City of Arts & Innovation

City Council Memorandum

TO: **HONORABLE MAYOR AND CITY COUNCIL** **DATE: SEPTEMBER 17, 2019**

FROM: **PUBLIC UTILITIES DEPARTMENT** **WARD: ALL**

SUBJECT: **AWARD RIVERSIDE PUBLIC UTILITIES' ENERGY INNOVATIONS GRANT TO UNIVERSITY OF CALIFORNIA, RIVERSIDE TO FUND RESEARCH FOR OPTIMAL PLACEMENT OF SMART METERS TO IMPROVE EFFICIENCY AND RELIABILITY OF POWER DISTRIBUTION SYSTEMS IN THE AMOUNT OF $100,000**

ISSUE:

Approve the award of the Riverside Public Utilities Energy Innovations Grant to the University of California, Riverside, in the amount of $100,000, to be paid in three (3) installments funded in Fiscal Year 2019-20, to fund research for the Optimal Placement of Smart Meters to Improve Efficiency and Reliability of Power Distribution Systems for an initial one-year term.

RECOMMENDATIONS:

That the City Council:

1. Approve the award of the Riverside Public Utilities Energy Innovations Grant to the University of California, Riverside, in the amount of $100,000, to be paid in three (3) installments funded in Fiscal Year 2019-20, to fund research for the Optimal Placement of Smart Meters to Improve Efficiency and Reliability of Power Distribution Systems for an initial one-year term; and

2. Authorize the City Manager, or designee, to execute the grant agreement and extensions to the agreement, including making minor, non-substantive changes, to sign all documents and instruments necessary to complete the transaction, and execute amendments.

BOARD RECOMMENDATIONS:

On August 26, 2019, the Board of Public Utilities, with (8) eight members present, unanimously voted to recommend that the City Council approve the award of the Riverside Public Utilities Energy Innovations Grant to the University of California, Riverside, in the amount of $100,000 for Fiscal Year 2019-20 to fund research for the Optimal Placement of Smart Meters to Improve Efficiency and Reliability of Power Distribution Systems for an initial one-year term.

LEGISLATIVE HISTORY:

Assembly Bill (AB) 1890 (1996) requires that 2.85% of electric revenue be utilized to fund public benefits programming and must be used in at least one of four areas: 1) demand-side management (energy efficiency); 2) renewable energy; 3) low-income assistance; or 4) research, development and demonstration.

BACKGROUND:

Established in November 2000, Riverside Public Utilities' (RPU) Energy Innovations Grant (EIG) Program offers funding to public or private post-secondary institutions within the city limits of Riverside in support of research, development and demonstration projects that advance energy-related fields.

Educational institutions traditionally provide a venue for innovative, leading-edge research in the field of energy. To date, the EIG Program has contributed over $2 million in research funds to local universities supporting research ranging from the development of new strategies to lower the cost of silicon solar cells to the establishment of the Southern California Research Initiative for Solar Energy (SC-RISE).

In order to be eligible for consideration under the EIG Program, all projects or uses of grant funds must meet the following criteria: a) propose an original innovative solution to a significant energy issue; b) address a California energy market need; c) provide a clear potential benefit to California electric ratepayers; and d) be completed within one (1) year. Proposals must also fall under the topics or fields listed below.

1. Building end-use efficiency
2. Energy quality
3. Distribution system impacts
4. Distributed generation impacts
5. Environmentally preferred advanced generation
6. Renewable generation utility impacts
7. Energy-related research
8. Strategic energy research
9. Advanced electric transportation research
10. "Smart grid" applications
11. Energy efficiency demonstration projects

DISCUSSION:

As Key Accounts, eligible universities are contacted by their assigned Account Manager and informed of the Grant opportunity. For this particular Grant cycle, only the University of California, Riverside (UCR) submitted proposals for consideration. The Grant Review Committee (Committee), which is comprised of RPU engineering staff and other staff with electrical expertise, reviews all grant proposals. During the selection process, the Grant Review Committee focuses on proposals that directly affect RPU and its customers, operations and energy system.

After a comprehensive review of the 10 proposals received, the Committee selected a proposal titled, "Optimal Placement of Smart Meters to Improve Efficiency and Reliability of Power

Distribution Systems," led by Dr. Nanpeng Yu, Assistant Professor of Electrical and Computer Engineering at UCR. This project proposes to develop a "smart" meter placement strategy that will allow RPU to determine optimal locations to deploy around 14,000 residential electric smart meters.

The proposed project will provide significant benefits and value to RPU and its customers. For one, developing an optimal strategy for the placement of smart meters allows for more effective collection and analysis of data, which can significantly improve the efficiency and reliability of power distribution system operations. Second, optimizing the collection and analysis of smart meter data can help RPU develop programs that improve customer satisfaction and lower electricity bills. Third, the project will provide valuable training opportunities for RPU staff and will contribute to local workforce development.

FISCAL IMPACT:

The total grant award funds of $100,000 will be paid in three (3) installments. Sufficient funding is available in the Fiscal Year 2019-20 Electric-Public Benefit Programs Fund Account No. 6020100-456048.

Prepared by:	Todd M. Corbin, Utilities General Manager
Certified as to availability of funds:	Edward Enriquez, Chief Financial Officer/City Treasurer
Approved by:	Al Zelinka, FAICP, City Manager
Approved as to form:	Gary G. Geuss, City Attorney

Attachments:

1. August 26, 2019 – unapproved Board of Public Utilities meeting minutes
2. Energy Innovations Grant Agreement
3. Presentation