WATER | ENERGY | LIFE

CITY OF RIVERSIDE PUBLIC UTILITIES

RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES **DATE:** JUNE 12, 2017

ITEM NO: 11

SUBJECT: **FIRST AMENDMENT TO PROFESSIONAL SERVICES AGREEMENT WITH INDUSTRIAL EVOLUTION, INC. TO EXTEND THE TERM FOR ADDITIONAL YEAR AND ADD $724,000 FOR THE ADDITIONAL SERVICES NEEDED FOR PHASE II OF THE OPERATIONAL DATA MANAGEMENT SYSTEM, TOTAL CONTRACT AMOUNT OF $1,422,000; INCREASE WORK ORDER NO. 1619634 IN THE AMOUNT OF $1,350,000 FOR A TOTAL OF $4,907,000**

ISSUES:

Approve the First Amendment to Professional Services Agreement with Industrial Evolution, Inc. to extend the term for one year and add $724,000 for the additional implementation support services for Phase II of the Operational Data Management System, total contract amount of $1,422,000 and increase Work Order No. 1619634 by $1,350,000 for a total of $4,907,000.

RECOMMENDATIONS:

That the Board of Public Utilities:

1. Approve the amendment to the Professional Services Agreement with Industrial Evolution, Inc. for one additional year and authorize the City Manager or his designee to execute the agreement with an increase of $724,000 for a total amount of $1,422,000; and

2. Approve the increase to Work Order No. 1619634 in the amount of $1,350,000 for Phase II of the Operational Data Management System Project, bringing the overall project and work order total to $4,907,000.

BACKGROUND:

Riverside Public Utilities (RPU) has committed itself to a new vision of a strong, efficient, customer-focused utility that effectively utilizes systems and technologies to deliver products and services more effectively than ever before. In order to deliver on this promise it needs to embark on streamlining, automating, and generally improving all of its key business processes.

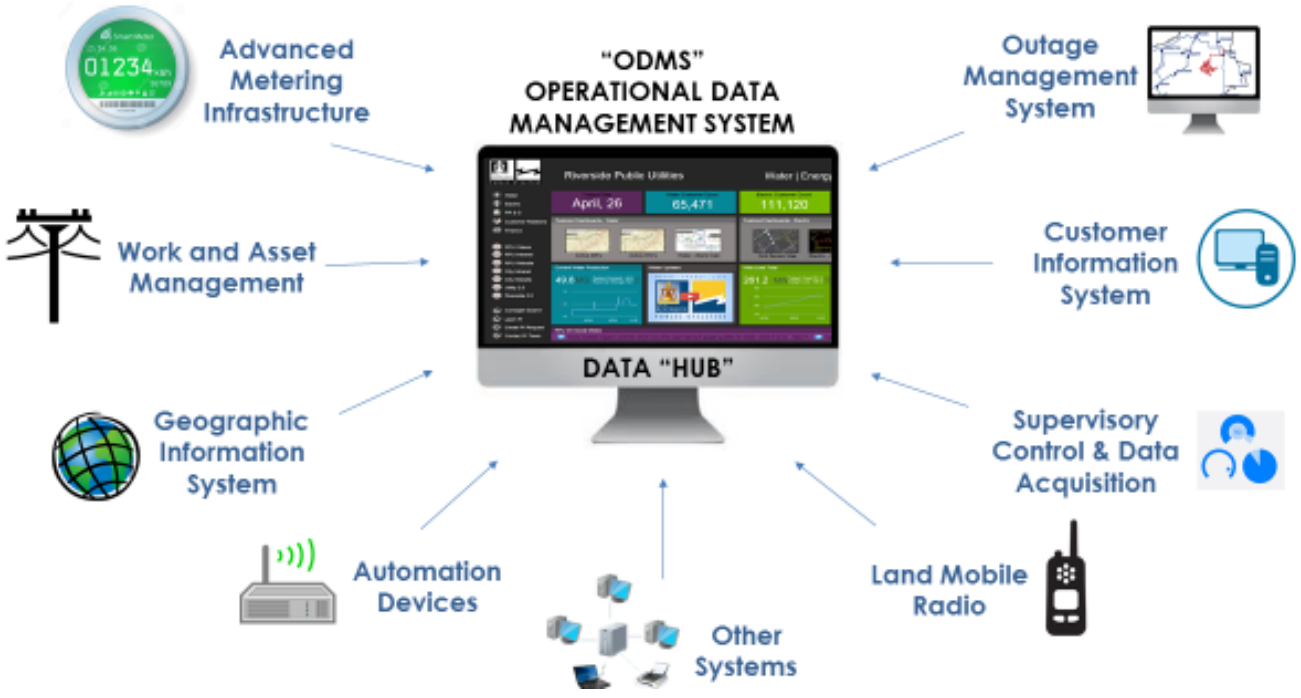
RPU developed a Strategic Technology Plan (Plan) under the guidance of the General Manager and with the assistance of a consultant, Leidos, Inc. In 2015, the Plan was completed and adopted by the Board. The Plan outlines the strategic technology vision recognizing the crucial role of technology in improving operational efficiency, reliability, and customer satisfaction as well as supporting the broader initiatives in the area of economic development and community service to Riverside citizenry. Twenty-two advanced operational technology projects were outlined in the Plan, including the Operational Data Management System (ODMS).

Table 1: Strategic Technology Projects

CUSTOMER-FOCUSED	Directly influence customer experience and provide customer interaction.
1. Customer Information System (CIS) 2. Customer Relationship Management (CRM)	3. Interactive Voice Response (IVR) 4. Customer Web Portal (CWP)
INFORMATION-BASED	Provide decision and analysis, data management and process implementation (primarily large databases).
5. Asset Management System (AMS) 6. Work Management System (WMS) 7. Warehouse Inventory System (WIS)	8. Geographic Information System (GIS) 9. Mobile Applications (Mobile Apps) 10. Operational Data Management System (ODMS)
OPERATIONAL	Provide real-time operation and control of water and energy delivery systems.
11. Network Communications System (NCS) 12. Land Mobile Radio (LMR) 13. Advanced Metering Infrastructure (AMI) 14. Meter Data Management System (MDMS) 15. Automatic Vehicle Location (AVL)	16. Distribution Automation (DA) 17. Substation Automation (SA) 18. Outage Management System (OMS) 19. Supervisory Control and Data Acquisition (SCADA) and Advanced Distribution Management System (ADMS)

All divisions within RPU rely on data to make operational and fiscal decisions. Thousands of data points are collected daily from field equipment and monitoring devices, electric and water meters, customer interactions and financial transactions. The data is stored in various formats, such as spreadsheets, Microsoft Access databases, and a variety of systems (such as enQuesta Customer Information System) that are not integrated with one another, which makes generating reports and analyzing data cumbersome and inefficient. ODMS integrates previously nonintegrated data from multiple systems into OSIsoft's PI system, which serves as a "data hub," or central repository, to collect, and analyze data to enable data-driven decisions. The data is then transformed into meaningful information that can be displayed as dashboards and reports.

Figure 1: Enterprise Data Hub



ODMS Phase I

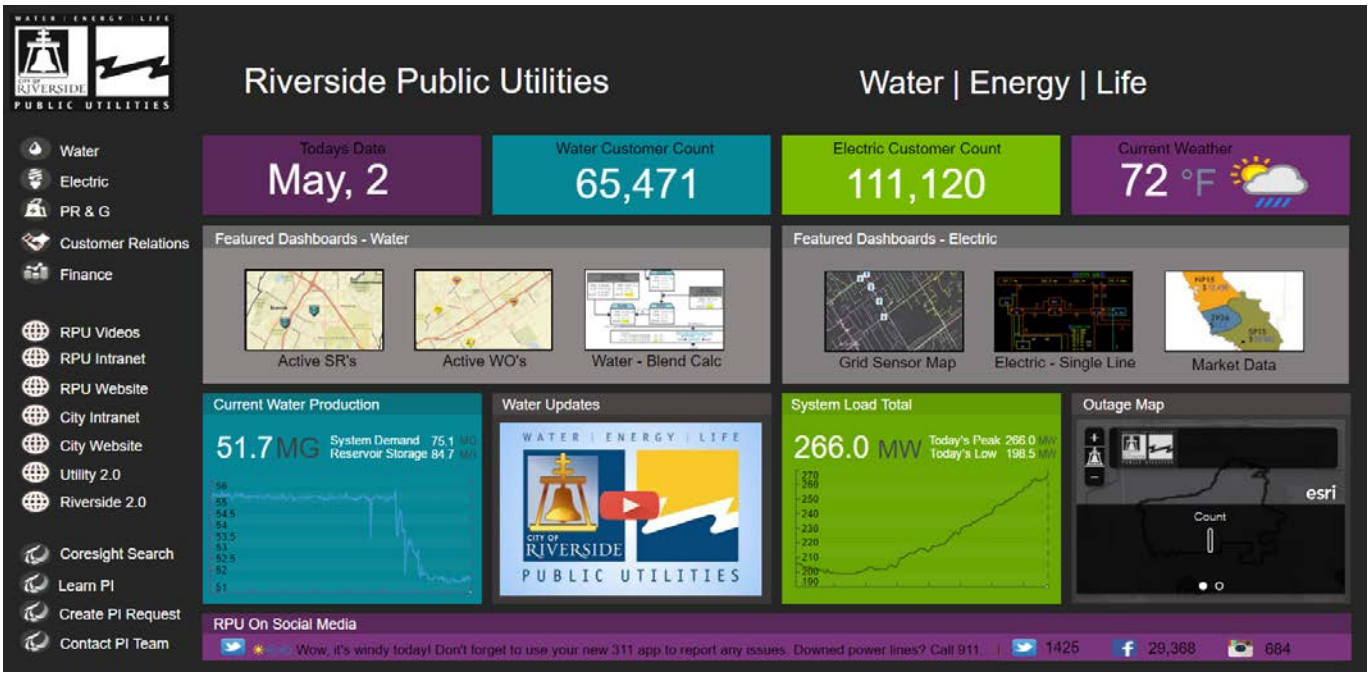
On April 25, 2016, the Board of Public Utilities (Board) approved Phase 1 of the ODMS project in the amount of $3,557,000, which included software, hardware and professional services for implementation.

In less than one year, the ODMS project successfully integrated previously nonintegrated datasets from 13 separate systems and transformed the data into meaningful information that is now being displayed and consumed through user-friendly and easy-to-use automated dashboards and reports. In addition, the project automated and streamlined over 10 manual processes, freeing up staff time to focus on more critical tasks. By automating just one manual process, RPU realized an estimated $260,000 in savings from efficiency gains over a 5 year period.

Table 2: Phase I Datasets/Systems

No.	System	Data/Description
1	Supervisory Control and Data Acquisition (SCADA) - Water	Water production data
2	Utility Work and Asset Management (UWAM)	Year-to-date and lifetime cost of wells, well information, active service request and work orders
3	WaterTrax	Water quality data
4	Grid Sensors	Electric circuit fault data
5	Weather (California Irrigation Management Information System, Riverside Airport Weather Station and UCR Weather Station)	Consolidated weather data including pressure, relative humidity, temperature, and wind direction
6	Substation Monitoring Devices	Test results from relay data, fluid levels, gas variables, moisture variables and alarms
7	Supervisory Control and Data Acquisition (SCADA) - Electric	Electric operations data
8	Outage Management and Reporting (OMAR)	Outage data including location, cause, total customers impacted, total minutes out of power, and restoration times
9	Land Mobile Radio (LMR)	Vehicle radio location
10	SAS	Analytics software used by Power Resources. All data pushed to SAS, primarily Electric SCADA data.
11	Synergi	Analytics software used by Electric System Planning. All data pushed to Synergi, primarily Electric SCADA data.
12	ArcGIS	All data made available to be accessed through ArcGIS

Figure 2: Example ODMS Dashboard



DISCUSSION:

RPU has already realized many benefits of the ODMS, including increased visibility into system and assets, better enterprise-wide decision making driven by real-time data, automation of manual workflow processes, reduced risks and costs associated with potential equipment failure, optimized operational processes and improved asset maintenance and field workforce management.

ODMS Phase II

The scope of Phase II includes supporting staff already using PI and maintaining all of the interfaces, data connections, reports, and displays created in Phase I. It also includes integrating 2 new systems, and multiple datasets to automate manual processes, reports and dashboards for 5 workgroups. This will continue to improve day-to-day operations and enable staff to even further leverage real-time data, reduce manual and time-consuming processes, and continue to improve decision-making.

Table 3: Phase II Datasets/Systems

No.	Dataset/System	Description
1	Customer Information System (CIS)	Automate customer and billing processes / reports / dashboards
2	Market Operations/Settle Core	Automate marketing processes / reports / dashboards
3	RPU Finance	Automate financial processes / reports / dashboards
4	Electric Operations	Automate operations processes / reports / dashboards
5	Water Field	Automate operations processes / reports / dashboards

PI System Enterprise Support Services

RPU has determined that professional service support is critical to the ongoing success of the system and thus recommends extending the agreement with Industrial Evolution for one additional year. The Industrial Evolution team serves as extension of staff and will continue to support system integration, data migration and the development of dashboards and reports. Year 2 cost for the extension of the Industrial Evolution contract is $724,000. It is RPU's intent to transition two of the three positions into full-time permanent positions to support the continued development of the PI system. The full-time permanent positions and any additional scope of work beyond Phase II will be addressed in a future board memo.

The remaining $626,000 included in the work order approval will be used for additional software, hardware and professional services support, as needed.

Table 4: Project Budget Breakdown

PROJECT BUDGET BREAKDOWN	PROJECT BUDGET
Labor/OH	**1,045,000**
Internal RPU Labor	-
City IT Labor	200,000
OSI Pi Consultants / Contractors (3)	724,000
Other Professional Services	121,000
Equipment & Materials	**225,000**
Hardware & Software	225,000
Services	**80,000**
OSI Soft Enterprise Agreement - Software	-
OSI Soft Enterprise Agreement - Services	-
Training, Workshops & Technical Support	80,000
Open Systems Integrator	-
Total	**1,350,000**

FISCAL IMPACT:

Total additional cost include $1,350,000 with $715,000 available in Public Utilities' Electric Account No. 6003000-421005; $162,500 available in Public Utilities' Electric Account No. 6130000-470822; $385,000 available in Public Utilities' Water Account No. 6210000-421005; and $87,500 available in Public Utilities' Water Account No. 6230000-470822.

Prepared by: Mujib Lodhi, Utilities Assistant General Manager Operational Technology
Approved by: Girish Balachandran, Utilities General Manager
Approved by: John A. Russo, City Manager
Approved as to form: Gary G. Geuss, City Attorney

Certifies availability
of funds: Laura Chavez-Nomura, Utilities Assistant General Manager/Finance

Attachments:
1. Amendment to Professional Services Agreement – Industrial Evolution
2. Presentation