

2019 VALUE SUMMARY



The energy behind public power



POWER SUPPLY BENEFIT

| VALUE CATEGORY | VALUE AREA | 2019 YEAR END BENEFITS | DETAILS | CALCULATIONS |
|----------------|----------------------------------|------------------------|--|---|
| Power Supply | Additional SEPA Allocation | \$92,000 | Additional 7,188kW of SEPA allocation as a result of SEPA contract terminations by customers in GA. Staff ensured timely responses from 17 Members to request and accept the additional allocations. | GDS analysis. Total benefit is \$92,000 benefit per year. |
| Power Supply | Asset Sale Agreement | \$157,037,000 | Asset Sale Savings under FR Rate is calculated by projecting costs under the AR Rate less the actual costs under the new FR rate. | Total projected AR Rate charges of \$792,208,000 less the total FR Rate charges of \$635,171,000. Total Savings = \$157,037,000 |
| Power Supply | Hourly Trading Services | \$487,640 | Staff outsourced NCPMA1's hourly energy trading/scheduling functions rather than adding staff. The resultant annual savings are based on these factors: internal staff cost = 5 FTEs @ \$140,000/FTE + 20% carrying charges on infrastructure cost of \$225,000; outsourced cost = \$257,360. | Total Benefit = Internal cost - Outsourced cost = ((5 FTEs x \$140,000/FTE) + (0.2 x \$225,000)) - \$257,360 = \$487,640 |
| Power Supply | Market Transactions Checkout | \$151,521 | Staff identified billing errors during checkout and reconciliation of market transactions for NCPMA1. | Total Benefit = Bill corrections identified and paid to NCPMA1 = \$151,521 |
| Power Supply | REPS Compliance | \$2,215,218 | Successfully lobbied NCUC to postpone swine requirement by one year, allowing the Power Agencies to avoid retiring RECs for 2019 compliance. Additionally, due to successful lobbying, the poultry requirement has been delayed several times, leaving the 2019 state-wide aggregate poultry requirement to be 500,000 MWh, less than what was originally stated in the statute. | 2019 Benefit = Value of RECs that would have been retired in 2019 = swine RECs (in-state and out-of-state) + poultry RECs (in-state and out-of-state) + unpurchased RECs = \$808,555.70 + \$579,742.80 + \$826,919.92 = \$2,215,218.42 |
| Power Supply | REPS Compliance | \$446,398 | Identified out of state sources for REC purchases to comply with the NC REPS law. These purchases are allowed by law and provided for significant savings to the Power Agencies | Total Benefit = NCEMPA general REC savings + NCPMA1 general REC savings + NCEMPA Poultry REC savings + NCPMA1 Poultry REC Savings = \$95,209.85 + \$67,188 + \$166,950.10 + \$117,040.28 = \$446,398.23 |
| Power Supply | REPS Compliance | \$1,080,000 | Ensured compliance on behalf of all 51 Power Agency members and 3 non-Power Agency members. Utilize ElectricCities staff to provide REPS compliance services to Power Agency cities instead of having each city perform the function on their own. | Total Benefit = 54 cities x 10% FTE x 2000 FTE hours x \$100/hour = \$1,080,000 |
| Power Supply | Supplemental Capacity and Energy | \$30,841,398 | Staff renegotiated NCPMA1's Interconnection Agreement (IA) with Duke to allow NCPMA1 to purchase supplemental capacity and energy from the market rather than from Duke. The savings result from the difference between 2019's actual supplemental and reserves power supply cost versus what would have been paid to Duke under the old IA. | Total Benefit = Duke cost - market cost = \$77,894,148 - \$47,052,750 = \$30,841,398 |
| Power Supply | Surplus Sales Program | \$32,100,000 | Staff negotiated changes in NCPMA1's Interconnection Agreement with Duke in order to sell NCPMA1's surplus electricity directly into the wholesale markets rather than to Duke at lower prices. The value of the surplus energy program represents the additional margins gained through these sales. | Total Benefit = Sales revenue - Sales cost; Sales revenue = Energy price x Sales volume = \$25.88/MWh x 2,506,233 MWh = \$64.8M; Sales cost = Energy cost x Sales volume = \$13.04/MWh x 2,506,233 MWh = \$32.7M; Total Benefit = \$64.8M - \$32.7M = \$32.1M |
| Power Supply | Transmission Losses | \$71,750 | Staff has negotiated an agreement with Duke to reduce the Transmission Loss factor from 2.11% to 2.04% for the last 7 months of 2019. | Total Benefit for 2019 = 7 months of savings = \$71,750 |
| Power Supply | Transmission Peak Reduction | \$1,729,200 | NCPMA1 dispatches Agency, city and customer owned generators at the time of Duke's transmission peak. The reduction in load provides a savings on NCPMA1's transmission bill. The estimated amount of DG operated during the Transmission peaks multiplied by the avoided transmission service rate for 2019 yields the total benefit. | Total Benefit = 132MW of DG * 10 months during 2019 * \$1.31/kW avoided cost of Transmission service expense = \$1,729,200 |

SERVICES BENEFIT

| VALUE CATEGORY | VALUE AREA | 2019 YEAR END BENEFITS | DETAILS | CALCULATIONS |
|----------------------------------|--|------------------------|--|--|
| Business Development Services | C&I Power Audits | \$170,000 | Staff performed energy audits for NCEMPA's C&I customers. 68 power audits were provided. If outsourced, energy audits cost \$2,500 each. | Total Benefit = (Number of energy audits x Outside audit cost) = 68 x \$2,500 = \$170,000 |
| Business Development Services | ESP Projects | \$35,000 | Revenues from 2019 Energy Solutions Partner projects. | Total revenues = \$35,000 |
| Business Development Services | Key Accounts Events | \$43,500 | Hosted Key Accounts events for NCMPA1 and NCEMPA members. 3 events were hosted in 2019 | Total Benefit = Amount spent on events + Avoided member staff time for planning = \$12,000 + (\$10,500 x 3 events)= \$43,500 |
| Business Development Services | Lighting Rebate Program | \$399,916 | Provided lighting rebates to members and their customers. Total of 64 lighting projects were funded and \$399,916 rewarded in rebates. | Total Benefit = Total rebates provided = \$399,916 |
| Business Development Services | Power Quality & Infrared Scanning Audits | \$32,000 | Staff performed 4 Power Quality Audit and 0 Infrared Scanning Audit | Total Benefit = (0 Infrared Study at an outside cost of \$2,000 +4 Power Quality Study at an outside cost of \$8,000) = \$32,000 |
| Compliance | NERC Compliance | \$322,504 | Staff provides NERC/SERC reliability compliance services for 7 cities in NCEMPA, and 1 non Power Agency city. It is estimated that each city would require 1.98 FTE (a combination of their own employees and consultants) to maintain compliance in order to avoid potential penalties of up to \$1,000,000 per occurrence per day. | Total FTEs = (0.2475 FTE/city) x (8 cities) = 1.98 FTEs. Assume 70% of FTEs are provided by city employees (1.39 FTE) at \$50/hour and 30% by consultants (0.59 FTE) at \$145/hour. Total Benefit = (1.39 FTE x \$50/hour x 2,080 hours/year) + (0.59 FTE x \$145/hour x 2,080 hours/year) = \$322,504 |
| Corporate Learning & Development | Member Training | \$34,944 | Curriculum review and redesign work for Safety & Training group - Transformer, Trouble Shooting and Substation: Operations Schools. | Total Hours (12 Months): 672 Hrs. x \$52.00 (Industry average rate for curriculum design work). Total Benefit = \$34,944 |
| Corporate Learning & Development | Training | \$1,476 | ElectriCities provided two Communications courses (8 hours each) with 36 attendees. The industry average is \$300/per attendee and ElectriCities cost is \$259/per attendee. A cost differential of \$41. | Total Benefit = \$41 x 36 attendees = \$1,476 |
| Corporate Learning & Development | Training | \$4,580 | ElectriCities provided a S.E.R.V.I.C.E. Focused Leadership course over 2 days with 10 attendees. The industry average is \$907/per attendee and ElectriCities cost is \$449/per attendee. A cost differential of \$458. | Total Benefit = \$458 cost differential x 10 participating Members = \$4,580 |
| Corporate Learning & Development | Training | \$2,782 | ElectriCities provided a Crew Leader course over 2 days with 13 attendees. The industry average is \$687/per attendee and ElectriCities cost is \$473/per attendee. A cost differential of \$214. | Total Benefit = \$214 cost differential x 13 attendees = \$2,782 |
| Distribution Services | CADD Drawings | \$146 | Staff pays for customized CADD drawings to support the Construction Manual at a cost of about \$564/year. There is no additional cost to the members and the work product is shared among all members. | Total Benefit = Avoided cost of CADD drawings = \$146 |
| Distribution Services | Distribution Services | \$39,683 | Staff provides distribution services to members. Some of these services include subscriptions to APPA's eReliability Tracker outage tracking system to members at no charge, system losses studies, reliability tracking and assistance, SDS online system, etc. | Total Benefit = (Number of Cities x Cost per Subscription) + (Number of Cities x Avoided Cost per SDS Account) + (Number of Cities x Avoided assistance time for reliability x Labor rate) = (17 x \$99) + (6 x \$2,000) + (65 x 4 hr x \$100/hr) = \$39,683 |
| Distribution Services | EIA Report Assistance | \$44,000 | Staff coordinates data collection and city reports for filing with EIA for Non-PA Participants at no additional charge. It is estimated that a vendor would charge \$2,750/city/year. | Total Benefit = Number of cities x Savings/city = 16 x \$2,750 = \$44,000 |

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| Distribution Services | Electric System Construction Manual | \$90,000 | Standardized Construction Practices allow for training programs to teach the same practices to all members. This shortens the learning curve, allows for better emergency response and assures acceptable practices are taught. Construction drawings developed and approved by Public Power employees allow for standardized training and construction practices. Staff provided manuals at no additional cost to members, where members would otherwise have to hire a consultant. | Total Benefit = Consultant cost per member x Number of members = \$1,000 x 90 = \$90,000 |
| Distribution Services | Joint Purchasing - Utility Poles | \$18,909 | Staff coordinated the joint purchasing of utility poles, resulting in a 3% discount on \$630,295 of pole purchases. | Total Benefit = EC discount x Pole expenses = 3% x \$630,295 = \$18,909 |
| Distribution Services | Performance Indicators | \$52,000 | Staff researched and compiled a report of industry Performance Indicators and trends for the members, resulting in savings to the members due to avoided use of member staff resources. | Total Benefit = Avoided city effort x City rate x Number of cities = 8 hr x \$100/hr x 65 = \$52,000 |
| Distribution Services | Pole Attachments | \$65,000 | Staff worked to develop a template pole attachment agreement available for all members to use. It is estimated that a consultant would charge \$1,000 to each member for a similar agreement. | Total Benefit = Avoided consultant cost x Number of cities = \$1,000 x 65 = \$65,000 |
| Distribution Services | Reliable Public Power Provider (RP3) | \$38,400 | Staff provides data needed for RP3 applications as well as assistance with completing the applications, resulting in a reduction in member staff time to complete the applications. | Total Benefit = Avoided assistance time x Labor rate x Number of members = 16 hr x \$100/hr x 24 = \$38,400 |
| Distribution Services | State Wide Service Contracts | \$40,000 | Contracts are in place with vendors to provide technical assistance or services to members. The use of Staff to put together a service contract, bid and execute an agreement avoids paying a contractor or consultant. | Total Benefit = Avoided vendor cost/use x Number of uses = \$500 x 80 = \$40,000 |
| Distribution Services | System Betterment Funding | \$250,000 | The Power Agencies provided \$5,000 in funding to all 51 members to spend on a system betterment project. | Total Benefit = \$5,000 x 50 members used their funding = \$250,000 |
| Distribution Services | Utility Director Meetings & Listserve | \$45,000 | Staff provides peer networking for utility directors; asking and answering questions instead of paying consultants or contractors for assistance. It is estimated each member avoids at least \$500 per year in consulting costs. | Total Benefit = Avoided consulting cost x Number of members = \$500 x 90 = \$45,000 |
| Economic Development | Advertising | \$2,448,000 | Staff provides advertising services to all 51 members using "12 x" rates to get the best value. For the major magazines - Site Selection, Area Development, Business Facilities, Southern Business & Development and targeted market sectors publications, the average cost of an ad is \$6,000 with 2 ads provided per city per quarter | Total Benefit = Number of cities x (Cost per ad x Adds per year)= 51 x (\$6,000 x 8)= \$2,448,000 |
| Economic Development | All America City(s) | \$12,000 | Staff provides specific designs and layouts for an average of 3 booth exhibits/year. | Total Benefit = Booth development cost x Number of booths = \$4,000 x 3 = \$12,000 |
| Economic Development | Business Recruitment | \$1,275,000 | Staff used ESRI ArcGIS software to provide market analyses and up to 18 different reports for business recruitment process at no direct cost to members. | Total Benefit = Number of cities x Avoided cost per analysis = 51 x \$25,000 = \$1,275,000 |
| Economic Development | Client Leads | \$408,000 | Staff pursues an average of over 200 inquiries/leads regarding new business opportunities in North Carolina each year. These come from trade shows, advertising, mission trips with Regional Partnerships, County EDCs and the Dept. of Commerce. Targeted listing includes company names, addresses, CEOs/owner/email/phone. It is assumed that members would otherwise purchase 1 list per quarter at \$2,000 each. | Total Benefit = Number of cities x Cost per quarterly listing x 4 quarters/year = 51 x \$2,000 x 4 = \$408,000 |
| Economic Development | Customized City Projects | \$90,000 | Staff provides customized projects for members - i.e., website design, bill board design and collateral marketing (target sectors, demographics, pocket folders, etc.). It is estimated that each city would need to spend \$6,000/project to obtain such service from a third party. | Total Benefit = Number of cities x (Cost per project)= 15 x \$6,000 = \$90,000 |

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| Economic Development | Economic Development Staff | \$750,000 | Staff includes a person with applicable skills to manage economic development activities for 30 members. Otherwise, each city would need at least 0.50 FTE at \$50,000/FTE to provide this service. (Note: Monroe and High Point have ED staff) | Total Benefit = Number of cities x (City FTE x Cost per FTE) = 30 x (0.5 x \$50,000) = \$750,000 |
| Economic Development | Marketing | \$306,000 | Staff provides cities with specific designs/layouts for marketing collateral to attract new businesses at an average cost of \$3,000 to \$10,000 depending on the collateral piece. If a third party were hired to provide this service, it is estimated that each piece would cost \$6,000 and it is assumed that each city would purchase one piece per year. | Total Benefit = Number of cities x (Cost per project) = 51 x \$6,000 = \$306,000 |
| Economic Development | Retail / Commercial Development | \$4,335,000 | Proposals were made by Staff to retail/commercial establishments for recruitment purposes. Without such support, each city would pay for consultant reports of around \$60,000 each and would need 0.50 FTE to manage the retail recruitment process. | Total Benefit = Number of cities x ((Consulting cost) + (City staff FTE x City staff cost)) = 51 x ((\$60,000 + (.5 x \$50,000))) = \$4,335,000 |
| Economic Development | Retail Strategies Program | \$120,000 | Program to develop retail strategic plans for six (6) communities at a savings of \$20,000 for each community. | Total Benefit = Number of cities x savings per city = \$20,000 x 6 = \$120,000 |
| Economic Development | Retail Strategies Program | \$75,000 | Program to help with years 2nd and 3 of the retail recruitment program for six (6) communities at a savings of \$12,500 for each community. | Total Benefit = Number of cities x savings per city = \$12,500 x 6 = \$75,000 |
| Economic Development | Retail Strategies Program | \$20,000 | Retail Academy program provide assistance to communities with populations under 10,000. The assistance program helped four (4) communities at a savings of \$5,000 for each community. | Total Benefit = Number of cities x savings per city = \$5,000 x 4 = \$20,000 |
| Economic Development | Smart Communities Matching Grants | \$125,000 | Staff assisted with providing \$5,000 matching grants for 25 cities. | Total Benefit = Number of grants x (Matching grant amount) = 25 x \$5,000 = \$125,000 |
| Economic Development | Smart Sites / Shovel Ready Program | \$150,000 | Shovel-ready suite qualification program designed to support economic development opportunities for the members. | Total Benefit = Number of cities x (cost) = 6 x \$25,000 = \$150,000 |
| Economic Development | Target Marketing Plans | \$344,000 | Staff provides strategic economic development plans for the members at no additional charge versus each city paying an average cost of \$20,000/plan and implementation costs of 12 work days for each member @ \$1,200/work day. | Total Benefit = Number of cities x (Cost of plan + (Number of work days x Cost per work day)) = 10 x (\$20,000 + (12 x \$1,200)) = \$344,000 |
| Economic Development | Territorial Assistance | \$153,000 | Staff provides legal assistance and guidance for the members regarding territorial and customer choice issues. It is estimated that the number of questions answered per year is the equivalent of one per member and that the cost of such assistance by outside counsel is \$3,000 for each question. | Total Benefit = Number of cities x (Cost per city) = 51 x \$3,000 = \$153,000 |
| Economic Development | Webinars | \$15,300 | Staff provides webinars for the members on retail / commercial / industrial development including IECC / SEDC webinars. | Total Benefit = Number of cities x 1 webinar per city x cost per project = 51 x 1 x \$300 = \$15,300 |
| HR | Salary Data | \$1,128,787 | ElectriCities provides electric position salary data from various survey sources. Purchased surveys for 2018 included: APPA - \$2,700; EAPDIS - \$2,050; Willis Towers Watson - \$5,800; Economic Research Institute Salary Assessor - \$2,133 | Total Benefit = (\$2,700 + \$2,050 + \$5,800 + \$2,133) = 12,683 x 89 Members = \$1,128,787 |

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| Legal | Government Relations | \$54,057,317 | The ElectriCities Government Relations staff protects the interests of all NC Public Power communities at the NC General Assembly including municipalities ability to grow their electric load and charge reasonable fees for use of their infrastructure. Staff also mitigates the harm of potentially costly mandates such as renewable energy and recent changes to how sales of electricity are taxed. | \$54,057,317.08 represents the total distribution amount public power cities and towns received from the NC Department of Revenue for the Electric Franchise/Natural Gas Excise tax for the 2015-2016 fiscal year that ended on June 30, 2016. Under tax reform legislation passed in the 2013 General Assembly, effective on July 1, 2014, the gross receipts franchise tax on sales of electricity and the reimbursement of a portion of that tax to cities was repealed. However, cities that were served by investor owned utilities were protected by a "hold harmless" provision in the law that provided that those cities would receive the same amount of money despite the repeal of the gross receipts franchise tax. Power Agency cities were initially left out of the "hold harmless" provision. Staff and our contract lobbyists successfully lobbied legislators and legislative staff on behalf of the Power Agency cities so that Power Agency cities are also protected by the "hold harmless" provision. Value held constant since 2015. |
| Member Communications | Design Services | \$76,788 | The ElectriCities Strategic Communications staff provides a variety of design, copywriting, and consulting services to support member projects throughout the ElectriCities membership, plus the cost of printing or outside services when required. | Total Benefit = Estimated ElectriCities staff support @ \$100/hr (\$75,500) + Outside Contractor fees (\$1288) = \$76,788 |
| Member Communications | Public Power Week Campaign | \$31,269 | Staff designed a Public Power Week themed campaign, and produced themed promotional products that could be ordered and paid for by members. | Total Benefit = 29 Cities ordered product. Cost of items purchased by members to promote Public Power Week = \$31,269.10 |
| Member Communications | Stock Bill Inserts | \$67,808 | Fourteen bill inserts on public power-related topics were made available to all members free of charge. | Total Benefit = 339,040 bill inserts sent to members x \$0.20 per insert = \$67,808 |
| Member Communications | Videos (Energy Efficiency, Value of Public Power Other Topics) | \$645,400 | Staff has developed a Public Power 101 Video shared with members and available on YouTube, Vimeo and our Website explaining the benefits of public power. Cost: \$9,220.00 | Total Benefit = (video @ 9,220 x 70 members = \$645,400) = \$645,400 |
| Member Infrastructure Support | Customer Information System | \$7,000 | Annual CIS software maintenance savings from consolidation of licensing | Total Benefit = (Savings of 4% x \$29,000 per member license fee) x (6 members) = \$7,000 |
| Member Infrastructure Support | Data Center | \$6,808 | 3Yr. Negotiated Cisco Smartnet coverage (vs. historically annual coverage) Savings of \$20,424 over 3 yrs. (i.e. 1 yr. was \$50,873.... 3yr contract is now \$44,065 per Yr. for 3 Yrs.) | Total Benefit = (\$50,873 - \$44,065) = \$6,808 |
| Member Infrastructure Support | Hosted Customer Information/Billing and Financial Systems | \$143,000 | Design and management of a high availability production environment for the hosted applications and a test environment. Services include network and system administration, database administration, security, data storage, web services, VPN connections and desktop/peripheral support. | Total Benefit = 1,430 hours of services provided annually x Estimated average sr. system administrator contract rate of \$100/ hour = \$143,000 |
| Member Infrastructure Support | Hosted Customer Information/Billing and Financial Systems | \$122,500 | Staff provides Tier 1 and 2 application support for hosted NorthStar CIS members, being the first call for user CIS issues, responding to questions, investigating problems & working with the vendor to resolve the most complex application issues. | Total Benefit = 1225 hours of services * \$100/ hour = \$122,500 |

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| Member Infrastructure Support | Hosted Customer Information/Billing and Financial Systems | \$87,500 | Staff recommends industry best practices and process improvements for back office operations e.g., CIS software utilization, customer service policies and procedures, third party software integration and workflow automation. | Total Benefit = 700 hours of services provided annually x Estimated average contract services rate of \$125/ hour = \$87,500 |
| Member Infrastructure Support | Hosted Customer Information/Billing and Financial Systems | \$100,000 | Staff provides professional services including project management, vendor management, technical support, implementation assistance, QA testing, training and more for new system implementations, upgrades, enhancements, add on products and integration. | Total Benefit = 800 hours of services provided annually x Estimated average contract services rate of \$125/ hour = \$100,000 |
| Member Infrastructure Support | Hosted Customer Information/Billing and Financial Systems | \$48,000 | Staff provide user training and education for Member Customer Service, Finance, IT and operations staff on CIS/Billing/Financial applications, offering new staff training, webinars, user group meetings and vendor conferences. | Total Benefit = 400 support hours provided annually x Estimated average contract services rate of \$120/ hour = \$48,000 |
| Member Infrastructure Support | Hosted Customer Information/Billing and Financial Systems | \$37,000 | Staff provides report writing services, including requirements definition, development and quality assurance for adhoc and other custom reporting needs. Staff provides data and report writing services to assist with submission of EIA and Member Participation Reporting. | Total Benefit = 370 hours of services * \$100/ hour = \$37,000 |
| Member Infrastructure Support | Hosted Customer Information/Billing and Financial Systems | \$25,000 | Staff provides utility software research and evaluation consultation, vetting product functionality, technical design and integration capabilities aiding members in product comparison and selection for those seeking to acquire CIS, Financial and other utility applications. | Total Benefit = 200 hours of services * \$125/ hour = \$25,000 |
| Member Infrastructure Support | Surplus Sales/SETH Support | \$1,167,360 | Approximately 16 hours per month are required to support NCMPA1's energy trading system, or 16*12 months = 172 hours at an average rate of \$55/hr. If a third party were to use comparable energy trading software like IB WebTrader to provide power trading services, it would cost each city \$6,000/month or \$72,000/year. | Total Benefit = (((\$6,000/month - (16hours/month x \$55/hr)) * (12 months)) x 19 cities = \$1,167,360 |
| Residential Energy Services | Apogee's Weather Insights | \$44,500 | By negotiating a statewide license agreement for this online energy auditing tool, Staff was able to provide the tool at an annual license cost of \$30,000 versus having each of 30 cities pay \$6,500 and avoid \$10,000 maintenance cost. | Total Benefit = (Number of cities x Cost/ city) - Group cost-maintenance cost = (13 x \$6,500) - \$30,000 - \$10,000 = \$44,500 |
| Residential Energy Services | Energy Audit App | \$42,000 | Negotiated a license agreement for any/all members to use an energy audit app to conduct energy audits. Three members use the app and were able to avoid the development costs and EC's annual license fee. Future benefit calculations will not include development costs. | Total benefit = (development cost + annual EC license cost)-(annual license fee charged to member)*(number of members using app)=\$(\$30,000+\$18,000)-(\$2,000*3)=\$48,000-\$6,000=\$42,000 |
| Residential Energy Services | Energy Forecast online Energy Audit/ Information | \$109,000 | Contract with vendor allows NC members to use the service under ElectriCities umbrella. | Total Benefit = (# of members using the service x \$7,500 cost if members had to purchase it separately) - (cost of ElectriCities contract) = \$157,500 - \$48,500 = \$109,000 |
| Residential Energy Services | Energy Kits | \$20,328 | Renegotiation of energy kit contract price reduced cost from \$19 to \$13 per kit | 3,388 kits distributed at \$6/kit savings = \$20,328 |
| Residential Energy Services | Residential Energy Audits | \$151,875 | Staff performed 405 energy audits for Power Agency Participants' residential customers in 2019. Market rate of an audit is \$375/audit. | Total Benefit = Number of audits x Outside audit cost = 405 x \$375 = \$151,875 |

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| Safety & Training | Accident Investigations | \$16,000 | If an independent consultant conducted an accident investigation, it would cost \$200 per hour for 80 hours. Staff investigates accidents at no additional charge. | Total Benefit = Cost of investigations (assuming one/year) = (80 hr x \$200/hr) = \$16,000 |
| Safety & Training | Apprenticeship Training Program | \$781,200 | Staff has a new Lineman Career Development Apprenticeship Program to provide city electric employees training at a cost of \$1,600 per student compared to the market price of \$14,000. Currently there are 252 students enrolled in the program and the program has 4 level and it usually takes 4 years to complete. | Total Benefit = Market price of program - EC cost of program = \$14,000 - \$1,600 = \$12,400/4 = \$3,100 x 252 = \$781,200 |
| Safety & Training | Lineworker Audits | \$23,400 | If an independent consultant were to conduct 39 field audits of member cities' line workers, it would cost \$150 for about 4 hours per audit. This service is provided at no extra charge to member cities. | Total Benefit = (Time per audit x Consultant rate) x Number of audits = (4 hr. x \$150/hr.) x 39 audits = \$23,400 |
| Safety & Training | Meter Technician Career Development Program | \$29,790 | If vendors maintained and administered the Meter Technician Career Development Program, the cost would be approximately \$150 per hour for a 40 hour week of instruction for a total of \$6000. Member cities instructors administer the entire program at a cost of \$1035. A savings of \$4,965. | Total Benefit = Savings per class x Number of classes= (\$6,000 - \$1035) x 6 = \$29,790 |
| Safety & Training | OSHA 300 Logs | \$6,000 | Staff tracks and compiles members' Annual OSHA 300 Logs at no additional charge to the members. If the members were to hire a consultant to perform this service, it would cost approximately \$150 per hour for a total of 40 hours. | Total Benefit = Consulting time x Consultant rate = 40 hr x \$150/hr = \$6,000 |
| Safety & Training | OSHA Participation | \$175,000 | Staff participates in OSHA committees as a voting member and keeps the members informed of changes in the workplace involving tools and protective equipment for lineworkers at no additional charge. If a consultant were to provide this service, it would cost approximately \$2,500 for each of the 70 members. | Total Benefit = Consulting cost x Number of cities= \$2,500 x 70 = \$175,000 |
| Safety & Training | Safe Operating Practices | \$672,000 | Safety and training services provided by Staff resulted in a Lost Workday rate of 1.09% for member cities versus the APPA average of 4.75%. This represents 16 lost work day accidents at an average industry cost of \$42,000/accident. | Total Benefit = Lost work day accidents x Cost/accident = 16 x \$42,000 = \$672,000 |
| Safety & Training | Safety Awards | \$7,200 | If a consultant were to provide "No Lost Work Day Safety Award" meeting presentations to electric workers and management, the average cost would be approximately \$150 per hour for 48 cities. Staff provides this service at no additional cost to the members. | Total Benefit = (Consulting time x Consultant rate) x Number of cities = (1 hr x \$150/hr) x 48 = \$7,200 |
| Safety & Training | Safety Guidelines Manual | \$175,000 | Staff has found it more cost-effective to monitor safety guidelines affecting the electric industry and report to each of our members on an annual basis at no additional charge. If the members were to do this individually, the cost would be \$2,500 for each of the 70 members. | Total Benefit = Consulting cost x Number of cities = \$2,500 x 70= \$175,000 |
| Safety & Training | Safety Investigations | \$175,000 | Staff has found it to be more cost-effective to monitor OSHA regulations and accident/near-miss investigations on behalf of our members and report to each of our members on an annual basis at no additional charge. If the members were to do this individually, the cost would be \$2,500 for each of the 70 members. | Total Benefit = Consulting cost x Number of cities = \$2,500 x 70 = \$175,000 |
| Safety & Training | Safety Meetings | \$8,700 | If a consultant were to provide instruction and/or material for members' safety meetings. They require approximately one hour each for 58 meetings @ \$150/hour. Staff conducts the meetings and at their work location at no additional cost to the members. | Total Benefit = (Time per meeting x Consultant rate) x Number of meetings = (1 hr x \$150/hr) x 58 = \$8,700 |

| VALUE CATEGORY | VALUE AREA | 2019 YEAR END BENEFITS | DETAILS | CALCULATIONS |
|---------------------|--|------------------------|--|--|
| Safety & Training | Substation Career Development | \$25,000 | If vendors administered the Substation Career Development apprenticeship program to 25 electric department employees, it would cost approximately \$2,400 each for a total of \$60,000. Member cities instructors administer the ElectriCities apprenticeship program at \$1,400 each for a total of \$35,000. | Total Benefit = Savings per student x Number of students = (\$2,400 - \$1,400) x 25 = \$25,000 |
| Safety & Training | Underground Career Development | \$25,000 | If vendors were used to administer the Underground Career Development apprenticeship program to 26 electric department students, the cost would be approximately \$2,400 each. Member cities instructors administer the ElectriCities apprenticeship program at a cost of \$1,400 each. | Total Benefit = Savings per student x Number of students = (\$2,400 - \$1,400) x 25 = \$25,000 |
| Technology Services | Electric Utility Assessment | \$20,000 | ElectriCities created and administered the 2018 Electric Utility Assessment. 40 member utilities participated in this assessment and received their results and benchmarks. 2019 benefit results from an additional 10 members who requested benchmarking data. | Total Benefit = Estimated market value x Number of cities assisted = \$2,000 x 10 = \$20,000 |
| Technology Services | Emerging Technologies | \$33,000 | ElectriCities assisted members with projects related to emerging technologies in 2019. This includes a smart thermostat pilot, drone services, data analytics, and more. | Total Benefit = (Avoided cost for free Smart Thermostat Pilot x Number of Members participating) + (Avoided cost of drone service x Number of Members participated) + (Avoided cost of data analytics x Number of Members participated) = (\$5,000 x 5) + (\$2,000 x 2) + (\$2,000 x 2) = \$33,000 |
| Technology Services | Hometown Connections | \$5,201 | Commissions earned from members purchasing products from Hometown Connections partners. The total commissions earned in 2019 were \$5,201.24 | Total Benefit = Total 2019 commissions earned = \$5,201.24 |
| Technology Services | Hosting Benefit | \$75,600 | ElectriCities members receive discounted hosting for Nexgrid AMI projects and full deployments and CIS/ERP systems compared to market value. | Total Benefit = Estimated discount vs. market value x number of member systems hosted = \$300/month * 12 months * 21 members = \$75,600 |
| Technology Services | Retail Customer Survey | \$165,000 | ElectriCities organized a Retail Customer survey for members in 2019. Members participated at no additional cost. ElectriCities also conducted onsite reviews of the survey, which are estimated to have cost \$5,000 each if done by the survey vendor. | Total Benefit = (Estimated Member Fee for Survey x 10 members) + (avoided cost of onsite review x number of members) = (\$12,000 x 10 members) + (\$5,000 x 9 members) = \$165,000 |
| Technology Services | SECC Membership | \$190,000 | Annual membership for all members with 15,000 or fewer customers. Members receive access to SECC research, educational tools, webinars, etc. | Total Benefit = (Avoided Membership Price x Members Covered) = (\$2,500 * 76) = \$190,000 |
| Technology Services | Smart Grid - Business Cases | \$16,000 | ElectriCities assisted 8 members with the analysis of smart grid business cases, thereby avoiding consultant fees estimated to be \$2,000/member. | Total Benefit = Avoided consultant cost x Number of cities assisted = \$2,000 x 8 = \$16,000 |
| Technology Services | Smart Grid - EC Discount | \$200,000 | ElectriCities members receive 5% off Nexgrid products through ElectriCities MSA. | Total Benefit = Total spent on Nexgrid products in 2019 x 5% = \$200,000 |
| Technology Services | Smart Grid - Member LM-Only Shared License | \$72,000 | ElectriCities negotiated with Nexgrid to allow our Members to share a server if they are implementing load management only projects. This saves the Members on license costs. | Total Benefit = Avoided license costs x Number of Members on shared license = \$18,000 x 4 = \$72,000 |
| Technology Services | Smart Grid - Project Management and Coordination | \$136,000 | ElectriCities has been involved in 17 smart grid projects amongst our members. ElectriCities being involved helps ensure expectations are met, issues are resolved, etc., reducing the risk associated with these projects for our members. | Total Benefit = Avoided member staff hours x Labor rate x Number of members with smart grid projects = 80 hr x \$100/hr x 17 = \$136,000 |

| VALUE CATEGORY | VALUE AREA | 2019 YEAR END BENEFITS | DETAILS | CALCULATIONS |
|---------------------------|--|------------------------|--|--|
| Technology Services | Smart Grid - RFP Benefits | \$80,000 | Assisted members with the evaluation of Smart Grid options: Issued Smart Grid RFP, evaluated vendors, and provided assistance, guidance, and analyses to members. This benefits the 4 members who began new SG projects/pilots in 2019. | Total Benefit = (Avoided assistance time x Labor rate x Number of members assisted) = 200 hr x \$100/hr x 4 = \$80,000 |
| Technology Services | Strategic Technology Roadmap | \$75,000 | ElectriCities worked to create a Strategic Technology Roadmap in 2017 to guide technology solution offerings. Information in this roadmap can be applied to members looking to create a similar guiding document. This information is reviewed and updated annually. In addition, a new data analytics project was completed in 2019, with recommendations on how to structure a program. This could benefit members looking at implementing data analytics within their organization. | Total Benefit = Market value of similar guiding documents = \$50,000 + \$25,000 |
| Technology Services | Utility Billing & Financials - EC Discount | \$20,418 | ElectriCities members receive 15% off licensing costs for Tyler Technologies Incode solutions. | Total Benefit = Total spent on Tyler Technologies licensing costs x 15% = \$20,418 |
| Technology Services | Utility Billing & Financials - Evaluation Process | \$80,000 | ElectriCities organized various quotes, demos, provided analysis, reference checks, etc. on multiple utility billing and financial system solutions. This saved the members interested in upgrading their CIS or FINS a lot of time investigating solutions. 4 new members participated in this process in 2019. | Total Benefit = (Avoided assistance time x Labor rate x Number of members assisted) = 200 hr x \$100/hr x 4 = \$80,000 |
| Technology Services | Utility Billing & Financials - PM and Coordination | \$64,000 | ElectriCities has been involved in 8 Tyler Tech projects amongst our members. ElectriCities being involved helps ensure expectations are met, issues are resolved, etc., reducing the risk associated with these projects for our members. | Total Benefit = Avoided member staff hours x Labor rate x Number of members with projects = 80 hr x \$100/hr x 8 = \$64,000 |
| Utility Business Services | Billing System Audits | \$50,000 | Staff performs an audit of a municipal's billing system to identify potential errors and make recommendations to improve accuracy and/or processes. This also helps prior to billing system or AMI deployments to ensure bad data is not carried into a new system. | Total Benefit = (Cost of audit plus benefit of audit) x number of audits = (\$5,000 + \$5,000) x 5 = \$50,000 |
| Utility Business Services | Customer Service Best Practices | \$45,000 | Staff provides peer networking to improve members' policies, procedures and legal compliance and to reduce research and legal costs. Direct savings due to lower cost for developing and maintaining appropriate procedures is at least \$500 per member per year. | Total Benefit = Avoided consulting cost x Number of members = \$500 x 90 = \$45,000 |
| Utility Business Services | Customer Service Policy Guidelines Manual | \$42,000 | Staff provides cities with a manual of suggested policies. This allows the members to avoid using member staff resources to develop their own policies, resulting in significant savings for the members. | Total Benefit = City labor reduction x City labor rate x Number of members = 10 hr x \$60/hr x 70 = \$42,000 |
| Utility Business Services | Economic Benefit Study | \$7,000 | Staff works with member utility to identify the economic benefit that ownership of their electric distribution system provides to the municipality | Total Benefit = (market cost of report - EC cost of report) x number of reports = (\$15,000 - \$8,000) x 1 = \$7,000 |
| Utility Business Services | ElectriCities Annual Meeting | \$141,000 | The annual meeting hosted by Staff provides training, peer networking, legislative clout and opportunities to discuss utility business in an efficient manner. The registration fees are typically about \$100/person less than the industry standard (e.g., APPA). The number of applicable attendees in 2019 was 150. | Total Benefit = (Individual APPA fee - Group fee) x Attendees + Sponsorship Revenues = (\$775 - \$675) x 150 attendees + \$126,000 = \$141,000 |
| Utility Business Services | Legal Support | \$20,000 | Staff provided assistance with members' questions about legal issues, resulting in savings versus using external legal counsel. | Total Benefit = Estimated legal consulting time x External legal rate x Members assisted = 2 hr x \$250/hr x 40 = \$20,000 |

| VALUE CATEGORY | VALUE AREA | 2019 YEAR END BENEFITS | DETAILS | CALCULATIONS |
|---------------------------|---|------------------------|--|--|
| Utility Business Services | Training Classes for Member Staff | \$7,500 | Staff provides training through webinars and workshops for customer service, marketing and technical/regulatory compliance. The estimated difference between market price (or outsourced city cost) of this service and the cost charged to the cities by Staff is \$100/person. There were 75 attendees logged in 2019. | Total Benefit = (Estimated savings for EC training/attendee) x Number of attendees = \$100/person x 75 attendees = \$7500 |
| Utility Services | Catawba Site Representation Services | \$67,127 | Staff provides contract administration services to PMPA and NCEMC as they relate to their Catawba ownership interest. Staff bills PMPA and NCEMC for these services, reducing NCPA1's cost of contract administration by sharing these services with the other Catawba Owners. | Total Benefit for 2019 = sum of PMPA + NCEMC invoices from NCPA1 = \$67,127 |
| Utility Services | Economic Development Rates / Retail Rate Assistance | \$95,000 | As NCPA1 Members receive inquiries regarding economic development opportunities, Staff collects customer data and works with the Participant to develop economic development rates to provide the prospective customer. Staff develops and performs rate analysis for NCEMPA Members, including identifying and recommending changes in billing structures. Without such assistance, each Member that receives the service would need a consultant to perform analysis at an estimated cost of \$2,500 per study. Thirty Eight analyses were completed in 2019. | Total Benefit = Number of studies x External study cost = 38 x \$2,500/study = \$95,000 |
| Utility Services | Economic Development Rates/ Retail Rate Assistance | \$57,500 | As NCEMPA Members receive inquiries regarding economic development opportunities, Staff collects customer data and works with the Participant to develop economic development rates to provide the prospective customer. Staff develops and performs rate analysis for NCEMPA Members, including identifying and recommending changes in billing structures. Without such assistance, each Member that receives the service would need a consultant to perform analysis at an estimated cost of \$2,500 per study. Twenty Three analysis were completed in 2019. | Total Benefit = Number of studies x External study cost = 23 x \$2,500/study = \$57,500 |
| Utility Services | EIA Report Assistance | \$52,250 | Staff assisted each NCPA1 Participant with gathering data and filling out forms for the annual EIA report. Each city would otherwise need at least 0.05 FTE to gather and ensure accuracy of the data. This helps to avoid possible non-compliance penalties of up to \$2,750 per day. | Total Benefit = Number of cities x City FTE usage x City FTE cost = 19 x 0.05 x \$55,000 = \$52,250 or Total Benefit = Number of cities x Savings/city = 19 x \$2,750 = \$52,250 |
| Utility Services | EIA Report Assistance | \$88,000 | Staff coordinates data collection and city reports for filing with EIA for NCEMPA Members at no additional charge. It is estimated that a vendor would charge \$2,750/city/year. | Total Benefit = Number of cities x Savings/city = 32 x \$2,750 = \$88,000 |
| Utility Services | Operational Expertise | \$42,900 | Staff provides SCADA support and hosting services to Ayden, Fremont, and Tarboro. | 2019 Benefit = Number of Cities using SCADA services x City FTE usage x City FTE cost = 3 x 25% x \$57,200 = \$42,900 |
| Utility Services | Operational Expertise | \$457,600 | Staff provides NCEMPA Participants with operations expertise and assistance in areas of common interest such as NERC compliance coordination, EPA related to generators, delivery point facilities and other operational issues with Duke. It is estimated that it would cost each city about 0.25 FTE in staff to provide equivalent services. | 2019 Total Benefit = Number of cities x City FTE usage x City FTE cost = 32 x 25% x \$57,200 = \$457,600 |
| Utility Services | Retail Billing Program | \$420,000 | Staff provides billing services for 311 of NCEMPA's retail customers in 24 cities, resulting in savings of \$17,500/city/year versus estimates of what the cities would have paid if such services were outsourced. | Total Benefit = Number of cities x Savings/city = 24 x \$17,500 = \$420,000 |
| Utility Services | Retail Billing Services | \$262,500 | Staff provides billing and data management services to NCPA1 Participants whose billing systems and/or staff resources for certain types of retail C/I customers are limited. Without Staff support, each city would spend about \$17,500 per year on such services. | Total Benefit = Number of cities using EC service x External service cost = 15 cities x \$17,500/city = \$262,500 |

| VALUE CATEGORY | VALUE AREA | 2019 YEAR END BENEFITS | DETAILS | CALCULATIONS |
|------------------------|----------------------------------|------------------------|---|---|
| Utility Services | Retail Rate Studies | \$150,000 | Staff develops and performs retail rate studies for NCMPA1 Participants, including identifying and recommending necessary and efficient changes in retail rate levels and billing structures. Without Staff assistance, each Participant that receives the service would need a consultant to do analysis and data manipulation at \$10,000 per study. Fifteen Participants used the service. | Total Benefit = Number of studies x External study cost = 15 x \$10,000/study = \$150,000 |
| Utility Services | Retail Rate Studies | \$70,000 | Staff develops and performs retail rate studies for NCEMPA Members, including identifying and recommending necessary and efficient changes in retail rate levels and billing structures. Without Staff assistance, each Participant that receives the service would need a consultant to do analysis and data manipulation at \$10,000 per study. Seven Members used the service. | Total Benefit = Number of studies x External study cost = 7 x \$10,000/study = \$70,000 |
| FINANCE BENEFIT | | | | |
| Finance | Bond Refunding | \$16,102,613 | In 2012, Staff refunded Series 2003A bonds for NCMPA1 and replaced them with lower cost bonds. This provides significant reductions in financing costs for the Agency every year through 2032. | Total Benefit = Reduced financing costs in 2019 = \$16,102,613 |
| Finance | Bond Refunding | \$325,058 | In 2016, Staff refunded Series 2009 bonds for NCMPA1 and replaced them with lower cost bonds. This provides significant reductions in financing costs for the Agency every year through 2030. | Total Benefit = Reduced financing costs in 2019 = \$325,058 |
| Finance | Bond Refunding/ Defeasance | \$1,413,356 | In 2019, Staff defeased and refunded portions of Series 2009A, 2009C, 2010A, 2010B, 2012B, 2012C, 2015A and 2015C bonds for NCMPA1 and replaced them with lower cost bonds. This provides significant reductions in financing costs for the Agency every year through 2032. | Total Benefit = reduced financing costs in 2019 = \$1,413,356 |
| Finance | Bond Refunding/ Restructuring | \$111,061,226 | In 2015, Staff refunded and restructured various NCMPA1 bonds. This provides significant reductions in financing costs for the Agency from 2015 through 2019, but increasing costs in later years. | Total Benefit = Reduced financing costs in 2019 = \$111,061,226 |
| Finance | Capital Additions | \$517,000 | In 2009, Staff secured the ability to finance \$68,650,000 of capital additions for NCMPA1 using Build America Bonds instead of traditional financing. In 2014, \$3,125,000 of bonds were repurchased leaving \$65,525,000 outstanding. After the repurchase, this results in savings of \$517,000/year during the life of the bonds. | Total Benefit = \$517,000 |
| Finance | Interest on Margin Account | \$51,000 | In 2018, Staff worked with ADM to begin earning interest on the margin account for Surplus Sales | Total Benefit = Interest on margin account = \$51,000 |
| Finance | Investment Portfolios | \$28,015,775 | In accordance with state law and bond resolutions, Staff prudently invests the Power Agencies' funds in safe, diversified instruments in a manner that emphasizes safety of principal and liquidity and maximizes return on investment. Permitted investments include U.S. Treasury notes and bonds, federal agency notes, obligations of the State of North Carolina, prime quality commercial paper, certificates of deposit, bankers' acceptances, repurchase agreements, money market funds and mortgage-backed securities guaranteed by federal agencies. Investment revenues are used to offset expenses and reduce wholesale electricity rates . | Total Benefit = Investment revenues = \$28,015,775 |

CONTRACT ADMINISTRATION

| VALUE CATEGORY | VALUE AREA | 2019 YEAR END BENEFITS | DETAILS | CALCULATIONS |
|-------------------------|---|------------------------|--|--|
| Contract Administration | Contract Administration - Billing reviews, Contract and Capital Addition approvals | \$16,875 | As a result of the staff's review of Capital Additions, Third Party contracts, and O&M expenses, NCMPA1 challenged several items in 2019 resulting in savings of \$16,875. | Total Benefit = Savings to NCMPA1 in 2019 = \$16,875 |
| Contract Administration | Dec 2019 FRPPA Settlement Agreement | \$3,100,000 | Settlement of various outstanding contract challenge items: joint dispatch credit, Piedmont merger cost exclusion. Settlement Agreement Credit received on FRPPA invoice - Jan 2020 | Total Benefit = \$3,100,000 |
| Contract Administration | DOE Settlement - Spent Nuclear Fuel | \$2,668,774 | The 13th Annual Submission to DOE for reimbursement was filed on January 31, 2019. This is a reimbursement of costs incurred as a result of the DOE not accepting spent nuclear fuel when required and Catawba having to make accommodations to store the fuel on plant property. NCMPA1's portion of this reimbursement is \$2,668,774. | Total Benefit: Credit reimbursement from DOE received on the Operating Statement dated September 2019 for \$2,668,774. |
| Contract Administration | Error Correction | \$45,284 | Error on OATT invoice, did not provide adjustment for SEPA Capacity and credit for error was received on July DEP transmission invoice | Total Benefit = \$45,284 |
| Contract Administration | ESPS project additions agreement | \$7,426 | Capital additions agreement was negotiated and authorized by DEC and all Catawba Owners. Fees on Duke Energy labor was reduced from 12.5% to 7% for this project | Total Benefit for 2019 = fees calculated at 12.5% less the fees calculated at 7% for 2019 = \$7,426. |
| Contract Administration | FRPPA adjustment, CTA credit | \$651,731 | FRPPA CTA credit 2015-2017. Error on FERC Form 1 corrected and confirmed | Total Benefit = \$651,731 |
| Contract Administration | FRPPA adjustment, JDA credit | \$2,162,464 | FRPPA JDA credit 2015-2017. Error on FERC Form 1 corrected and confirmed | Total Benefit = \$2,162,464 |
| Contract Administration | FRPPA adjustment, solar backfeed | \$420,143 | Solar backfeed credit adjustment - Error in the capturing of the energy backfeed from several solar sites output. Solar Energy Credit received on April FRPPA Invoice | Total Benefit = \$420,143 |
| Contract Administration | FRPPA Amendment - Coal Ash Settlement | \$3,942,702 | The FRPPA Amendment - Coal Ash Settlement of 2017 with DEP allowed for NCEMPA to contract 18MW of DG at Greenville and receive power supply benefits each month when the units operate. The savings are passed to the Members on the Wholesale Power billing statement as a DG credit (Rider 6B). The 2019 savings is a summation of the DG credits provided to the Members. | Total Benefit = Sum of 12 months of DG Credits = \$3,942,702 |
| Contract Administration | FRPPA settlement of challenge issues | \$238,253 | Settlement of 2017 preliminary challenge items from the review of the formula rate true-up and credit received on January FRPPA invoice | Total Benefit = \$238,253 |
| Contract Administration | Full Requirements Power Purchase Agreement (FRPPA), Transmission Billing Statements | \$960,000 | Staff continuously reviews all provisions of the FRPPA and Transmission invoices (e.g., billing, contract interpretation, cost allocations, etc.) as these contracts are implemented to ensure that NCEMPA's power supply costs are as low as possible. It is estimated that each member would require 0.3 FTE of internal staff or consultants to provide similar services. | Total Benefit = ((0.3 FTE x \$100,000/FTE) x 32 members) = \$960,000 |
| Contract Administration | Harris Plant COLA cancellation costs | \$280,000 | Approximately \$280,000 per year thru 2029 | Total Benefit = \$280,000 |
| Contract Administration | Leased Facilities Rate | \$131,040 | Staff negotiated a reduction in NCMPA1's Leased Facilities Rate charged by Duke Energy from 1.1% to 0.93% effective September 2018. | Total Benefit = Original Leased Facilities Charge - New Lower Leased Facilities Charge * 12 months = \$131,040 |

| VALUE CATEGORY | VALUE AREA | 2019 YEAR END BENEFITS | DETAILS | CALCULATIONS |
|-------------------------|---|------------------------|---|---|
| Contract Administration | Low Pressure Turbine additions agreement | \$3,086 | Capital additions agreement was negotiated and authorized by DEC and all Catawba Owners. Fees on Duke Energy labor was reduced from 12.5% to 7% for this project | Total Benefit for 2019 = fees calculated at 12.5% less the fees calculated at 7% for 2019 = \$3,086 |
| Contract Administration | Materials and Supplies issue | \$3,200,000 | NCEMPA issued a challenge for how Materials and Supplies costs were moved on DEP's FERC FORM 1 submittal. FERC rule against DEP resulting in refunds under the FRPPA and OATT formula rates. | Total Benefit received in 2019 during the annual true-up process = \$3.2M. This represents FRPPA and OATT impacts received in 2019. |
| Contract Administration | Merger Agreement | \$3,954,482 | The Merger Agreement of 2011 with DEP allowed for NCEMPA to construct 20MW of DG at Greenville and receive power supply benefits each month when the units operate. The savings are passed to the Members on the Wholesale Power billing statement as a DG Credit (Rider 6A). The 2019 savings is a summation of the DG credits provided to the Members. | Total Benefit = Sum of 12 months of DG Credits = \$3,954,482 |
| Contract Administration | NEIL Insurance Distribution Credit | \$1,412,996 | Staff reviews the insurance requirements and premiums for NCEMPA1 as Owners of the Catawba Nuclear Station. Each year Nuclear Electric Insurance Limited (NEIL) calculates a potential credit distribution based on claims experience. A credit of \$1,412,996 was received and validated in 2019. | Total Benefit = Credit received on Operating Statement invoice February 2019 = 1,412,996 |
| Contract Administration | OATT ADIT settlement with customers | \$385,260 | OATT NC-ADIT settlement and credit received on April Transmission invoice | Total Benefit = \$385,260 |
| Contract Administration | OATT Settlement issues in 2019 | \$644,700 | Settlement of OATT challenge issues. Credit Received on July DEP transmission invoice for settled issues | Total Benefit = \$644,700 |
| Contract Administration | Operating and Fueling Agreement, Interconnection Agreement, and Transmission billing statements | \$950,000 | Staff continuously reviews all provisions of the Operating and Fueling Agreement, the Interconnection Agreement, and Transmission invoices (e.g., billing, contract interpretation, cost allocations, etc.) as these contracts are implemented to ensure that NCEMPA1's power supply costs are as low as possible. It is estimated that each member would require 0.5 FTE of internal staff or consultants to provide similar services. | Total Benefit = ((0.5 FTE x \$100,000/FTE) x 19 members) = \$950,000 |
| Contract Administration | Power Supply Billing Review | \$1,092,832 | Staff challenged several items in the OATT formula rate true up from DEC. The main challenge item was the merger CTA Refund of \$1,092,832 which was received on the July 2019 Transmission invoice from DEC. | Total Benefit: Credit for past charges = \$1,092,832. Received on July OATT invoice |
| Contract Administration | Reactive Power Credit | \$153,453 | Staff negotiated an increase in NCEMPA1's Reactive Power Credit charged by Duke under the OATT effective January, 2012. | Total Benefit = Increased credit savings in 2019 = \$153,453 |

LOAD AND DEMAND SIDE MANAGEMENT (DSM) BENEFIT

| | | | | |
|-----|---------------------|-----------|--|--|
| DSM | DSM/Load Management | \$60,000 | Staff assisted Members in Edenton, Fremont, Hobgood, Laurinburg, Louisburg, and Southport with engineering support, and project support related to load management device installations. | 2019 Benefit = Total hours spent supporting load management in these cities x average hourly rate of an engineering consultant = 500 hrs x \$120/hr = \$60,000 |
| DSM | DSM/Load Management | \$729,300 | Staff monitors system conditions, sends out load management notifications, and operates load management systems to obtain savings for the NCEMPA1 and NCEMPA Members. It is estimated that it would cost each city about 0.25 FTE in staff to provide the equivalent services. | 2019 Benefit = Number of Cities x City FTE usage x City FTE cost = 51 x 25% x \$57,200 = \$729,300 |

| VALUE CATEGORY | VALUE AREA | 2019 YEAR END BENEFITS | DETAILS | CALCULATIONS |
|----------------|---------------------|------------------------|---|--|
| DSM | DSM/Load Management | \$2,400 | Staff audited load management switches in Apex. | 2019 Benefit = Total hours spent auditing switches x average hourly rate of an consultant = 20 hrs x \$120/hr = \$2,400 |
| DSM | DSM/Load Management | \$70,955,240 | Staff monitors system conditions, sends out load management notifications, and operates load management systems to obtain savings for the NCEMPA Members. | Total Benefit = From FR Demand Rate plus transmission and system loss rate x 12 months' x 1000 (kW/MW) x est. monthly average reduction (MW) [less the sum of Rider 6A DG credits]= (\$22.06/kW Jan-Mar; \$22.64/kW Apr-Dec) x 12 months x 1000 kW/MW x (290.0 MW Jan-Mar; + 292.8MW Apr-Dec) [less \$7,897,184 (Rider 6A and 6B credit)]= Total DSM Benefit of \$70,955,240 |

TOTAL: \$557,808,859