 | 8 | 8 | 7 | 15 | 9 | 8 | 78 |
| 2022 | 5 | 3 | 3 | 6 | 10 | 9 | 9 | 20 | 9 | 13 | 14 | 5 | 106 |

## Appendix T - DACR Successes

| DACR SUCCESSES | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2018 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2019 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.9 |
| 2020 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.5 | 4.5 |
| 2021 | 1.0 | 4.0 | 0.0 | 2.0 | 5.0 | 7.9 | 7.0 | 6.0 | 7.0 | 14.0 | 9.0 | 8.0 | 70.9 |
| 2022 | 5.0 | 2.6 | 3.0 | 5.5 | 10.0 | 8.5 | 7.0 | 19.7 | 9.0 | 12.4 | 14.0 | 5.0 | 101.7 |

## Appendix U - DACR Failures

| DACR FAILURES | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2018 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2019 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| 2020 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 1.5 |
| 2021 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 2.1 | 1.0 | 2.0 | 0.0 | 1.0 | 0.0 | 0.0 | 7.1 |
| 2022 | 0.0 | 0.4 | 0.0 | 0.5 | 0.0 | 0.5 | 2.0 | 0.3 | 0.0 | 0.6 | 0.0 | 0.0 | 4.3 |

## Appendix V - DACR Truck Rolls Related to an Outage

| TRUCK ROLLS RELATED <br> TO AN OUTAGE | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2018 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 |
| 2019 | 1 | 1 | 0 | 8 | 22 | 18 | 26 | 11 | 23 | 14 | 19 | 15 | 158 |
| 2020 | 19 | 9 | 32 | 12 | 25 | 48 | 39 | 30 | 32 | 49 | 65 | 13 | 373 |
| 2021 | 106 | 79 | 135 | 173 | 223 | 445 | 390 | 471 | 331 | 419 | 352 | 309 | 3,433 |
| 2022 | 336 | 415 | 493 | 440 | 638 | 804 | 760 | 737 | 509 | 581 | 545 | 494 | 6,752 |

## Appendix W - DACR Outage Related Truck Rolls

| OUTAGE RELATED <br> TRUCK ROLLS AVOIDED | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2018 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2019 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2020 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2021 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 4 | 0 | 6 |
| 2022 | 0 | 0 | 0 | 1 | 3 | 2 | 0 | 5 | 1 | 2 | 1 | 0 | 15 |

## Appendix X - Customer Minutes Saved From DACR Events

| CUSTOMER MINUTES SAVED FROM DACR EVENTS | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2018 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2019 | 0 | 0 | 0 | 0 | 180,375 | 137,973 | 0 | 0 | 0 | 0 | 0 | 0 | 318,348 |
| Commercial | 0 | 0 | 0 | 0 | 12,529 | 11,149 | 0 | 0 | 0 | 0 | 0 | 0 | 23,678 |
| Industrial | 0 | 0 | 0 | 0 | 216 | 87 | 0 | 0 | 0 | 0 | 0 | 0 | 303 |
| Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Public Authority | 0 | 0 | 0 | 0 | 972 | 784 | 0 | 0 | 0 | 0 | 0 | 0 | 1,756 |
| Residential | 0 | 0 | 0 | 0 | 166,658 | 125,953 | 0 | 0 | 0 | 0 | 0 | 0 | 292,610 |
| 2020 | 0 | 0 | 0 | 0 | 0 | 0 | 76,923 | 0 | 0 | 0 | 0 | 51,770 | 128,693 |
| Commercial | 0 | 0 | 0 | 0 | 0 | 0 | 3,821 | 0 | 0 | 0 | 0 | 7,827 | 11,648 |
| Industrial | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 280 | 280 |
| Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 224 | 224 |
| Public Authority | 0 | 0 | 0 | 0 | 0 | 0 | 420 | 0 | 0 | 0 | 0 | 671 | 1,091 |
| Residential | 0 | 0 | 0 | 0 | 0 | 0 | 72,681 | 0 | 0 | 0 | 0 | 42,769 | 115,450 |
| 2021 | 0 | 37,045 | 0 | 142,635 | 199,872 | 359,529 | 0 | 253,142 | 210,206 | 142,524 | 252,303 | 323,454 | 1,920,710 |
| Commercial | 0 | 6,308 | 0 | 13,957 | 31,125 | 45,929 | 0 | 23,350 | 25,415 | 36,086 | 46,811 | 23,212 | 252,193 |
| Industrial | 0 | 121 | 0 | 426 | 1,422 | 4,326 | 0 | 882 | 299 | 96 | 423 | 79 | 8,074 |
| Other | 0 | 0 | 0 | 0 | 80 | 0 | 0 | 110 | 152 | 96 | 96 | 0 | 534 |
| Public Authority | 0 | 161 | 0 | 1,872 | 802 | 2,862 | 0 | 2,871 | 2,888 | 2,106 | 3,547 | 2,010 | 19,119 |
| Residential | 0 | 30,456 | 0 | 126,380 | 166,443 | 306,412 | 0 | 225,929 | 181,451 | 104,141 | 201,427 | 298,152 | 1,640,791 |
| 2022 | 0 | 60,915 | 50,172 | 4,773 | 1,442,526 | 690,438 | 300,504 | 374,091 | 161,972 | 1,159,889 | 464,476 | 55,533 | 4,245,280 |
| Commercial | 0 | 10,503 | 4,699 | 4,202 | 202,800 | 79,833 | 44,143 | 29,180 | 34,584 | 97,599 | 53,980 | 9,579 | 507,543 |
| Industrial | 0 | 197 | 40 | 571 | 7,334 | 5,735 | 2,276 | 2,320 | 2,641 | 1,648 | 329 | 37 | 22,762 |
| Other | 0 | 0 | 239 | 0 | 1,542 | 221 | 0 | 0 | 300 | 0 | 55 | 0 | 2,302 |
| Public Authority | 0 | 263 | 677 | 0 | 12,820 | 6,512 | 5,171 | 2,600 | 1,265 | 3,416 | 5,154 | 952 | 32,724 |
| Residential | 0 | 49,953 | 44,518 | 0 | 1,218,029 | 598,136 | 248,914 | 339,991 | 123,183 | 1,057,225 | 404,958 | 44,965 | 3,679,950 |

## Appendix Y - Customer Interruptions Saved From DACR Events

| CUSTOMER INTERRUPTIONS SAVED <br> FROM DACR EVENTS | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2018 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2019 | 0 | 0 | 0 | 0 | 1,625 | 1,243 | 0 | 0 | 0 | 0 | 0 | 0 | 2,868 |
| 2020 | 0 | 0 | 0 | 0 | 0 | 0 | 693 | 0 | 0 | 0 | 0 | 334 | 1,027 |
| 2021 | 0 | 239 | 0 | 1,285 | 1,564 | 3,239 | 0 | 1,722 | 1,470 | 1,284 | 2,273 | 2,914 | 15,990 |
| 2022 | 0 | 393 | 452 | 43 | 10,192 | 5,998 | 2,404 | 3,261 | 1,152 | 8,721 | 3,360 | 321 | 36,297 |

## Appendix Z - VVO MW and MWh Saved

Previously Reported

| MW Saved Due to VVO | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Monthly <br> Average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2019 | N/A | N/A | N/A | N/A | N/A | 1.7 | 2.1 | 3.1 | 4.0 | 3.7 | 2.8 | 3.3 | 3.0 |
| 2020 | 3.4 | 3.2 | 2.5 | 1.9 | 3.1 | 3.2 | 2.9 | 2.4 | 2.0 | 1.8 | 2.3 | 2.7 | 2.6 |
| 2021 | 2.61 | 2.27 | 1.98 | 1.97 | 2.66 | 2.51 | 2.16 | 2.46 | 3.08 | 2.55 | 1.96 | 1.89 | 2.3 |

*Restated Values + 2022

| MW Saved Due to VVO | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Monthly Average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2019 | N/A | N/A | N/A | N/A | N/A | 2.17 | 2.73 | 2.86 | 4.52 | 4.51 | 3.18 | 4.09 | 3.4 |
| 2020 | 4.18 | 3.87 | 3.16 | 2.34 | 3.55 | 4.07 | 6.38 | 3.00 | 2.29 | 2.22 | 2.88 | 3.40 | 3.4 |
| 2021 | 3.24 | 3.83 | 2.41 | 2.39 | 3.24 | 3.22 | 3.00 | 3.04 | 8.44 | 8.80 | 7.22 | 7.76 | 4.7 |
| 2022 | 8.43 | 7.31 | 7.20 | 5.23 | 7.26 | 7.13 | 7.37 | 7.56 | 5.93 | 3.87 | 4.32 | 7.07 | 7.0 |

Values shown are only for completed M\&V circuits and applied to the data since the completion of M\&V. As of this report submission 119 circuits have completed M\&V.

## Previously Reported

| MWh Saved Due to VVO | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2019 | N/A | N/A | N/A | N/A | N/A | 133 | 220 | 197 | 302 | 250 | 244 | 346 | 1,692 |
| 2020 | 350 | 352 | 302 | 233 | 258 | 298 | 294 | 234 | 132 | 170 | 235 | 309 | 3,167 |
| 2021 | 313 | 266 | 218 | 199 | 210 | 223 | 157 | 221 | 240 | 243 | 187 | 197 | 2,674 |

*Restated Values + 2022

| MWh Saved Due to VVO | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2019 | N/A | N/A | N/A | N/A | N/A | 823.94 | 1,279.73 | 1,064.58 | 1,767.69 | 1,409.34 | 1,461.34 | 1,910.04 | 9,717 |
| 2020 | 1,948.18 | 1,906.80 | 1,735.74 | 1,249.30 | 1,442.36 | 1,600.00 | 1,522.59 | 1,278.03 | 953.68 | 1,239.44 | 1,370.93 | 1,721.96 | 17,969 |
| 2021 | 1,843.38 | 1,563.15 | 1,204.59 | 1,106.53 | 1,170.89 | 1,344.47 | 1,001.84 | 1,245.19 | 1,757.23 | 3,683.01 | 3,881.60 | 4,115.68 | 23,918 |
| 2022 | 4,552.35 | 3,717.02 | 3,530.94 | 2,631.09 | 2,656.28 | 2,622.28 | 3,067.58 | 2,910.25 | 2,366.80 | 2,115.35 | 2,046.64 | 3,115.27 | 35,332 |

Values shown are only for completed M\&V circuits and applied to the data since the completion of M\&V. As of this report submission 119 circuits have completed M\&V.


including 2022, have been calculated correctly and will be going forward.

## Appendix AA - VVO Average System Voltage

| Average System Voltage | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Monthly <br> Average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2019 | 119.80 | 120.21 | 121.19 | 121.24 | 121.61 | 120.80 | 120.41 | 120.50 | 119.48 | 119.26 | 119.36 | 119.34 | 120.27 |
| 2020 | 119.34 | 119.44 | 119.52 | 119.78 | 120.01 | 120.07 | 120.28 | 120.42 | 120.49 | 120.44 | 120.36 | 120.41 | 120.05 |
| 2021 | 120.04 | 119.98 | 120.02 | 119.97 | 120.12 | 121.13 | 121.97 | 121.75 | 121.26 | 120.01 | 119.75 | 119.85 | 120.49 |
| 2022 | 119.83 | 119.88 | 119.95 | 120.09 | 119.88 | 120.44 | 120.64 | 120.51 | 120.08 | 119.82 | 120.11 | 119.96 | 120.14 |

## Appendix AB - VVO Reduction in Greenhouse Gas Emissions

Previously Reported

| Reduction in Greenhouse Gases Due to VVO (estimate) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2019 | N/A | N/A | N/A | N/A | N/A | 117 | 195 | 174 | 267 | 221 | 216 | 306 | 1,496 |
| 2020 | 309 | 311 | 267 | 206 | 228 | 264 | 260 | 207 | 117 | 150 | 208 | 273 | 2,800 |
| 2021 | 277 | 235 | 192 | 176 | 186 | 197 | 139 | 195 | 212 | 215 | 166 | 174 | 2,364 |

*Restated Values + 2022

| Reduction in Greenhouse Gases Due to VVO (estimate) | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | YE TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2019 | N/A | N/A | N/A | N/A | N/A | 728.71 | 1,131.82 | 941.54 | 1,563.38 | 1,246.45 | 1,292.44 | 1,689.28 | 8,594 |
| 2020 | 1,723.01 | 1,686.41 | 1,535.13 | 1,104.91 | 1,275.65 | 1,415.07 | 1,346.61 | 1,130.32 | 843.46 | 1,096.19 | 1,212.48 | 1,522.94 | 15,892 |
| 2021 | 1,630.32 | 1,382.48 | 1,065.37 | 978.64 | 1,035.56 | 1,189.07 | 886.05 | 1,101.27 | 1,554.13 | 3,257.33 | 3,432.96 | 3,639.99 | 21,153 |
| 2022 | 4,026.19 | 3,287.41 | 3,122.84 | 2,326.99 | 2,349.27 | 2,319.20 | 2,713.03 | 2,573.88 | 2,093.24 | 1,870.86 | 1,810.09 | 2,755.21 | 31,248 |

Values shown are only for completed $\mathrm{M} \& \mathrm{~V}$ circuits and applied to the data since the completion of $\mathrm{M} \& \mathrm{~V}$. As of this report submission 119 circuits have completed $\mathrm{M} \& \mathrm{~V}$.
*Values from 2019 through 2021 have been restated due to an aggregation error in the previous calculations as well as several data gaps caused by non-AEP server and file transfer errors. These issues were discovered during a review of our third party vendor's processes as we transitioned the reporting of these values from a third party vendor to in house. All values, including 2022, have been calculated correctly and will be going forward.

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1/27/2023 10:31:29 AM
in

## Case No(s). 22-0473-EL-RDR

Summary: Tariff gridSMART Rider, 4th Quarter 2022 Filing Schedules.
electronically filed by Mr. Steven T. Nourse on behalf of Ohio Power Company

