



Improving Our Infrastructure To Keep Supporting Glendale

THE GLENDALE CITY COUNCIL

THE DRIVING FORCE IN OVERALL CITY POLICY AND VISION

Mayor Ara Najarian

COUNCIL MEMBERS

Paula Devine, Vartan Gharpetian, Vrej Agajanian, Frank Quintero

GLENDALE WATER & POWER COMMISSION

SERVES AS AN ADVISORY GROUP THAT REPRESENTS THE BEST INTERESTS OF THE PEOPLE WHO LIVE AND WORK IN GLENDALE.

GWP COMMISSIONERS

Andy Carrasco, Hand Avanesian, Ronald Kedikian, Saajini Lall

THE STAFF AT GLENDALE WATER & POWER DEVOTES THEIR TIME, RESOURCES, ENERGY, AND PROBLEM-SOLVING SKILLS TO DELIVER THE SAFEST WATER, AND THE CLEANEST ENERGY, MAINTAIN THE SAFEST INFRASTRUCTURE, AND THE MOST SUSTAINABLE FUTURE.

Stephen M. Zirn - General Manager

Michael De Ghetto - Chief Assistant General Manager, Water

Daniel Scorza - Chief Assistant General Manager, Electric

Craig Kuennen - Deputy General Manager, Business Services

Mark Young - Deputy General Manager, Power Management

Maurice Oillataguerre - Environmental Program Administrator

Steve Nersesyan - Utility Manager, General Business Management

Administrative Services Division

Business Services Division

Electric Services Division

Environmental Sustainability Services Division

Power Management Services Division

Water Services Division

141 N. Glendale Ave., Level 4

Glendale, CA 91206

(818) 548-3300

GlendaleWaterAndPower.com

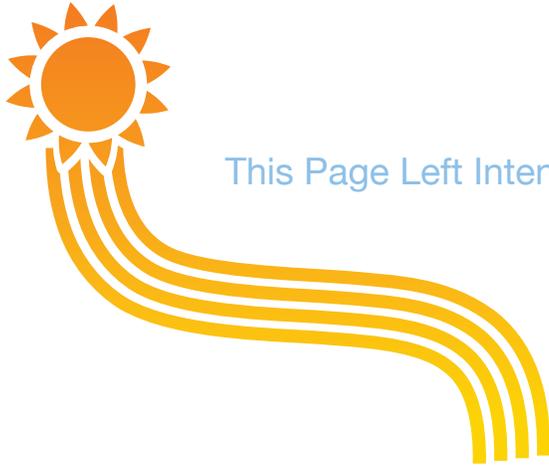




TABLE OF CONTENTS

2018 – 2019 Annual Report

General Manager’s Message	1
By The Numbers	3
Electric Services Division	4
Water Services Division	5
Business Services Division	6
Administrative Services Division	9
Independent Auditor’s Report – Electric	10
Financial Statements: Electric Utility	13
Operating Statistics: Electric Utility	58
Independent Auditor’s Report – Water	67
Financial Statements: Water Utility.....	70
Operating Statistics: Water Utility	103



This Page Left Intentionally Blank

Improving Our Infrastructure To Keep Supporting Glendale

A message from General Manager Stephen M. Zurn:



At Glendale Water & Power (GWP), we are on a journey of maintaining our electric and water reliability while incorporating new technologies to make us a better utility provider, improve the customer experience, optimize performance, and measure our effectiveness. This past year, our utility has made many strides forward to change the way we conduct business by becoming a more innovative reliable service provider.

With the City Council's approval of the Grayson Repowering project earlier this year, we took the first steps in establishing GWP as a national clean energy leader. The approved Repowering plan will transform the way GWP provides reliable and affordable clean energy resources to its residents and businesses. The repowering of Grayson will include a diverse mix of energy resources with a goal of providing the cleanest power possible while maintaining reliability at a reasonable cost in a transmission constrained location.

Investing in Glendale's long-term health also requires sustainable practices that reduce air pollution and lower our collective carbon footprint. We are helping our customers with purchasing zero emission vehicles fueled by green power and are steadfastly increasing our electrification infrastructure. We are also working with different City departments to establish an office of sustainability to ensure we are taking the right steps towards a sustainable City.

We improve the quality of life of our community and customers with reliable electricity and water services. Our customers can count on safe, reliable power at affordable prices and that is because of system wide equipment and technology upgrades including both underground and overhead infrastructure improvements. We want to ensure our customers can count on reliable electricity when they need it. We also proactively replace and upgrade water mains, valves, pumps and other parts of our water infrastructures to make sure our customers have clean and high quality water. Moving forward, we have many plans and projects to help us continue on the road to a safer, cleaner, and a more efficient Glendale.

Although our business environment continues to change in the wake of evolving customer expectations and regulatory and technological changes, we remain focused on aligning our services to meet the needs of our customers and our community. Our goal is to be a forward thinking, safe, reliable, affordable, and sustainable and be a partner in our community's prosperity

A handwritten signature in black ink, appearing to read 'Stephen M. Zurn'.

Stephen M. Zurn
General Manager, Glendale Water & Power

FOCUSED ON GLENDALE





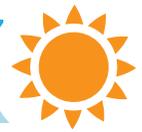
By The Numbers...

Water Maintains:

Population	206,283
Square Miles	31
Miles of Water Mains	404
Wells	13
Reservoirs	28
Treatment Plants	2
Booster Stations	28
Peak Day (million gallons)	31 (8/31/18)
Number of Services	34,205
Residential Gallons Per Day Usage	74
Water Sales (billion gallons)	7.6

Electric Maintains:

Population	206,283
Square Miles	31
Number of Distribution Miles	502
Number of Subtransmission Miles	56
Number of Poles	14,796
Number of Substations	14
Highest Peak in FY 2018-2019	332 (MW on 7/6/18 at 6:05 p.m.)
Number of Meters	89,564
Power Sales (MWh)	1,490,987



Electric Services Division

Investing in Glendale’s future includes upgrading and replacing aging infrastructure, and building new assets that improve the system. Improving our infrastructure as we upgrade and enhance reliability and operational efficiency keeps us ready for future changes. Our customers can count on reliable and affordable power.

Accomplishments:

- Replaced 4.26 circuit miles of aged underground high voltage cable
- Rebuilt Vault #1023 (Sinclair Ave. & Stanley Ave.) and Vault #902 (Burchett & Kenilworth Ave.) as part of vault replacement program.
- Completed the installation of a new underground substructure system for the developments at Brand Blvd & Cypress and at S. Pacific Ave and W. Elk Ave.
- Completed over 1145 electric service upgrades/reconnects
- Replaced 13 deteriorated poles
- Replaced /installed 160 distribution transformers
- Replace over 400 street lights with LED’s

Adams Hill 4kV/12kV Project:

- Rebuilt 63 poles for 12kV operation
- Replaced 45 deteriorated poles
- Replaced 22 distribution transformers
- Converted #2 Tropic feeder and a portion of #3 Tropic feeder to 12kV operation
- This project will continue into 2020

34 kV Transmission Lines:

- Upgraded the underground portion of the Tropic-Scholl 34kV transmission line to larger cables





Water Services Division

Glendale Water & Power annually treats and delivers more than 7 billion gallons of safe and reliable drinking water. To make this happen, GWP employs a team of skilled water professionals who dedicate their personal-time and effort to obtain, and maintain, their individual State Water Resources Control Board water treatment and water distribution operator certifications. As a result, Glendale's water meets or exceeds all state and federal drinking water standards. Continuously monitoring water quality in the distribution system and making system improvements to maintain its quality included:

- Taking more than 5,700 water quality samples per year
- Managing a cross-connection control program to inspect and approve the installation of new backflow prevention assemblies
- Monitoring and testing nearly 2,200 existing backflow prevention assemblies to help ensure that contamination does not enter the system
- Pro-actively operating the water system to balance storage for emergencies while minimizing the age of the water in the system to maintain its quality
- Pilot testing new treatment equipment at the Emerald Isle water tank to automatically maintain the proper disinfection residuals in the City's water tanks and reservoirs
- As part of routine system maintenance, draining, inspecting, then cleaning and making minor repairs as needed on three steel water tanks and five concrete water reservoirs

The Water Division's team of dedicated professionals provides safe and reliable service 24 hours per day 365 days per year. Maintaining reliable service includes responding to water main breaks and customer outages and working long hours to quickly restore service and minimize customer impacts. Maintaining service also includes remotely and locally monitoring and operating 13 wells, 28 tanks and reservoirs, 26 pump stations, and six pressure reducing stations throughout the City.

Investing in the Future:

GWP's asset management program includes both investing in the future by replacing or rehabilitating aging infrastructure and building new assets that improve the system, and also systematically maintaining existing assets. Asset management activities included:

- Draining and inspecting the surge tanks at five pumps stations with the help of a specialized tank inspection firm to ensure that these pressurized tanks are in good working order to minimize pressure surges in the distribution system.

- Continuously upgrading and updating security systems and equipment to better protect critical City facilities like tanks and pump stations from threats with the latest technology.
- Rehabilitating the Park Manor Pump Station by demolishing and rebuilding the pump base on an existing pump to extend the life and reliability of the pump station.
- Completing one year, and beginning the next, of the City's 10-year Pipeline Management Program to systematically replace and rehabilitate the City's water mains using the information developed in the Water Master Plan. There are over 380 miles of pipelines in GWP's service area. Many miles of pipelines have been replaced or cleaned and relined as part of GWP's past Capital Improvement Programs and this program builds on prior asset management efforts.

Power Management Services Division

The Power Generation Section continues to work around the clock to provide reliable power for the City of Glendale. The employees at Grayson Power Plant provide this reliable power by implementing continuous monitoring, preventative maintenance and replacement of equipment. As our Grayson Power Plant ages, these improvements are temporary fixes until we are ready to begin work on the repowering of the Grayson Power Plant at the GWP Utility Operations Center. Having a modernized Power Plant will give our customers a more reliable and environmentally conscious source of power to be able to meet the future demands of the City.

We have completed the following major improvement projects:

- Unit #9 Chiller Motor Replacement
- Unit 8A Fuel Control Valve Overhaul
- Unit 8B/C Fuel Control Valves Overhaul
- Unit 8A Free Turbine OEM Inspection





Business Services Division

Customer Service

Glendale Water & Power continues to provide excellent customer service and is dedicated to delivering services that meet and exceed our customers' needs. Our Customer Services section assisted over 93,000 customers over the telephone and by email, and an additional 77,000 customers at our office. Both telephone calls and in-office cashing transactions decreased slightly, and our web contacts increased by 26%. Nearly 90% of these online contacts are responded to within 48 hours. Customer telephone wait time decreased by nearly 50%, to an average of 36 seconds, answering 80% of our calls in 30 seconds or less.

Billing and collection activities continued to outperform the industry on key metrics such as billing accuracy, which was 99.9% for our nearly 600,000 bills generated. This number includes the billing service we provide to the Fire Department by issuing annual bills for permits to businesses handling or storing hazardous materials, generating hazardous waste or discharging industrial wastewater.

We had a significant reduction for this fiscal year in service disconnections and account delinquencies, with minimal uncollectable accounts, as well as a decrease in the number of payment arrangements requested by our customers.

Sixty-three percent of the City of Glendale's municipal bill payments were received electronically through GWP's online web portal, automated interactive voice response system, mobile application, automatic bank draft program, payment services through customer banks, and "PayNearMe" that is available at participating 7-Eleven stores nationwide.

Field Services completed 4600 customer requests, with an increase in both move-ins and move-outs when compared to last year. Field technicians also inspected 18,500 electric and water meters throughout the City to ensure the quality and accuracy of communications with metering equipment, validation of data being billed, and inspection of the equipment for possible malfunctions or meter tampering that could lead to loss of revenue. In preparation for the 2019 rate and City fee changes, staff completed a comprehensive series of rate tests by simulating test accounts. This extensive testing ensures accuracy in our customer billing for water, electric, sewer and fiber optics.

With continued efforts in efficiency, we have successfully engaged with Online Utility Exchange, which is integrated with our billing system to authenticate and receive credit information of new

customers. They also prepare and mail the required adverse action notifications to our customers, previously done in-house.

Customer Services uses the Advanced Meter Infrastructure (AMI) system and program-generated reports to identify and notify customers of possible leaks. For the 2018-2019 fiscal year, over 900 customer contacts were made, including field visits to further assist in water usage concerns. In addition, 7,500 customers were alerted through the WaterInsight program by automated water leak. Both of these numbers indicate a decrease from the last fiscal year, due to both customer and staff conservation efforts.

In preparation for future customer self-service options such as move-ins and payment arrangements, Customer Service has modified the credit-scoring module in the utility billing system that will assess risk factors based on credit events used to establish credit and approve payment arrangements.

Customer Service has formalized a continuous training program, combining both independent and classroom studies, with the goal of consistently improving our internal and external communication skills, demonstrating excellence in customer service.

The Contact and Payment Center participated in Insight Glendale by welcoming a participant from CDD-Neighborhood Services to our department to observe our daily functions, and received positive feedback from both staff and the participant. Customer Service staff participated in GWP's Tailgate event, showcasing the different GWP sections and educating our customers, and also at the Integrated Resource Plan community meetings, facilitating discussions with members of the community.





Conservation & Utility Modernization

Public education is a critical part of our conservation strategy. Through our customer education and outreach efforts, our customers learn better ways of conserving, saving money, and applying for programs that help them use energy and water wisely. The Conservation & Utility Modernization Section continues to educate and advocate for the responsive use of natural resources and green energy sources.

Through our various Public Benefit Programs, we accomplished the following:

- Provided 380 shade trees through our Tree Power Program
- Provided 1,100 incentives through our Smart Home Rebate Program
- Launched an online Marketplace for customers to purchase Energy and Water savings devices at a discounted price.
- Launched a digital Newsletter targeting our Key Account Customers as well as our Small and Medium size customers.
- Incentivized a total of 209 solar residential installations in Glendale.
- Educated 1,400 sixth graders through our Living Wise Program and sent them home with energy and water saving conservation devices to install at home
- Provided 157,000 WaterSmart Reports to our residential customers to inform them about their water usage and provide them with tips to conserve water.
- Conducted 255 Small Business site surveys through our Smart Business Energy Upgrade Program, providing small businesses each up to \$2,000 in energy and water efficient upgrades.
- Installed six more electric public accessible vehicle charging stations, totaling thirteen now available in Glendale.
- Installed over 150 smart thermostats and In-Home Digital Displays.
- 15 of our key account customers participated in our Business Energy Solutions program and received incentives for implementing various energy efficiency projects.
- Provided six print reports to approximately 50,000 residential customers on their energy use and provided 75,000 customers with web-access to their electric usage.
- Issued 36 electric vehicle charging station rebates
- Over 350 residential customers participated in the Smart Home Energy Upgrade program which provides a survey and free in stallation of energy and water saving devices.

Business Support Systems

As GWP focuses on modernization we recognize the importance of the underlying technologies to provide better service to our customers and to increase efficiencies. This year GWP Business System Support has worked to improve reliability, security, and business continuity.

GWP continues to build upon the SQL cluster virtual environment to support the Glendale Modernization initiatives and implemented high availability in many of our infrastructure computer systems. The SQL clusters and the virtualization environment are highly redundant and resilient against many different failure scenarios. The designs allow GWP to reduce downtime due to unplanned outages and planned maintenance resulting in improved systems availability and continuity.

GWP is always planning for the future. An important component of the focus on reliability is being prepared for the unplanned events and disasters. GWP is implementing disaster recovery and data protection plan it put together the prior year; it's anticipated to be completed by end of FY 19/20. It's our important we have many layers of data protection in place. Should a major event happen, the goal is to bring our major applications online and restore service as quickly as possible.

Security is an important part of GWP's goals toward reliability and modernization of its infrastructure. GWP continues to focus on security and develop a stronger, sustainable state of security and business continuity.

- Implemented Security Incident and Event Management System (SIEM) to monitor GWP critical assets 24/7
- Implemented two new Palo Alto firewalls for redundancy and failover. Purchased FireEye to monitor traffic on the firewall; invoked security protocol to not allow traffic from other countries outside the United States.
- Implemented a Password Policy
- Migrated GWP user facing applications to Citrix to provide added security through dual factor authentication.
- Provide monthly security tips

Conservation Voltage Reduction (CVR) Program - GWP continues to work with Dominion Voltage Inc. (DVI) to expand its CVR program system wide. CVR conserves electricity by operating the distribution system within the lower range of the (10%) voltage band required by equipment standards using the voltage data collected from the Advanced Meter Reading Infrastructure (AMI), to distribution feeders. We have 20 transformers and 35 Feeders in CVR mode with a combined savings of 3847.43 MWH. The average percentage of savings by feeder was 1.42%.



New Electric and Water Rate Structure

Implemented the new Electric, Water, and Sewer COSA rate structure that went into effect July 1, 2018 with the new time of use (TOU) schedule.

Implemented new Electric Energy State Surcharge rate from \$0.00029 to \$0.0003 per KWH effective May 1, 2019.

Business System Automation – GWP continues to implement Automation within the Customer Information and Billing System (CIS). The NorthStar Automation Platform is a powerful tool to streamline business processes, improve customer service efficiency, and free valuable staff time by automating manual business processes. This tool enables users to schedule and run routine tasks on a regular or event driven bases. It also allows instant emails notifications of successful and/or failed business processes. We automated several business processes this year including account write-off process, deposit and credit refunds, payment file processing automation and the Utility Online Exchange for account and customer validation.

The following business systems were upgraded and/or migrated in FY 18/19:

- Customer Information and Billing System (CIS) upgraded to version 6.4.16 to support the Net Meter Module, new version of mCARE Mobile Dispatch and Service Order system and Customer Connect web portal platform.
- Upgraded Itron IEE Meter Data Management System with Hot Fix Patch 8.2.24
- Implemented the Online Utility Exchange for Customer Service credit checks; the new credit system is integrated with the NorthStar CIS through the user interface to automatically validate a customer identification for new service and provide credit reporting to determine deposit or risk based on parameters Customer Service determined.
- New RIVA Water Endpoint pilot is a success. With the upgrade of the Itron MVRs Radio Handheld software from v8.7.4 to v8.7.6 the RIVA Endpoints are now being read remotely and we are able to bill accurately and import hourly water interval data.
- Mobile Dispatch and Service order system (mCARE) has been migrated to Citrix for better security and dual authentication for access. The mCARE application is now accessible on iPad's for easier mobility for field staff.
- Integrated a document management system, EDOCs V1, with the CIS and the mCARE Mobile Dispatch and Service order system so Field Technicians can use their iPad's and/or lap tops to take photos, view and edit plans,

incident response, and attached them to the service order and upload them to the Customer Information System for better visibility of completed service orders and Customer Service.

- Upgraded What's Up Gold (WUG) Virtual server, used to monitor up/down time for GWP's AMI Backhaul devices from Version 8 to Version 16. Now provides a more secure environment.
- GWP virtual VCenter upgrade to 6.5
- Implemented OSISoft Pi historian Pi Vision module for a web version of the software which allow better ease of use and set-up of real time dashboards.
- OSISoft Pi Historian AF from SQL 2008 to SQL 2018





Administrative Services Division

Legislative

Glendale Water & Power (GWP) is actively engaged at the Federal and State levels on all utility related Legislative and Regulatory processes. GWP regularly communicates and educates elected members and representatives to ensure they are aware of potential impacts of specific legislation and/or rule amendments. At the State level, GWP participates in monthly advocacy efforts in Sacramento. Additionally, GWP leads the Tri-City advocacy efforts with Cities of Burbank and Pasadena who share similar challenges facing today's public utilities. As an active member of the Southern California Public Power Authority (SCPPA), a member agency of the Metropolitan Water District of Southern California (MWD), utility trade associations such as the California Municipal Utilities Association (CMUA), Association of California Water Agencies (ACWA), and WaterReuse, GWP engages in regular discussions with other stakeholders on shared challenges and opportunities. These collaboration efforts among member agencies, provides a stronger voice and influence to advance the priorities of publicly owned utilities (POUs). In February 2019, GWP participated in the American Public Power Association's (APPA) Legislative Rally in Washington D.C. to discuss direct impacts of federal actions affecting public utilities. The 2018/2019 legislative session included several bills of interest to public utilities promoting close monitoring, advocacy, and outreach efforts.

California Wildfires:

The effects of climate changes are dramatically increasing the frequency and size of Californian's Wildfires. During the 2017 wildfire season, more than 1.3 million acres were burned, which was most destructive recorded in the State of California. Consequently, in the last legislative session of 2017-18, Senate Bill 901 was signed into law. This law required all utilities to prepare a comprehensive wildfire mitigation plan by January 2020, and assess compliance through a third-party independent evaluator. The legislature also passed, and the Governor signed into law Assembly Bill 1054, which boosted more safeguards by mandating annual updates to Utility's Wildfire Mitigation Plan (WMP). WMP must be submitted to the newly created California Wildfire Advisory Board who will provide recommendations and suggestions.

GWP proactively prepared its WMP, which will include number of tools available to mitigate any potential wildfire risks throughout our service territory. Additionally, upon completion of the plan, GWP will launch comprehensive public education outreach to inform our customers of GWP's efforts on wildfire preparedness.

Safe & Affordable Drinking Water

Due to poorly maintained infrastructure in various disadvantaged communities, the availability of safe and affordable drinking water had become a statewide concern. The legislature passed Senate Bill 200, which was signed into law to assist water agencies to provide adequate and affordable supply of safe drinking water. This law allocates \$130 million dollars annually for the next ten years. Funding for this allocation will be appropriated from Greenhouse Gas Reduction Fund (GGRF) starting 2020-21 Fiscal Year to create the Safe & Affordable Drinking Water Fund. GWP will be actively monitoring this Fund to seek fair appropriation of our stakeholders.

Environmental Sustainability Division

GWP is currently assisting the City in establishing an Office of Sustainability. The Consultant, EcoMotion, will be working with GWP in evaluating the City's current environmental programs and city operations to help Glendale be more sustainable and eventually create and staff a city-wide Office of Sustainability that will build upon the City's already innovative strategies to further:

- Reduce the City's reliance on imported water by increasing stormwater retention, recycled water usage, and water conservation strategies
- Increase the City's use of renewable energy sources
- Reduce the City's greenhouse gas emissions and carbon footprint
- Increase green building practices to make Glendale homes and businesses more energy efficient and sustainable
- Decrease the amount of trash being landfilled by increasing recycling and other innovative solid waste reduction strategies
- Improve local air quality by increasing the number of electric vehicles on the road and instituting other air pollution reduction measures
- Increase residents and businesses knowledge of sustainability and seek their assistance in helping Glendale achieve its goals in this area
- Increase the City's outreach activities to make sure Glendale's sustainability efforts are truly a community effort