

**Division of Cleveland Public Power****Request for Legislation**

Authorizing the Director of Public Utilities to employ by contract or contracts one or more consultants or vendors, or one or more firms of consultants or vendors for the purpose of supplementing the regularly employed staff of the several departments of the City of Cleveland to purchase analytic software for the Division of Cleveland Public Power (CPP), for the period of two (2) years, with two one-year options to renew.

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**Background / Purpose:**

This legislation will authorize the purchase of analytic software that will enable CPP to proactively monitor system performance, reduce outage time, monitor LED streetlight consumption, and systematically identify unauthorized usage. The analytic software will enable data driven decision making in near real time and allow CPP to monitor and address feeder loading to optimize system performance and maintain service reliability. The tool will identify heavily loaded transformers as load increases on an hourly, daily and monthly basis and thereby assist with needed capital investment in infrastructure based on critical needs and level of priority.

The software will collect the many data points of information from the AMR/AMI, Customer Information System, SCADA, Line Sentry, the streetlight system, and other system status and information sources and combine them in a single analytic software solution. This information will allow CPP to identify hotspots and problem areas and enable proactive measures before they lead to outages and lengthy service interruptions.

The analytic software shall:

- Provide grid load balance and optimization reports to improve power distribution throughout the system
- Identify system critical areas prioritized based on load balancing and feeder switching options on a near real time basis
- Provide LED streetlight and outdoor protective light usage and billing analysis and warranty monitoring reports
- Analyze LED streetlights asset lifecycle for performance
- Enhance outage management information with customer and utility operations interface capabilities
- Provide data driven information on critical infrastructure to enable the prioritization of capital investment opportunities
- Provide feeder and meter level identification of issues
- Identify hidden un-authorized energy usage and associated revenue losses
- Identify energy theft and diversion

**Scope of Work / Commodities / Services:**

Deliverables will include but not be limited to:

- 1) Provide substation, feeder and line loss analysis (kWh, revenue by customer class) on a daily, weekly, monthly, quarterly and yearly basis

- 2) Provide detailed line loss analysis from substation to feeder down to the distribution transformer and customer meter level
- 3) Identify and prioritize outage restoration from operations management perspective analyzing each outage cost, equipment device cost, labor cost and truck roll cost
- 4) Provide AMR alert management and prioritize based on severity level (tamper, theft, etc.) to optimize service order, dispatch, truck roll, and meter maintenance
- 5) Calculate energy distribution losses system wide and identify targeted substations/feeders for potential energy loss and savings.
- 6) Provide LED streetlight and outdoor protective light usage and billing analysis and issue warranty monitoring reports that analyze LED streetlights asset lifecycle and maintenance metrics across the distribution system.
- 7) Analyze unusual spikes or dips at the meter level focusing on metered and unmetered usage to identify energy theft or diversion and possible unauthorized use on a daily, weekly, monthly, quarterly and yearly basis.
- 8) Provide user-friendly view screens and reports
- 9) Provide software licenses
- 10) Provide training
- 11) Provide annual maintenance of hardware and software, service-links etc.
- 12) Provide additional support after software installation and training to assist the Division with further analytical report creation and related system performance analysis

**Justification / Urgency:**

The analytic software will enable near real-time decision making, increase efficiency, reduce outage time and enable proactive system maintenance and investments that proactively address eminent performance and operational threats to the system. The use of this tool will result in enhanced customer service, improved reliability and tracking of critical warranty and system information.

**Anticipated Costs and Funding Source:**

The project will be funded from CPP's operating budget. \$250,000 will be funded from CPP's operating budget the first two years (2018 and 2019) and \$125,000 (plus inflation) for years three and four (2020 and 2021).

**Schedule or Term of Contract:**

Legislation is to lead to a Professional Services contract or contracts for the term of two (2) years with two one-year options to renew.

**Current Contract(s): Not Applicable**

**CSB Participation for Professional Services Contracts**

**Goal: 10%**

**Previous Contract(s): None**