BOARD OF PUBLIC UTILITIES   **DATE: JUNE 14, 2021**

SUBJECT: **OPERATIONAL DATA MANAGEMENT SYSTEM PROJECT UPDATE AND FIVE-YEAR EXTENSION OF AN ENTERPRISE PROGRAM AGREEMENT WITH OSISOFT, LLC., FOR PI SOFTWARE LICENSE AND SERVICES UNTIL AUGUST 14, 2026 IN THE AMOUNT OF $1,212,333**

ISSUE:

Consider approving an Amendment to the Enterprise Program Agreement with OSIsoft, LLC., for PI software license and services to extend the term through August 14, 2026 in the amount of $1,212,333.

RECOMMENDATION:

That the Board of Public Utilities:

1. Approve an Amendment to the Enterprise Program Agreement with OSIsoft, LLC., for PI software license and services to extend the term through August 14, 2026 in the amount of $1,212,333; and

2. Authorize the City Manager, or his designee, to execute the Amendment with OSIsoft, LLC, including making minor and non-substantive changes.

BACKGROUND:

In early 2015, Riverside Public Utilities (RPU) issued a Strategic Technology Plan that outlined strategic investments in new operational technologies (OT) as shown in Figure 1. Twenty-two OT projects were identified, with the intent of implementing in the ten-year period following plan issuance.

One of the most critical and foundational projects outlined in the Strategic Technology Plan is the Operational Data Management System (ODMS). The ODMS is foundational for advancing the Strategic Technology Plan, as it serves as a "data hub" or central repository for collecting, analyzing, and visualizing operational data. An effective ODMS manages large amounts of data across multiple systems and workgroups and helps staff turn the data into actionable information to drive critical business decisions.

FIGURE 1 – STRATEGIC TECHNOLOGY PLAN
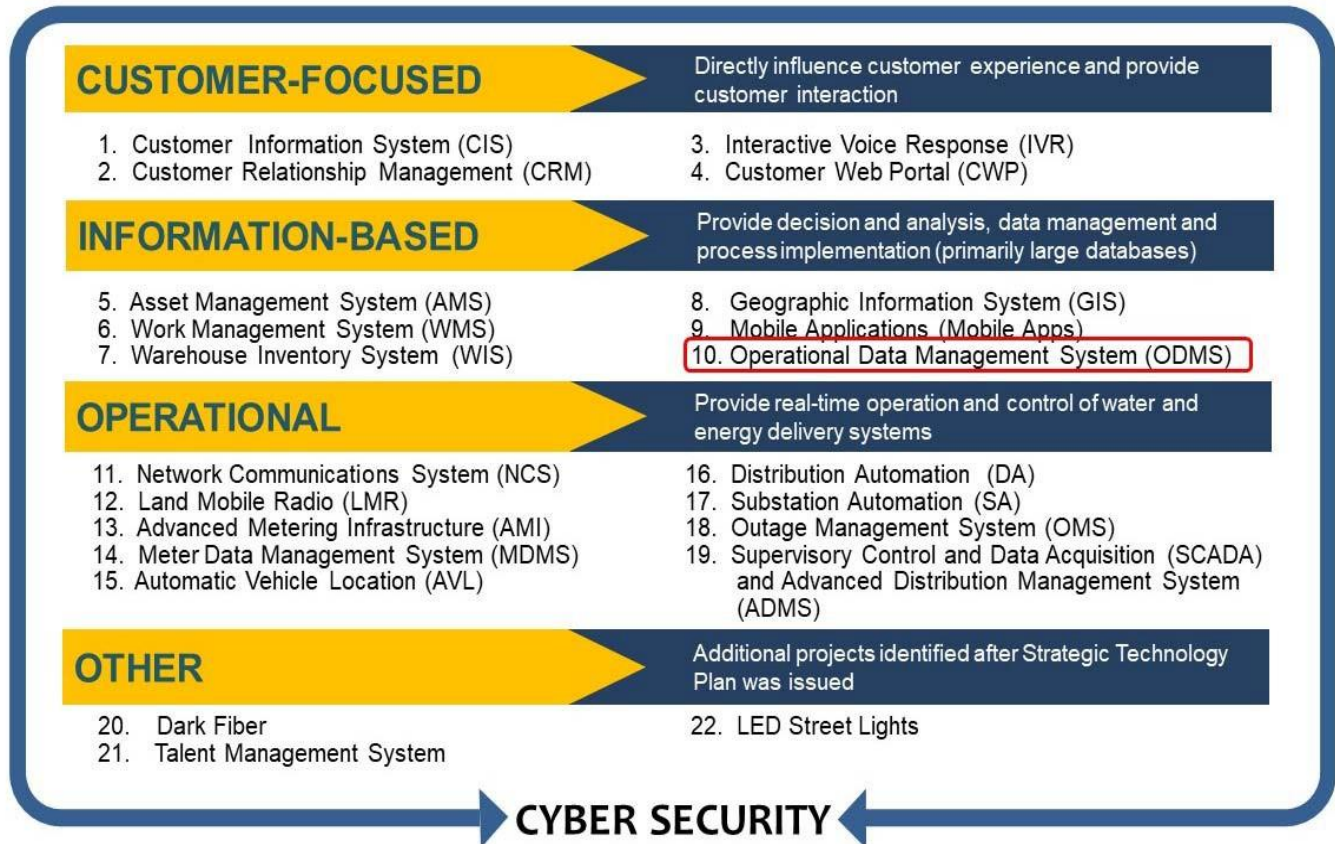
All RPU divisions rely on data to make operational and fiscal decisions. Thousands of data points are collected daily from field equipment and monitoring devices, electric and water meters, customer interactions and financial transactions. As staff continue to implement the OT systems outlined in the Strategic Technology Plan, RPU will continue to accumulate larger amounts of data. Therefore, staff recognizes the need to move away from storing data in various formats and disparate systems to a streamlined system of collecting, analyzing, visualizing and sharing large amounts of historical, real-time and time series data from multiple sources with people and systems across all operations.

On April 25, 2016, the Board of Public Utilities (Board) approved a 5-year Enterprise Program Agreement with OSIsoft to implement the PI System (PI) to serve as RPU's ODMS. PI integrates previously nonintegrated data and transforms it into meaningful information that can be displayed and consumed through visual tools such as dashboards and reports (as represented in Figure 2 below). In addition to providing readily available and easy-to-consume information, PI provides an enhanced analytics platform that RPU can leverage to improve operational performance. Thirty-five separate software systems have been integrated with PI thus far (as listed in Table 3 on page 6 on attached staff report).

FIGURE 2 – PI SYSTEM DATA HUB
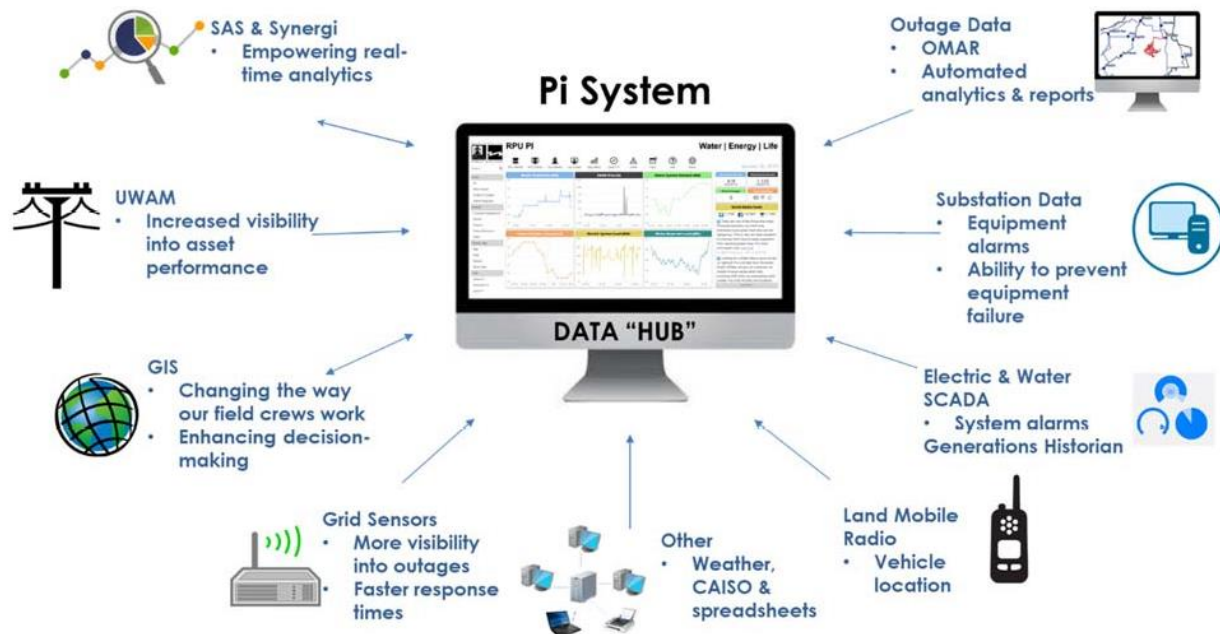
Utilizing PI, RPU has been able to significantly improve operational efficiencies, reduce staff time and operating costs, and improve asset management and system reliability. Additionally, RPU has benefited in several other ways, including:

- Increased visibility into systems and assets
- Improved ability to monitor and track performance to support operating decisions
- Improved ability to analyze incidents to determine cause and effect for establishing corrective actions
- Better enterprise-wide decision making, driven by real-time data
- Automation of multiple manual workflow processes
- Reduced risks and costs associated with potential equipment failure
- Improved asset maintenance and field workforce management
- Increased proactive (predictive) operations to optimize the cost of operating the distribution system
- Improved analytics of historical data for better capital improvement and resources planning
- Improved ability to capture data and produce timely and accurate mandatory compliance reports (required for utilities by North American Electric Reliability Corporation, United States Environmental Protection Agency, California Independent System Operator, etc.)
- Improved real-time methods for monitoring market activity and optimizing bidding strategies

DISCUSSION:

On June 10, 2019, staff presented a project update to the Board and published a progress report, "Status Update: Operational Data Management System", showing that since implementing PI, RPU had achieved a return on investment (ROI) of nearly $673,000. Since publishing the 2019 report, staff has continued to develop dashboards and reports that have continued to increase the return on investment for the PI system. From May 1, 2019 to December 31, 2020, RPU

achieved an additional return on investment of $640,027 (as shown in Table 2 on page 4 of the attached staff report).

These ROI calculations are based on quantitative factors. The primary quantitative factor in each instance is the reduction in staff time to complete tasks. The ROI is calculated using an average hourly rate of the staff position responsible for the task adjusted by a payroll burden multiplier[1] for electric and water of 1.682 and 1.743, respectively. The adjusted total hourly value of the staff position is then multiplied by the hours saved in a year.

It should be noted that other quantitative benefits have also been realized that are not specifically calculated in the ROI, such as reduced truck rolls to investigate problems, reduced overtime costs, reduced operating costs, and reduced paper waste. Staff currently cannot assign an exact value to these benefits, even though these benefits are believed to be material. Also, there are numerous qualitative benefits being derived from the system, which are more difficult to calculate as tangible savings. These savings include increased visibility into system status, avoided costs of potential regulatory fines or lawsuits, reduced length of system outages, fewer customer complaints, and improved system planning.

RPU has invested a total of $4,907,000 (through July 2021) into implementing and deploying the PI System. This investment includes the purchasing of hardware and software; a five-year Enterprise Program Agreement with OSIsoft, including an initial five-year license fee of $1,125,134, and services; City Innovation and Technology Department labor to support back-end implementation of the system; and professional contract services to support system integration, data migration, and the development of dashboards and reports.

As outlined in the tables referenced above, the total combined annual ROI is $1,312,870 per year. This far surpassed the annual enterprise service cost of the OSIsoft PI system, which averaged $298,210 a year for the initial 5-year contract period. At this time, RPU is requesting to renew the Enterprise Program Agreement with OSIsoft for an additional 5-year term, through August 14, 2026. The average annual cost for the extended 5-year term is $242,466 per year, for a total of $1,212,33, for software licensing and services.

Over the next several years, RPU plans to continue developing and expanding the use of PI for additional operational benefits, efficiencies, and ROI. In addition, there are many new dashboards and reports that will be developed using the data from the existing integrations, such as in-depth grid sensor multi-phase reporting and real-time renewables analysis. Staff also plans to integrate the Customer Information System and the new Advanced Meter Infrastructure (AMI) system with PI following the AMI roll-out process, to facilitate improved reporting and analysis of meter data, system performance, operational efficiencies, outage detection and resolution, and customer interaction metrics.

FISCAL IMPACT:

The total fiscal impact for the five-year extension through August 14, 2026 is $1,212,333. The allocation is 35% for Water ($424,317) and 65% for Electric ($788,016), based on system usage.

The software licensing and services has already been paid for Fiscal Year 2020/21. Sufficient funds are included as part of the proposed Fiscal Year 2021/22 budget in the Water Operations

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[1] Payroll burden multipliers for electric and water provided by Finance and Administration based on the Fiscal Year 2019-2020 Summary of Overhead Rate information.

and Technology Software Maintenance and Support Account No. 6213000-424310 ($84,863) and the Electric Operations and Technology Software Maintenance and Support Account No. 6003000-424310 ($157,603). The City Council will consider the Fiscal Year 2021/22 budget at their regularly scheduled meeting held on June 22, 2021.

Future years' budget will be included as a part of the biennial budget process.

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Approved as to form: Kristi J. Smith, Interim City Attorney

Certifies availability
of funds: Edward Enriquez, Chief Financial Officer/City Treasurer

Attachments:
1. Operational Data Management System Staff Report
2. OSIsoft Enterprise Program Agreement Amendment
3. Presentation