

PRELIMINARY OFFICIAL STATEMENT DATED JULY \_\_\_, 2019

[INSERT DAC LOGO]

NEW ISSUE – FULL BOOK-ENTRY ONLY

Ratings:  
Fitch: “\_\_\_”  
S&P: “\_\_\_”  
(See “RATINGS” herein)

*In the opinion of Bond Counsel, under existing law and assuming compliance with the tax covenants described herein, and the accuracy of certain representations and certifications made by the City described herein, interest on the 2019A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the “Code”). Bond Counsel is also of the opinion that such interest is not treated as a preference item in calculating the alternative minimum tax imposed under the Code. Bond Counsel is further of the opinion that interest on the 2019A Bonds is exempt from personal income taxes of the State of California (the “State”) under present State law. See “TAX MATTERS” herein regarding certain other tax considerations.”*

[INSERT CITY LOGO]

§ \_\_\_\_\_\*  
CITY OF PASADENA, CALIFORNIA  
ELECTRIC REVENUE REFUNDING BONDS,  
2019A SERIES

Dated: Date of Delivery

Due: August 1, as shown on the inside cover

This cover page contains certain information for general reference only. It is not intended to be a summary of the security or terms of this issue. Investors are advised to read the entire Official Statement to obtain information essential to the making of an informed investment decision. Capitalized terms used on this cover page not otherwise defined shall have the meanings set forth herein.

The City of Pasadena, California Electric Revenue Refunding Bonds, 2019A Series (the “2019A Bonds”) are being issued for the purpose of providing moneys to (i) refund all of the City’s outstanding Electric Revenue Refunding Bonds, 2009 Series (the “2009 Bonds”), and (ii) pay the costs of issuance of the 2019A Bonds. See “PLAN OF REFUNDING” herein.

The 2019A Bonds are being issued pursuant to an Electric Revenue Bond Fiscal Agent Agreement, dated as of August 1, 1998, by and between the City of Pasadena, California (the “City”) and The Bank of New York Mellon Trust Company, N.A., as successor fiscal agent (the “Fiscal Agent”), as amended and supplemented, including as amended and supplemented by a Tenth Supplement to Electric Revenue Bond Fiscal Agent Agreement, dated as of August 1, 2019, by and between the City and the Fiscal Agent (collectively, the “Fiscal Agent Agreement”). The 2019A Bonds are being issued in fully registered form, and, when issued, will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York (“DTC”). DTC will act as securities depository of the 2019A Bonds. Beneficial ownership interests in the 2019A Bonds may be purchased in book-entry form only in denominations of \$5,000 principal amount or any integral multiple thereof. Interest on the 2019A Bonds will be payable semiannually on February 1 and August 1 of each year, commencing February 1, 2020. Payments of principal of, premium, if any, and interest on, the 2019A Bonds will be paid by the Fiscal Agent to DTC, which is obligated in turn to remit such principal, premium, if any, and interest to its participants for subsequent disbursement to the beneficial owners of the 2019A Bonds.

The 2019A Bonds are not subject to redemption prior to maturity.

The 2019A Bonds are an obligation payable only from the Net Income of the Electric System in the Light and Power Fund of the City and certain other funds as provided in the Fiscal Agent Agreement. The 2019A Bonds are secured by a pledge of and lien upon Net Income of the Electric System on a parity with other obligations of the Electric System payable from Net Income of the Electric System and issued from time to time pursuant to the terms of the Fiscal Agent Agreement. Upon the issuance of the 2019A Bonds and refunding of the 2009 Bonds, in addition to the 2019A Bonds, the City will have \$205,105,000 principal amount of parity obligations outstanding payable from Net Income of the Electric System pursuant to the terms of the Fiscal Agent Agreement.

The general fund of the City is not liable for the payment of any 2019A Bonds, any premium thereon upon redemption prior to maturity or their interest, nor is the credit or taxing power of the City pledged for the payment of any 2019A Bonds, any premium thereon upon redemption prior to maturity or their interest. The Owner of any 2019A Bond shall not compel the exercise of the taxing power by the City or the forfeiture of any of its property. The principal of and interest on any 2019A Bonds and any premiums upon the redemption of any thereof prior to maturity are not a debt of the City nor a legal or equitable pledge, charge, lien or encumbrance upon any of its property or upon any of its income, receipts or revenues, except the Net Income and other funds, security or assets which are pledged to the payment of the 2019A Bonds, interest thereon and any premiums upon redemption pursuant to the Fiscal Agent Agreement.

The 2019A Bonds were sold to \_\_\_\_\_ (the “Initial Purchaser”) pursuant to competitive bidding on July \_\_\_, 2019. The 2019A Bonds will be offered when, as and if issued, sold and received by the Initial Purchaser, subject to the approval of Nixon Peabody LLP, Los Angeles, California, Bond Counsel, and certain other conditions. Public Resources Advisory Group, Los Angeles, California, is serving as Municipal Advisor to the City in connection with the issuance of the 2019A Bonds. Certain legal matters will be passed upon for the City by Michele Beal Bagneris, City Attorney of the City, and by Nixon Peabody LLP, Los Angeles, California, Disclosure Counsel. It is anticipated that the 2019A Bonds in definitive form will be available for delivery to DTC in New York, New York by Fast Automated Securities Transfer (FAST) on or about August \_\_\_, 2019.

Dated: July \_\_\_, 2019

\* Preliminary; subject to change.

\$ \_\_\_\_\_  
**CITY OF PASADENA, CALIFORNIA**  
**ELECTRIC REVENUE REFUNDING BONDS,**  
**2019A SERIES**

**MATURITY SCHEDULE**

| Maturity Date<br>(August 1) | Principal<br>Amount | Interest<br>Rate | Yield | CUSIP <sup>†</sup><br>(702248) |
|-----------------------------|---------------------|------------------|-------|--------------------------------|
| 2020                        |                     |                  |       |                                |
| 2021                        |                     |                  |       |                                |
| 2022                        |                     |                  |       |                                |
| 2023                        |                     |                  |       |                                |
| 2024                        |                     |                  |       |                                |

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<sup>†</sup> CUSIP is a registered trademark of The American Bankers Association. CUSIP data herein is provided by CUSIP Global Services, managed by S&P Capital IQ Financial Services LLC on behalf of The American Bankers Association. CUSIP numbers have been assigned by an independent company not affiliated with the City, Pasadena Water and Power (“PWP”) or the initial Purchaser and are included solely for the convenience of the holders of the 2019A Bonds. This data is not intended to create a database and does not serve in any way as a substitute for the CUSIP Services. None of the City, PWP or the Initial Purchaser shall be responsible for the selection or correctness of the CUSIP numbers set forth herein. The CUSIP number for a specific maturity is subject to being changed after the delivery of the 2019A Bonds as a result of various subsequent actions including, but not limited to, a refunding in whole or in part of such maturity or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of the 2019A Bonds.

**CITY OF PASADENA**

**CITY COUNCIL**

Terry Tornek, *Mayor*  
Tyron A.L. Hampton, *Vice-Mayor*  
Margaret McAustin, *Council Member*  
John J. Kennedy, *Council Member*  
Gene Masuda, *Council Member*  
Victor M. Gordo, *Council Member*  
Steven Madison, *Council Member*  
Andy Wilson, *Council Member*

**CITY STAFF**

Steve Mermell, *City Manager*  
Matthew Hawkesworth, *Director of Finance*  
Vicken Erganian, *Treasurer and Deputy Director of Finance*

**CITY ATTORNEY**

Michele Beal Bagneris

**PASADENA WATER AND POWER STAFF**

Gurcharan Bawa, *General Manager*  
Eric Klinkner, *Assistant General Manager & Chief Deputy*  
Shari M. Thomas, *Assistant General Manager for Finance, Administration and Customer Service*  
Kelly Nguyen, *Assistant General Manager for Power Supply*  
Marvin Moon, *Assistant General Manager for Power Delivery*  
Mitchell Dion, *Assistant General Manager for Water Delivery*

**SPECIAL SERVICES**

**MUNICIPAL ADVISOR**

Public Resources Advisory Group  
Los Angeles, California

**BOND AND DISCLOSURE COUNSEL**

Nixon Peabody LLP  
Los Angeles, California

**FISCAL AGENT AND ESCROW AGENT**

The Bank of New York Mellon Trust Company, N.A.  
Los Angeles, California

**INDEPENDENT ACCOUNTANTS**

Lance, Soll & Lunghard, LLP  
Brea, California

No dealer, broker, salesperson or other person has been authorized by the City to give any information or to make any representations, other than those contained herein, and if given or made, such other information or representations must not be relied upon as having been authorized by any of the foregoing. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of the 2019A Bonds in any jurisdiction in which such offer, solicitation or sale would be unlawful.

This Official Statement is not to be construed as a contract with the purchasers of the 2019A Bonds. Statements contained in this Official Statement involving any estimates, forecasts or matters of opinion, whether or not expressly so stated, are intended solely as such and not as a representation of fact.

The information set forth herein has been furnished by the City and other sources which are believed to be reliable, but is not guaranteed as to accuracy or completeness. The information and expressions of opinions herein are subject to change without notice and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the City or the Electric System since the date hereof.

IN CONNECTION WITH THE OFFERING OF THE 2019A BONDS, THE INITIAL PURCHASER MAY OVER-ALLOT OR EFFECT TRANSACTIONS THAT MAY STABILIZE OR MAINTAIN THE MARKET PRICE OF SUCH 2019A BONDS AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME. THE INITIAL PURCHASER IN CONNECTION WITH ANY REOFFERING MAY OFFER AND SELL THE 2019A BONDS TO CERTAIN DEALERS, INSTITUTIONAL INVESTORS AND OTHERS AT PRICES LOWER THAN THE PUBLIC OFFERING PRICES STATED ON THE INSIDE COVER PAGE HEREOF AND SUCH PUBLIC OFFERING PRICES MAY BE CHANGED FROM TIME TO TIME BY THE INITIAL PURCHASER.

This Official Statement, including any supplement or amendment hereto, is intended to be filed with the Municipal Securities Rulemaking Board through the Electronic Municipal Market Access (EMMA) website. The City maintains a website. However, the information presented therein is not part of this Official Statement and should not be relied upon in making investment decisions with respect to the 2019A Bonds.

References to website addresses presented herein are for informational purposes only and may be in the form of a hyperlink solely for the reader's convenience. Unless specified otherwise, such websites and the information or links contained therein are not incorporated into, and are not part of, this Official Statement for purposes of, and as that term is defined in, Securities and Exchange Commission Rule 15c2-12.

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### **CAUTIONARY STATEMENTS REGARDING FORWARD-LOOKING STATEMENTS IN THIS OFFICIAL STATEMENT**

Certain statements included or incorporated by reference in this Official Statement constitute "forward-looking statements." Such statements are generally identifiable by the terminology used such as "plan," "expect," "estimate," "budget" or other similar words. The achievement of certain results or other expectations contained in such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements described to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. The City does not plan to issue any updates or revisions to those forward-looking statements if or when its expectations or events, conditions or circumstances on which such statements are based occur.

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## OFFICIAL STATEMENT

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### CITY OF PASADENA, CALIFORNIA ELECTRIC REVENUE REFUNDING BONDS, 2019A SERIES

#### INTRODUCTION

This Introduction is subject in all respects to the more complete information contained elsewhere in this Official Statement and the offering of the City of Pasadena, California Electric Revenue Refunding Bonds, 2019A Series to potential investors is made only by means of the entire Official Statement. Capitalized terms used in this Official Statement and not otherwise defined herein shall have the respective meanings assigned to them in the Fiscal Agent Agreement.

#### **Purpose**

The purpose of this Official Statement, which includes the cover page and Appendices hereto, is to set forth certain information in connection with the issuance and sale by the City of Pasadena, California (the "City") of \$ \_\_\_\_\_\* aggregate principal amount of its Electric Revenue Refunding Bonds, 2019A Series (the "2019A Bonds"). The 2019A Bonds are being issued for the purpose of providing moneys to (i) refund all of the City's outstanding Electric Revenue Refunding Bonds, 2009 Series (the "2009 Bonds"), and (ii) pay the costs of issuance of the 2019A Bonds. See "PLAN OF REFUNDING."

#### **Authority for Issuance**

The 2019A Bonds are authorized and will be issued pursuant to Article XIV of the Charter of the City, as amended (the "Charter"), an Ordinance adopted by the City Council of the City (the "City Council") on September 19, 2016, and an Electric Revenue Bond Fiscal Agent Agreement, dated as of August 1, 1998, by and between the City and The Bank of New York Mellon Trust Company, N.A. (successor to BNY Western Trust Company), as fiscal agent (the "Fiscal Agent"), as amended and supplemented, including as amended and supplemented by a Tenth Supplement to Electric Revenue Bond Fiscal Agent Agreement, dated as of August 1, 2019 (the "Tenth Supplement"), by and between the City and the Fiscal Agent (collectively, the "Fiscal Agent Agreement"). All Electric Revenue Bonds issued pursuant to the Fiscal Agent Agreement are collectively referred to herein as the "Bonds."

#### **The City**

The City is a charter city of the State of California (the "State"), comprising approximately 23 square miles, located in Los Angeles County in the northwestern portion of the San Gabriel Valley. See APPENDIX A – "THE CITY OF PASADENA" herein. The City owns and operates a municipal electric public utility (the "Electric System"), established by the Charter. The Electric System is managed and controlled by Pasadena Water and Power ("PWP") and supplies electricity to virtually all of the electric customers within the City limits. For the Fiscal Year ended June 30, 2019, the City estimates there were 67,166 customers of the Electric System, comprised of 58,524 residential customers, 8,632 commercial and industrial customers, 5 street lighting and traffic signals customers and 5 wholesale customers. The total quantity of energy generated and purchased was 1,115,150 megawatt hours ("MWh"), and the peak demand was 302 megawatts ("MW").

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\* Preliminary; subject to change.



## **Security and Sources of Payment for the 2019A Bonds**

The 2019A Bonds are an obligation payable only from the Net Income of the Electric System in the Light and Power Fund of PWP (the "Light and Power Fund") and amounts in the Parity Reserve Fund as provided in the Fiscal Agent Agreement. The 2019A Bonds are secured by a pledge of and lien upon Net Income of the Electric System on a parity with other obligations of the Electric System issued from time to time pursuant to the terms of the Fiscal Agent Agreement payable from Net Income of the Electric System and a pledge of amounts in the Parity Reserve Fund. Upon the issuance of the 2019A Bonds and the refunding of the 2009 Bonds, in addition to the 2019A Bonds, the City will have outstanding \$9,810,000 principal amount of its Electric Revenue Refunding Bonds, 2010A Series (the "2010A Bonds"), \$4,955,000 principal amount of its Electric Revenue Refunding Bonds, 2012A Series (the "2012A Bonds"), \$75,985,000 principal amount of its Electric Revenue/Refunding Bonds, 2013A Series (the "2013A Bonds"), and \$114,355,000 principal amount of its Electric Revenue/Refunding Bonds, 2016A Series (the "2016A Bonds," together with the 2010A Bonds, the 2012A Bonds and the 2013A Bonds, the "Outstanding Bonds"). See "SECURITY AND SOURCES OF PAYMENT FOR THE 2019A BONDS – Parity Reserve Fund" and "– Additional Bonds."

The 2019A Bonds are limited obligations of the City and are not secured by a legal or equitable pledge of, or charge or lien upon, any property of the City or any of its income or receipts, except the Net Income of the Electric System. Neither the full faith and credit nor the taxing power of the City is pledged to the payment of the principal of, premium, if any, or interest on the 2019A Bonds. No tax or other source of funds, other than the Net Income of the Electric System, is pledged to pay the principal of, premium, if any, or interest on the 2019A Bonds. Neither the payment of the principal of, nor the interest on, the 2019A Bonds constitutes a debt, liability or obligation of the City for which the City is obligated to levy or pledge any form of taxation or for which it has levied or pledged any form of taxation.

The general fund of the City (the "General Fund") is not liable for the payment of any 2019A Bonds, any premium thereon upon redemption prior to maturity or their interest, nor is the credit or taxing power of the City pledged for the payment of any 2019A Bonds, any premium thereon upon redemption prior to maturity or their interest. No Owner of any 2019 Bond shall compel the exercise of the taxing power by the City or the forfeiture of any of its property. The principal of and interest on any 2019A Bonds and any premiums upon the redemption of any thereof prior to maturity are not a debt of the City nor a legal or equitable pledge, charge, lien or encumbrance upon any of its property or upon any of its income, receipts or revenues, except the Net Income and other funds, security or assets which are pledged to the payment of the 2019A Bonds, interest thereon and any premiums upon redemption pursuant to the Fiscal Agent Agreement.

### **Parity Reserve Fund**

Pursuant to Section 1413 of Article XIV of the Charter, the City has established the Parity Reserve Fund. Upon the issuance of the 2019A Bonds, there will be deposited in the Parity Reserve Fund from the proceeds of the 2019A Bonds an amount sufficient to cause the balance on deposit in or credited to the Parity Reserve Fund to be equal to the Reserve Fund Requirement upon delivery of the 2019A Bonds. The Parity Reserve Fund is required to be maintained in an amount equal to the Reserve Fund Requirement so long as any Bonds or Parity Obligations secured by the Parity Reserve Fund remain Outstanding. Amounts held in or credited to the Parity Reserve Fund are pledged to and may be used solely for payment of debt service on the Bonds or Parity Obligations secured thereby in the event that money in the Parity Obligation Payment Fund or any comparable fund established for the payment of principal and interest on the Parity Obligations secured thereby is insufficient therefor. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2019A BONDS – Parity Reserve Fund."

## **Rate Covenant**

The City has covenanted in the Fiscal Agent Agreement to fix the rates for services furnished by the Electric System so as to provide Gross Revenues at least sufficient to pay, as the same become due, the principal of and interest on the Bonds, any Parity Obligations and all other obligations and indebtedness payable from the Light and Power Fund or from any fund derived therefrom, and also the necessary Maintenance and Operating Expenses, so that the Net Income of the Electric System will be at least equal to 1.10 times the amount necessary to pay principal and interest as the same become due on all Outstanding Bonds and Parity Obligations. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2019A BONDS – Rate Covenant."

## **Other Matters**

This Official Statement speaks only as of its date, and the information and expressions of opinions contained herein are subject to change without notice, and neither delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the City or the Electric System since the date hereof. This Official Statement, including any supplement or amendment hereto, is intended to be filed with the Municipal Securities Rulemaking Board through the Electronic Municipal Market Access (EMMA) website. Forward looking statements in this Official Statement are subject to risks and uncertainties, including particularly those relating to competition and electric industry restructuring, and the economy of the City's service area.

This Official Statement includes summaries of the terms of the 2019A Bonds, the Fiscal Agent Agreement, the Escrow Agreement, the Continuing Disclosure Agreement and certain contracts and other arrangements for the supply of capacity and energy. The summaries of and references to all documents, statutes, reports and other instruments referred to herein do not purport to be complete, comprehensive or definitive, and each such summary and reference is qualified in its entirety by reference to each document, statute, report or instrument. Copies of the Fiscal Agent Agreement, the Escrow Agreement and the Continuing Disclosure Agreement are available for inspection at the offices of the City in Pasadena, California, and will be available upon request and payment of duplication costs from the Fiscal Agent. Additional information regarding this Official Statement may be obtained by contacting the Fiscal Agent or the City of Pasadena. The City's address and telephone number for such purpose are as follows: City of Pasadena, 100 North Garfield Avenue, 3rd Floor, Pasadena, California 91101-1726, (626) 744-4350, Attention: Director of Finance.

## **PLAN OF REFUNDING**

The City has mailed to the owners of the 2009 Bonds a conditional notice of redemption stating that the 2009 Bonds will be redeemed on the date of delivery of the 2019A Bonds. Accordingly, on the date of delivery of the 2019A Bonds, proceeds of the 2019A Bonds will be used to redeem \$12,625,000 principal amount of the 2009 Bonds at a redemption price equal to 100% of the principal amount thereof, together with accrued and unpaid interest thereon.

## ESTIMATED SOURCES AND USES OF FUNDS

The estimated sources and uses of funds in connection with the 2019A Bonds are as follows:

**Sources:**

|                                 |  |
|---------------------------------|--|
| Principal Amount of 2019A Bonds |  |
| Release of Parity Reserve Fund  |  |
| Plus Original Issue Premium     |  |
| Total Sources                   |  |

**Uses:**

|   |  |
|---|--|
| Redemption of the 2009 Bonds                        |  |
| Deposit to Costs of Issuance Account <sup>(1)</sup> |  |
| Initial Purchaser's Discount                        |  |
| Total Uses  |  |

<sup>(1)</sup> Includes fees of Bond Counsel and Disclosure Counsel, the Fiscal Agent and the Escrow Agent, municipal advisor, rating agencies, printing costs and other miscellaneous expenses.

### THE 2019A BONDS

**General**

The 2019A Bonds will be dated their date of delivery and will bear interest from that date at the rates per annum and will mature on June 1 in the years set forth on the inside cover page of this Official Statement. Interest on the 2019A Bonds will be payable semiannually on February 1 and August 1, commencing February 1, 2020, and will be calculated on the basis of a 360-day year comprised of twelve 30-day months. The 2019A Bonds are being issued in fully registered form, and when issued, will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"). So long as Cede & Co. is the registered owner of the 2019A Bonds, references herein to the owners or registered owners shall mean Cede & Co., and not the beneficial owners of the 2019A Bonds. See APPENDIX C – "BOOK-ENTRY SYSTEM" herein.

**No Redemption**

The 2019A Bonds are not subject to redemption prior to maturity.

**Debt Service Schedule**

The table below sets forth the annualized debt service payments on the 2019A Bonds.

| <u>Year Ending</u><br><u>(August 1)</u> | <u>Principal</u> | <u>Interest</u> | <u>Total</u> |
|---|------------------|-----------------|--------------|
| 2020                                    |                  |                 |              |
| 2021                                    |                  |                 |              |
| 2022                                    |                  |                 |              |
| 2023                                    |                  |                 |              |
| 2024                                    |                  |                 |              |
| Total                                   |                  |                 |              |

## SECURITY AND SOURCES OF PAYMENT FOR THE 2019A BONDS

### General

The Bonds are an obligation payable only from the Net Income of the Electric System in the Light and Power Fund and amounts in the Parity Reserve Fund as provided in the Fiscal Agent Agreement. The 2019A Bonds are secured by a pledge of and lien upon Net Income of the Electric System on a parity with other obligations of the Electric System payable from Net Income of the Electric System and issued from time to time pursuant to the Fiscal Agent Agreement, including the Outstanding Bonds, and a pledge of amounts in the Parity Reserve Fund. See “– Parity Reserve Fund” and “– Additional Bonds” below.

“Net Income” is defined in the Fiscal Agent Agreement as Gross Revenues less Maintenance and Operating Expenses. “Gross Revenues” means all revenues (as defined in Section 54315 of the Government Code of California, which include all charges received for and all other income and receipts derived by PWP from the operation of the Electric System or arising from the Electric System) received by PWP from the services, facilities, energy and distribution of electric energy by PWP, including (i) income from investments, and (ii) for the purposes of determining compliance with the rate covenant in the Fiscal Agent Agreement only, the amounts on deposit in the Stranded Investment Reserve or in any other unrestricted funds of the Electric System designated by the City Council by resolution (or by approval of a budget of the Light and Power Fund providing for such transfer) and available for the purpose of paying Maintenance and Operating Expenses and/or debt service on the Bonds and/or any Parity Obligations, but excepting therefrom (a) all reimbursement charges and deposits to secure service and (b) any charges collected by any person to amortize or otherwise relating to the payment of the uneconomic portion of costs associated with assets and obligations (“stranded costs”) of the Electric System or of any joint powers agency in which the City participates which the City has dedicated to the payment of obligations other than the Bonds or any Parity Obligations then outstanding, the payments of which obligations will be applied to or pledged to or otherwise set aside for the reduction or retirement of outstanding obligations of the City or any joint powers agency in which the City participates relating to such “stranded costs” of the City or of any such joint powers agency to the extent such “stranded costs” are attributable to, or the responsibility of, the City.

“Maintenance and Operating Expenses” is defined in the Fiscal Agent Agreement to mean the amount required to pay the reasonable expenses of management, repair and other costs, of the nature of costs which have historically and customarily been accounted for as such, necessary to operate, maintain and preserve the Electric System in good repair and working order, including but not limited to, the cost of supply and transmission of electric energy under long-term contracts or otherwise and the expenses of conducting the Electric System, but excluding depreciation. “Maintenance and Operating Expenses” includes all amounts required to be paid by the City under contract with a joint powers agency for purchase of capacity, energy, transmission capability or any other commodities or services in connection with the foregoing, which contract requires payments by the City to be made thereunder to be treated as Maintenance and Operating Expenses.

Certain of the City’s obligations to joint powers agencies, including obligations with respect to bonds issued by such joint powers agencies, are payable by the City from the Light and Power Fund, prior to the Bonds and all Parity Obligations, as Maintenance and Operating Expenses. See TABLE 8 – “OUTSTANDING DEBT OF JOINT POWERS AGENCIES” herein.

The General Fund of the City is not liable for the payment of any Bonds, any premium thereon upon redemption prior to maturity or their interest, nor is the credit or taxing power of the City pledged for the payment of any Bonds, any premium thereon upon redemption prior to maturity or their interest. The Owner of any Bond shall not compel the exercise of the taxing power by the City or the forfeiture of any of its property. The principal of and interest on any Bonds and any premiums upon the redemption of any thereof prior to maturity are not a debt of the City nor a legal or equitable pledge, charge, lien or encumbrance upon any of its property or upon any of its income, receipts or revenues, except the Net Income and other funds, security or assets which are pledged to the payment of the Bonds, interest thereon and any premiums upon redemption pursuant to the Fiscal Agent Agreement.

### **Rate Covenant**

The City has covenanted in the Fiscal Agent Agreement to fix the rates for services furnished by the Electric System so as to provide Gross Revenues at least sufficient to pay, as the same become due, the principal of and interest on the Bonds, including the Outstanding Bonds and Parity Obligations and all other obligations and indebtedness payable from the Light and Power Fund (including the payment of any amounts owing to any provider of any surety bond, insurance policy or letter of credit with respect to the Bonds or any Parity Obligations, which amounts are payable from the Light and Power Fund) or from any fund derived therefrom, and also the necessary Maintenance and Operating Expenses, and shall be so fixed that the Net Income of the Electric System will be at least equal to 1.10 times the amount necessary to pay principal and interest (including mandatory sinking account redemption payments) as the same become due on all Bonds, including the Outstanding Bonds and Parity Obligations.

### **The Light and Power Fund**

The Charter establishes the Light and Power Fund and permits the establishment by ordinance of such funds as the City Council may deem necessary to facilitate the issuance and sale of the bonds or for the protection or security of the owners of the bonds.

Under the provisions of the Charter, all moneys and property received by the City in payment for electrical energy and for any service rendered in connection therewith, or from the sale, lease and other disposition of any property acquired with funds or property of the Electric System must be deposited in the Light and Power Fund. The Charter further provides that disbursement may be made directly from the Light and Power Fund for the following purposes:

- (a) the necessary or proper expenses of conducting the Electric System, the operation and maintenance of its works, plants and distributing systems; the acquisition and improvement of facilities; and the publishing of reports;
- (b) the payment of interest and principal on bonds issued for the purposes of the Electric System;
- (c) the formation of surplus or reserves for the future needs of the Electric System and for unforeseen emergencies; and
- (d) the repayment of advances made from other funds of the City.

The City Council shall transfer moneys from the Light and Power Fund not to exceed 16% of gross income received during the preceding Fiscal Year and not exceeding net income to the City's General Fund from the Light and Power Fund each year as follows:

(1) Pursuant to Section 1407 of the Charter, for the payment of principal and interest on the City’s general obligation bonds wholly payable in such Fiscal Year or for municipal improvements, an amount equal to eight percent (8%) of the gross income of the Electric System received during the immediately preceding Fiscal Year from the sale of electric energy at rates and charges fixed by ordinance. The amount so transferred shall not exceed one-half of the net income of the Electric System as shown by the books of account of the power utility, after payment of the maintenance and operating expenses of the Electric System, the expense of conducting the power utility, depreciation and the principal, interest and premiums, if any, upon the redemption thereof, of Electric System revenue bonds.

(2) Pursuant to Section 1408 of the Charter, in addition to the amounts transferred pursuant to Section 1407, an amount equal to eight percent (8%) of the gross income of the Electric System received during the immediately preceding Fiscal Year from the sale of electric energy at rates and charges fixed by ordinance. The amount so transferred shall not exceed one-half of the net income (as described in subparagraph (1) above) of the Electric System. The amount so transferred may be expended for any municipal purpose.

The amount transferred from the Light and Power Fund to the City’s General Fund annually may be adjusted by the City Council as described in subparagraphs (1) and (2) above. The following table sets out the transfers from the Light and Power Fund to the City’s General Fund for the five Fiscal Years 2014-15 through 2018-19 and the amount budgeted for the Fiscal Year 2019-20.

**TABLE 1  
TRANSFERS TO THE GENERAL FUND  
(Dollar Amounts in Thousands)**

| <b>Fiscal Year</b>     | <b>Transfer Amount</b> | <b>% of Prior Fiscal Year<br/>Gross Income</b> |
|------------------------|------------------------|--|
| 2014-15                | \$15,975               | 10.00%   |
| 2015-16                | 17,185                 | 10.00  |
| 2016-17                | 17,371                 | 10.00  |
| 2017-18                | 16,847                 | 10.00  |
| 2018-19                | 17,609                 | 10.00  |
| 2019-20 <sup>(1)</sup> | 17,388                 | 10.00  |

Source: Finance and Administration Business Unit of PWP.

In addition to the transfers authorized pursuant to Sections 1407 and 1408, the Charter provides that whenever the City Council determines that the surplus or reserve in the Light and Power Fund is in excess of reasonable future needs of the power utility, such excess may be appropriated for other municipal purposes, but only by ordinance approved by a two-thirds vote of the electors.

The Charter also provides that any surplus or reserves in the Light and Power Fund may be temporarily used for other municipal purposes if there are insufficient funds in the City Treasury to pay the current expenses of the general government of the City before the collection of taxes levied in any Fiscal Year. Should moneys from said fund be used pending the receipt of taxes, the amount so used shall be repaid not later than February 15 of the same Fiscal Year. However, the City has yet to exercise its rights under the above Charter provisions.

See “LITIGATION” for a summary of a lawsuit challenging the annual transfers.

## Parity Reserve Fund

The Fiscal Agent Agreement establishes the Parity Reserve Fund to be held by the City pursuant to the Charter. The Parity Reserve Fund is required to be maintained in an amount equal to the Reserve Fund Requirement so long as any Bonds or Parity Obligations secured by the Parity Reserve Fund remain Outstanding. Upon the issuance of the 2019A Bonds, there will be on deposit in or credited to the Parity Reserve Fund an amount equal to the Reserve Fund Requirement (\$ \_\_\_\_\_ upon delivery of the 2019A Bonds).

The term "Reserve Fund Requirement" is defined in the Fiscal Agent Agreement to mean, as of any date of determination and excluding therefrom any Parity Obligations for which no reserve fund is to be maintained or for which a separate reserve fund is to be maintained, the least of (a) ten percent (10%) of the initial offering price to the public of each Series of Bonds and Parity Obligations to be secured by the Parity Reserve Fund as determined under the Internal Revenue Code of 1986, as amended, or (b) the maximum Annual Debt Service on all Bonds and Parity Obligations to be secured by the Parity Reserve Fund, or (c) one hundred twenty-five percent (125%) of the Average Annual Debt Service on all Bonds and Parity Obligations to be secured by the Parity Reserve Fund, all as computed and determined by the City; provided that such requirement (or any portion thereof) may be provided by one or more policies of municipal bond insurance or surety bonds issued by a municipal bond insurer if the obligations insured by such insurer have ratings at the time of issuance of such policy equal to "Aaa" assigned by Moody's Investors Service ("Moody's") and "AAA" assigned by Standard & Poor's Ratings Services, a division of the McGraw-Hill Companies (and if such insurance company is rated by A.M. Best & Company, such insurance company is rated in the highest rating category by A.M. Best & Company) or by a letter of credit issued by a bank or other institution if the obligations issued by such bank or other institution have ratings at the time of issuance of such letter of credit equal to "Aa2" or higher assigned by Moody's or "AA" or higher assigned by Standard & Poor's.

Pursuant to the Eighth Supplement to Electric Revenue Bond Fiscal Agent Agreement, dated as of November 1, 2013 (the "Eighth Supplement"), by and between the City and the Fiscal Agent, upon the earlier to occur of: (i) the first date upon which the City has filed with the Fiscal Agent the written consent of a majority of the aggregate principal amount of Bond Obligations of the Bonds Outstanding as of the effective date of the Eighth Supplement (but excluding the 2013A Bonds for the purposes of such calculation), or any consent in lieu thereof in accordance with the Fiscal Agent Agreement has been obtained, or (ii) the first date upon which all of the Outstanding 2010A Bonds and 2012A Bonds have been defeased, paid or discharged in accordance with their terms and shall no longer be Outstanding for purposes of the Fiscal Agent Agreement, the definition of "Reserve Fund Requirement" shall be amended to mean, as of any date of determination and excluding therefrom any Parity Obligations for which no reserve fund is to be maintained or for which a separate reserve fund is to be maintained, the least of (a) ten percent (10%) of the initial offering price to the public of each Series of Bonds and Parity Obligations to be secured by the Parity Reserve Fund as determined under the Code, or (b) the maximum Annual Debt Service on all Bonds and Parity Obligations to be secured by the Parity Reserve Fund, or (c) one hundred twenty-five percent (125%) of the Average Annual Debt Service on all Bonds and Parity Obligations to be secured by the Parity Reserve Fund, all as computed and determined by the City; provided, that such requirement (or any portion thereof) may be provided by the City delivering to the Fiscal Agent for credit to the Parity Reserve Fund one or more policies of municipal bond insurance or surety bonds issued by a municipal bond insurer if the obligations insured by such insurer have ratings at the time of issuance of such policy is in one of the two highest rating categories of Moody's, Standard & Poor's or Fitch or by a letter of credit issued by a bank or other institution if the obligations issued by such bank or other institution have ratings at the time of issuance of such letter of credit in one of the two highest rating categories of Moody's, Standard & Poor's or Fitch.

Currently, the Parity Reserve Fund is funded with cash or investments.

Amounts on deposit in or credited to the Parity Reserve Fund is pledged to, and shall be used solely for, the purpose of paying the principal of and interest on the Bonds, including the Outstanding Bonds, and Parity Obligations secured by the Parity Reserve Fund in the event that money in the Parity Obligation Payment Fund is insufficient therefor, and for that purpose money shall be transferred from the Parity Reserve Fund to the Parity Obligation Payment Fund. If and to the extent that the Parity Reserve Fund has been funded with a combination of cash and one or more surety bonds, insurance policies or letters of credit, except as provided below, all cash shall be used (including any investments purchased with such cash, which shall be liquidated and the proceeds thereof applied as required under the Fiscal Agent Agreement) prior to any drawing under a surety bond, insurance policy or letter of credit, and repayment of any amounts owing to any provider of such surety bond, insurance policy or letter of credit shall be made in accordance with the terms thereof prior to any replenishment of any such cash amounts. After first applying all cash and Investment Securities held in the Parity Reserve Fund to pay the principal of and interest on the Bonds and Parity Obligations secured by the Parity Reserve Fund when required, the City or the Fiscal Agent, as applicable shall, on a *pro rata* basis with respect to the portion of the Parity Reserve Fund held in the form of surety bonds, insurance policies and letters of credit (calculated by reference to the maximum amounts of such surety bonds, insurance policies and letters of credit), draw under each surety bond, insurance policy or letter of credit issued with respect to the Parity Reserve Fund, in a timely manner and pursuant to the terms of such surety bonds, insurance policy or letter of credit to the extent necessary in order to obtain sufficient funds on or prior to the date such funds are needed to pay the Bonds and Parity Obligations secured by the Parity Reserve Fund when due. Notwithstanding anything in the Fiscal Agent Agreement to the contrary, in the event a surety bond, insurance policy, letter of credit or cash deposit has been provided with respect to a specified Series of Bonds only, the Fiscal Agent shall draw on such insurance policy, surety bond or letter of credit in the amount equal to the *pro rata* amount of deficiency in the Parity Obligation Payment Fund allocable to such Series of Bonds at the same time that the Fiscal Agent applies any cash or Investment Securities held in the Parity Reserve Fund to the payment of the principal of and interest on any Bonds or Parity Obligations not so secured by such insurance policy, surety bond or letter of credit or with respect to which such cash deposit was not made. All amounts due and owing any provider of any such surety bond, insurance policy or letter of credit shall be paid in accordance therewith prior to any discharge of the Fiscal Agent Agreement pursuant to the defeasance of the Bonds. Amounts on deposit in the Parity Reserve Fund in excess of the Reserve Fund Requirement shall be withdrawn from the Parity Reserve Fund and transferred to the Light and Power Fund. Whenever money is transferred from the Parity Reserve Fund an equal amount of money shall be transferred to the Parity Reserve Fund from the first available money in the Light and Power Fund if required to bring the balance on deposit in the Parity Reserve Fund up to the Reserve Fund Requirement.

### **Additional Bonds**

Upon the issuance of the 2019A Bonds, in addition to the 2019A Bonds, the City will have \$205,105,000 of parity indebtedness outstanding, consisting of the Outstanding Bonds.

The Fiscal Agent Agreement provides that (except for bonds issued under Article XIV of the Charter, or otherwise, to refund Bonds or Parity Obligations, payable from the Light and Power Fund issued under Article XIV of the Charter which may be issued at any time without meeting the test set forth below) no additional indebtedness of the City payable out of the Light and Power Fund on a parity with the Bonds and any Parity Obligations (collectively referred to in the Fiscal Agent Agreement as “parity indebtedness”) shall be created or incurred unless:

(1) The Net Income during any twelve (12) consecutive calendar months out of the immediately preceding eighteen (18) calendar month period, plus, at the option of the City, any or all of



the items designated in paragraphs (a) and (b) below, shall have amounted to at least equal to one hundred ten percent (110%) of the aggregate of the (i) amount of interest to accrue and (ii) payments of principal required to be made in that one of the Fiscal Years ending thereafter in which such aggregate will be the greatest on all Bonds and such Parity Obligations to be Outstanding immediately subsequent to the incurring of such additional parity indebtedness, as certified by a Certificate of the City; or

(2) The projected Net Income during the first complete Fiscal Year following issuance of such parity indebtedness when the improvements to the Electric System financed with the proceeds of the parity indebtedness shall be in operation, plus, at the option of the City, any or all of the items designated in paragraphs (a) and (b) below, shall have amounted to at least one hundred ten percent (110%) of the aggregate of the (i) amount of interest to accrue and (ii) payments of principal required to be made in that one of the Fiscal Years ending thereafter in which such aggregate will be the greatest on all Bonds and such Parity Obligations to be Outstanding immediately subsequent to the incurring of such additional parity indebtedness, as certified by a Certificate of the City.

The items any or all of which may be added to such Net Income for the purpose of meeting either of the requirements set forth in clauses (1) or (2) above are the following:

(a) An allowance for any increase in Net Income (including, without limitation, a reduction in Maintenance and Operating Expenses) which may arise from any additions to and extensions and improvements of the Electric System to be made or acquired with the proceeds of such additional parity indebtedness or with the proceeds of bonds previously issued, and also for Net Income from any such additions, extensions or improvements which have been made or acquired with moneys from any source but which, during all or any part of such Fiscal Year or such twelve consecutive calendar month period out of the immediately preceding eighteen calendar month period, were not in service, all in an amount equal to the estimated additional average annual Net Income (or estimated average annual reduction in Maintenance and Operating Expenses) to be derived from such additions, extensions or improvements for the first thirty-six month period in which each addition, extension or improvement is respectively to be in operation, all as shown by the Certificate of the City.

(b) An allowance for earnings arising from any increase in the charges made for the use of the Electric System which has become effective prior to the incurring of such additional parity indebtedness but which, during all or any part of such Fiscal Year or such twelve consecutive calendar month period out of the immediately preceding eighteen calendar month period, was not in effect, in an amount equal to the amount by which the Net Income would have been increased if such increase in charges had been in effect during the whole of such Fiscal Year or such twelve consecutive calendar month period out of the immediately preceding eighteen (18) calendar month period, as shown by the Certificate of the City.

Nothing in the Fiscal Agent Agreement limits the ability of the City to issue or incur obligations which are junior or subordinate to the payment of the principal, premium, interest and reserve fund requirements for the Bonds and all Parity Obligations and which subordinated obligations are payable as to principal, premium, interest and reserve fund requirements, if any, only out of Net Income after the prior payment of all amounts then due and required to be paid or set aside under the Fiscal Agent Agreement from Net Income for principal, premium, interest and reserve fund requirements for the Bonds and all Parity Obligations, as the same become due and payable and at the times and in the manner as required in the Fiscal Agent Agreement or any documents providing for the issuance or incurrence of Parity Obligations. The City currently does not have any subordinate obligations outstanding.

All moneys held in the funds and accounts established pursuant to the Fiscal Agent Agreement will be invested solely in Investment Securities, which include:

(i) any permissible investments of funds of the City as stated in its current investment policy and to the extent then permitted by law;

(ii) a repurchase agreement with a state or nationally chartered bank or trust company or a national banking association or government bond dealer reporting to, trading with, and recognized as a primary dealer by the Federal Reserve Bank of New York, provided that the following conditions are satisfied:

(1) The agreement is secured by any direct obligations of the United States of America (including obligations issued or held in book-entry form on the books of the United States Department of the Treasury) and obligations, the payment and principal of and interest on which are directly or indirectly guaranteed by the United States of America;

(2) The underlying securities are required by the repurchase agreement to be held by a bank, trust company, or primary dealer having a combined capital and surplus of at least one hundred million dollars and which is independent of the issuer of the repurchase agreement; and

(3) The underlying securities are maintained at a market value, as determined on a market-to-market basis calculated at least weekly, of not less than 104% of the amount so invested; and

(iii) an investment agreement or guaranteed investment contract with, or guaranteed by, a financial institution the long-term unsecured obligations of which are rated in the top two rating categories by Moody's and Standard & Poor's at the time of initial investment.

Investment Securities purchased as an investment of moneys in the Parity Reserve Fund are currently limited to maturities not extending beyond five years. Pursuant to the Eighth Supplement, upon the earlier to occur of: (i) the first date upon which the City has filed with the Fiscal Agent the written consent of a majority of the aggregate principal amount of Bond Obligations of the Bonds Outstanding as of the effective date of the Eighth Supplement (but excluding the 2013A Bonds for the purposes of such calculation), or any consent in lieu thereof in accordance with the Fiscal Agent Agreement has been obtained, or (ii) the first date upon which all of the Outstanding 2010A Bonds and 2012A Bonds have been defeased, paid or discharged in accordance with their terms and shall no longer be Outstanding for purposes of the Fiscal Agent Agreement, Investment Securities purchased as an investment of moneys in the Parity Reserve Fund may not have maturities extending beyond 10 years.

### **Limitations on Remedies**

The ability of the City to comply with its covenants under the Fiscal Agent Agreement and to generate Net Income of the Electric System sufficient to pay principal of and interest on the 2019A Bonds may be adversely affected by actions and events outside of the control of the City. Furthermore, any remedies available to the owners of the 2019A Bonds upon the occurrence of an event of default are in many respects dependent upon judicial actions which are often subject to discretion and delay and could prove both expensive and time consuming to obtain. The rights of the Owners of the 2019A Bonds are subject to the limitations on legal remedies against cities and other public agencies in the State. Additionally, enforceability of the rights and remedies of the Owners of the 2019A Bonds, and the obligations incurred by the City, may become subject to the following: the federal Bankruptcy Code and applicable bankruptcy, insolvency, reorganization, moratorium or similar laws relating to or affecting the enforcement of creditor's rights generally, now or hereafter in effect; equity principles which may limit the specific enforcement under State law of certain remedies; the exercise by the United States of America of the powers delegated to it by the Constitution and the reasonable and necessary exercise, in

certain exceptional situations, of the police powers inherent in the sovereignty of the State and its governmental bodies in the interest of serving a significant and legitimate public purpose. Bankruptcy proceedings, or the exercise of powers by the federal or State government, if initiated, could subject the Owners of the 2019A Bonds to judicial discretion and interpretation of their rights in bankruptcy or otherwise, and consequently may entail risks of delay, limitation or modification of their rights.

## **PASADENA WATER AND POWER**

### **Organization**

The City is a charter city of the State. Under the provisions of the California Constitution and Article XIV of the Charter, the City owns and operates both water and electric public utilities for the benefit of its residential and business community. PWP is under the management and control of the City Manager, subject to the powers and duties vested in the City Council, and is supervised by the General Manager who is responsible for design, construction, maintenance and operation of the water and electric utilities. PWP is responsible for the Electric System and the City's water system (the "Water System"). The 2019A Bonds are not secured by or payable from revenues of the Water System.

Within the Electric System and the Water System divisions, PWP is organized into five separate business units. This structure allows for a higher level of accountability as well as the creation of individual cost centers and profit centers. This information is used for tracking costs and supplying detailed information in rate design decisions. These business units are briefly described as follows:

***General Manager's Office-Customer Relations & Legislative Business Unit*** – This unit is part of the General Manager's Office and is responsible for customer relations, regulatory affairs, and strategic planning and long-term resources. This unit is also responsible for environmental and legislative matters impacting the utility.

***Finance, Administration and Customer Service Business Unit*** – This unit develops and executes PWP's overall financial strategy and ensures its financial integrity. This unit is responsible for the financial resources of PWP and for providing relevant information to the operating units for decision making purposes. This unit plans and oversees the financial aspects, administrative support functions and all cross-functional operations and systems for PWP. The responsibilities of this unit include the operating budget, capital budget and financing, financial analysis and planning, financial management, administration, billing, call center, meter reading and customer care services, risk management, information systems and technology and materials management.

***Power Supply Business Unit*** – This unit is responsible for effectively managing PWP's energy portfolio, including strategic long-term resource power generation, long-term power contracts, short-term electric energy and ancillary services transactions and natural gas procurement to provide competitively-priced energy to PWP's electric customers. This unit is also responsible for energy scheduling to ensure reliable delivery of electricity and the operation of generating units located within the City.

***Power Delivery Business Unit*** – This unit is responsible for the design, construction, operation and maintenance of the local power distribution system to provide the safe and reliable delivery of electricity, load dispatch operations and is responsible for implementing the Power Distribution System Master Plan.

***Water Delivery Business Unit*** – This unit is responsible for the procurement, production and delivery of water as well as the planning, design and construction of the local water distribution system. This unit also operates and maintains the local water supply resources and distribution system.

## Management

The following are biographical summaries of PWP's senior management:

**GURCHARAN BAWA, General Manager.** Prior to his appointment to the current position, Mr. Bawa was the Assistant General Manager for Power Supply. Mr. Bawa has been with PWP for 24 years working in the Power Production field managing regulatory and environmental issues. He was responsible for evaluating renewable energy resources and incorporating these assets into PWP's overall energy resource portfolio. He was also responsible for managing long term energy resources and contracts. He received his Mechanical Engineering degree from S.V.R. College of Engineering and Technology, Surat, India. He is a licensed Professional Engineer in Mechanical and Civil Engineering in the State of California.

**ERIC KLINKNER, Assistant General Manager & Chief Deputy.** Mr. Klinkner has been with PWP since 1995. He served as PWP's Manager of Power Resources and Business Unit Director for Power Supply and was appointed to his present position in August 2004. In his current position, he is responsible for regulatory affairs, strategic planning and long-term resource and environmental issues. Mr. Klinkner is also responsible for legislative issues impacting PWP and oversees the customer relations, marketing and customer communications functions. Mr. Klinkner previously worked at the Los Angeles Department of Water and Power ("LADWP") where he started in power resource planning. He has a master's degree in mechanical engineering from California State University-Northridge and is a state registered professional engineer.

**SHARI M. THOMAS, Assistant General Manager for Finance, Administration and Customer Service.** Ms. Thomas joined PWP in January 2006. She began her career with the City of Pasadena in 2002 as the Deputy Director of Finance. She previously worked for the City of Riverside for nearly 15 years in various financial positions. Ms. Thomas is currently responsible for financial planning and budgeting, cost of service analysis and rate setting, information technology for PWP and customer service. She is also responsible for risk management and settlements functions related to energy transactions and the materials handling and inventory management activities. She completed her Bachelor of Science degree with majors in Accounting and Finance in Minnesota and has also completed the University of Wisconsin's Advanced Governmental Finance Institute.

**KELLY NGUYEN, Assistant General Manager for Power Supply.** Ms. Nguyen joined the PWP in April 2019. She arrives at PWP with 20 years of industry experience, most recently serving as the General Manager of Vernon Public Utilities. Before this, she worked at Southern California Public Power Authority (SCPPA), Anaheim Public Utilities, and the California Power Exchange. She has served in various capacities with a number of committees and associations including Vice President of SCPPA, member of Western Systems Power Pool Executive Committee, California Utilities Emergency Association Alternate Board, California Municipal Utilities Association, and American Public Power Association. She has a Bachelor of Science in Business Administration from California State University, Los Angeles and has specialized training in energy system procedures, protocols, and utility compliance policies through the Western Electric Coordinating Council, North America Energy Reliability Corporation, and training in market operations and Cap & Trade through California Independent System Operator.

**MARVIN MOON, Assistant General Manager for Power Delivery.** Mr. Moon joined the PWP team as the Assistant General Manager of Power Delivery in May 2018 after 35 years of service with the Los Angeles Department of Water and Power ("LADWP"). He has served in various engineering capacities including Manager of Distribution Engineering and Customer New Business. For the past ten years, he was the Director of the Power Engineering Division at LADWP. Mr. Moon has

been the recipient of several City of Los Angeles Productivity Awards. He has received the City of Los Angeles Mayor's Innovation Award twice, and has been recognized as an innovator by the Electric Power Research Institute. His division within PWP provides electric service through its Power Engineering, Transmission and Distribution, Substation and Power Dispatch sections. Mr. Moon is also a supporting management sponsor for PWP's electric transportation program.

**MITCHELL DION, Assistant General Manager for Water Delivery.** Mr. Dion joined PWP in December 2017. Mr. Dion has held senior management positions for public agencies, investor owned utilities and consulting services throughout the Western US. His broad utility experience is primarily in water and waste water systems with extensive use of reclaimed water. As a former General Manager of water utilities in Northern and Southern California, Mr. Dion offers a distinctive perspective of California water issues and brings strong relationships to build collaboration and partnerships. Mr. Dion served in the Marines and his extensive military career includes a unique combination of engineering and policy decision making from overseeing base operations, as well as, working within the legislature at both the State and Federal levels. Mitch holds a Master's Degree from the University of Southern California Viterbi School of Engineering, certification as a water/wastewater operator and has extensive technical training. His awards include recognition by the US EPA for emergency management and the Association of Civil Engineers overseeing design and construction of environmentally sustainable facilities.

## **Employees**

For Fiscal Year 2018-19, 418 City employees were assigned to PWP, including 281 full-time equivalent employees for the Electric System. The Electric System employees represent approximately 13% of the full-time City employees. Most Electric System employees are represented either by the International Brotherhood of Electrical Workers, the International Union of Operating Engineers, the American Federation of State, County and Municipal Employees, the Laborers' International Union of North America or the Pasadena Management Association in all matters pertaining to wages, benefits and working conditions. The current agreements with these unions and/or associations, which are in the form of either a contract or a memorandum of understanding, will expire through 2020. [UPDATE PRIOR TO POSTING IF NECESSARY] The City has no history of work interruption by employees maintaining the Electric System. See APPENDIX A – "THE CITY OF PASADENA – Employee Relations."

The Electric System's permanent employees are all covered by the California Public Employees Retirement System ("CalPERS") with respect to pension benefits. CalPERS is an agent multiple-employer plan public employee retirement system which acts as a common investment and administrative agent for participating public employers within the State of California. The plan provides retirement and disability benefits, annual cost-of-living adjustments and death benefits to plan members and their beneficiaries. CalPERS issues a separate publicly available financial report that includes financial statements and required supplemental information of participating public entities within the State of California. Copies of the CalPERS annual financial report may be obtained from the CalPERS Executive Office, Lincoln Plaza Complex, 400 Q Street, Sacramento, California 95811 or at [www.calpers.ca.gov](http://www.calpers.ca.gov).

The law relating to CalPERS requires that the employer contribution rates for all public employers be determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. Funding contribution for the City's Miscellaneous Plan ("Plan") (which include all Electric System employees) is determined annually on an actuarial basis as of June 30 by CalPERS. Fire and police personnel are covered under separate plans. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The City is required to contribute the difference between the actuarially determined rate and the contribution rate of employees.

Effective with Fiscal Year 2014-15 financial statements, GASB 27 has been replaced with GASB 68 - Accounting and Financial Reporting for Pensions, with new pension reporting requirement for employers. The City's net pension liability for the Plan is measured as the total pension liability, less the pension plan's fiduciary net position. The net pension liability of the Plan is measured as of June 30, 2017, using an annual actuarial valuation as of June 30, 2016 rolled forward to June 30, 2017 using standard update procedures. The actuarial methods and assumptions used to determine the total pension liability include entry age normal cost method in accordance with the requirements of GASB 68, an inflation rate of 2.75%, salary increase by entry age and service, an investment rate of return (net of administrative expenses) of 7.50%, and a mortality rate table derived using CalPERS' membership data for all funds. The discount rate used to measure the total pension liability was 7.15%. Based on CalPERS stress testing, it was determined that the discount rate is adequate and the use of the municipal bond rate calculation is not necessary. All other actuarial assumptions used in the June 30, 2014 valuation were based on the results of an actuarial experience study for the period from 1997 to 2011, including updates to salary increase, mortality and retirement rates.

Under GASB 68, gains and losses related to changes in total pension liability and fiduciary net position are recognized in pension expense systematically over time. The first amortized amounts are recognized in pension expense for the year the gain or loss occurs. The remaining amounts are categorized as deferred outflows and deferred inflows of resources related to pensions and are to be recognized in future pension expense. Difference between projected and actual earnings uses five year straight-line amortization while all other amounts use straight-line basis over the expected average remaining service lives ("EARSL") of all members that are provided with benefits (active, inactive, and retired) as of the beginning of the measurement period. The EARSL for the 2015-16 measurement periods is 3.4 years for the Plan.

As of the start of the measurement period (July 1, 2016), the net pension liability of the City's Miscellaneous Plan is \$284,548,443. For the measurement period ending June 30, 2017, the City incurred a pension expense of \$35,236,738 for the Plan and the net pension liability balance is \$313,028,278 which is the total pension liability of \$1,095,031,469 minus the plan fiduciary net position of \$782,003,191. The deferred outflows of the resources related to the Plan at June 30, 2017 is \$17,320,251.

The Electric System's contributions represent a pro rata share of the City's contribution, including the employees' contribution that is paid by the Light and Power Fund, which is based on CalPERS' actuarial determination as of July 1 of the current Fiscal Year. CalPERS does not provide data to participating organizations in such a manner so as to facilitate separate disclosure for the Light and Power Fund's share of the actuarial computed pension benefit obligation, the plan's net assets available for benefit obligation and the plan's net assets available for benefits. The Electric System employees' contribution represents approximately 44% of the Miscellaneous Plan's contribution.

Other than the pension benefits from the applicable retirement system, the City does not provide medical or other post-retirement benefits to its employees beyond the option to continue receiving health insurance benefits at the City's subsidized monthly rates, paid by the retired employees.

The City provides a subsidy to retirees of the City who are members of CalPERS or the Pasadena Fire and Police Pension System. Benefit provisions are established and amended through negotiations between the City and the respective unions. Two different levels of subsidy toward the purchase of medical insurance from CalPERS under the Public Employees' Medical and Hospital Care Act are offered.

The City's current contribution requirements have been established at the individual retiree levels of \$133.00 or \$79.80 per month depending on bargaining unit membership and policy enacted by CalPERS pursuant to State Law. These minimum requirements are established by CalPERS and adjusted annually. The City has historically funded these post-retirement health care benefits on a "pay-as-you-go" basis. For the Fiscal Year ended June 30, 2018, the City's contributions totaled \$4,391,366 (representing 81.0% of the annual other post-employment benefit ("OPEB") cost (expense)). The Electric System is allocated its portion of the required contributions. As of June 30, 2018, the City's unfunded actuarial accrued OPEB liability for the citywide post-retirement healthcare benefits (including the portion allocable to Electric System employees) was approximately \$70,259,751, of which about \$8,045,572 or 11% represent the share of Light and Power Fund.

See APPENDIX A – "THE CITY OF PASADENA – Employee Relations" and – Post-Retirement Medical Benefits." Further information regarding the City's participation in CalPERS and OPEB may also be found in the City's Comprehensive Annual Financial Report.

## THE ELECTRIC SYSTEM OF PWP

### General

The Electric System of PWP began generating its own electric energy and distributing power in 1906. Electric service was previously supplied by Edison Electric Company, predecessor to Southern California Edison Company ("SCE"). PWP has continued to expand its electric distribution system to meet the demands of its residential, commercial, industrial and public sector customers. The Electric System provides service to virtually all of the electric customers within the limits of the City. For the Fiscal Year ended June 30, 2019, the customer base was comprised of 58,524 residential customers, 8,632 commercial and industrial customers, 5 street lighting and traffic signals customers, and 10 wholesale customers. The service area is approximately 23 square miles, with a current estimated population of approximately 144,388.

The Electric System includes generation, transmission and distribution facilities. The City also purchases power and transmission service mainly from Intermountain Power Agency ("IPA") and Southern California Public Power Authority ("SCPPA"). The Electric System's current resource mix includes local simple and combined cycle gas turbines (Glenarm), small hydroelectric (Azusa Hydroelectric) and long-term purchase contracts (remote generation) from a variety of sources including hydroelectric, coal and nuclear generating units and a variety of renewable energy resources including wind, solar, geothermal and biogas projects. Although these resources are more than sufficient to meet the City's loads, a portion of the Electric System's energy supply is purchased when it is more economical, on the wholesale hourly, daily and month-ahead spot markets. See "– Purchased Power – *Bilateral (Spot Market) Energy Purchases.*"

Legislation affecting the electric utility industry is routinely introduced or enacted by the federal government and the California Legislature. In recent years, the enacted bills primarily regulate greenhouse gas emissions and provide for greater investment in energy-efficiency and environmentally friendly generation alternatives through more stringent renewable resource portfolio standards. PWP's generation and transmission operating and long-term plans are developed and executed in accordance with existing law and in response to pending legislation. See "DEVELOPMENTS IN THE CALIFORNIA ENERGY MARKETS" and "OTHER FACTORS AFFECTING THE ELECTRIC UTILITY INDUSTRY."

## Energy Integrated Resource Plan

On June 22, 2015, the City Council approved the 2015 Update to the Energy Integrated Resource Plan (“IRP”) for PWP, a 20-year strategic power resource plan that establishes broad objectives and an overall direction for future policy, program and procurement decisions with respect to PWP’s power supply resource portfolio. The 2015 Energy Integrated Resource Plan serves as a 20-year blueprint for PWP to deliver reliable, environmentally responsible electricity service at competitive rates. The 2015 Energy Integrated Resource Plan establishes PWP’s preferred resource mix for satisfying its electric power requirements, consisting of energy efficiency, demand side management resources, renewable resources and other clean and efficient supply side resources as needed to ensure reliability over the 20-year planning horizon. Implementation of the identified preferred resource mix would include: (i) eliminating PWP’s use of existing coal-based energy by 2027 in order to achieve PWP’s greenhouse gas emissions reduction target of 60% from 1990 levels by 2030, (ii) replacing the last aging steam generating unit at the City’s Broadway generating facility with a comparably sized, more efficient, new combined cycle plant, (iii) upgrading the City’s existing Glenarm generating units in order to extend their operating lives, (iv) implementation of additional energy efficiency and load management programs, (v) increasing PWP’s renewable resources consistent with the 40% by 2020 Renewal Portfolio Standard (“RPS”) adopted by the City Council and the 50% by 2030 RPS adopted by the State of California (see “– Renewable Resources – General” below), (vi) increasing PWP’s customer-owned photovoltaic installations, (vii) establishing a feed-in tariff program in order to procure additional qualifying renewable resources located within the City and (viii) establishing a community solar project. The 2015 Energy Integrated Resource Plan is based on certain assumptions and forecasts and therefore is expected to evolve as it is implemented over the plan’s 20-year time frame.

PWP has developed the 2018 IRP. As with the 2015 IRP Update, development of the 2018 IRP had a robust community outreach effort, including six Stakeholder Technical Advisory Group (“STAG”) and three community meetings. Transparency and community involvement enabled the IRP process to address community concerns. The 2018 IRP meets the compliance mandates of Senate Bill 350 (“SB 350”), which requires load serving entities to have 50% of their load served by renewable resources by 2030 and a reduction of greenhouse gas emissions by 40% (compared to 1990 levels) by 2030. The City Council unanimously approved the 2018 IRP at its December 10, 2018 meeting. PWP has submitted the IRP Compliance Filing to the California Energy Commission before the compliance deadline of January 1, 2019. The 2018 IRP reflects the Senate Bill 100 (“SB 100”) mandate of 60% RPS by 2030. The 2018 IRP is a 20-year strategic power resource plan that establishes broad objectives and an overall direction for future policy, program and procurement decisions with respect to PWP’s power supply resource portfolio. The 2018 IRP will serve as a 20-year blueprint for PWP to deliver reliable, environmentally responsible electricity service at competitive rates. The 2018 IRP will establish PWP’s preferred resource mix for satisfying its electric power requirements, consisting of energy efficiency, demand side management resources, renewable resources and other clean and efficient supply side resources as needed to ensure reliability over the 20-year planning horizon. As of December 2016 PWP is at a 39% greenhouse gas (“GHG”) reduction and per the 2015 IRP, PWP aims to achieve a 60% GHG reduction by 2030. In addition, through the 2015 IRP, PWP’s renewable goals are to be at 40% RPS by 2020, rather than the state mandate of 33%. As part of the 2018 IRP, PWP will explore various resource alternatives, including transportation electrification, community solar, feed-in-tariff, and battery storage, to name a few. Some of the scenarios of the 2018 IRP considered the social cost of carbon (“SCC”) as a dispatch penalty on incremental fossil fuel resources, as requested through community and STAG input. In Fiscal Year 2017-18, the STAG met three times, to discuss the IRP requirements, assumptions to the production cost modeling and to discuss the output of the base case—which complies with the minimum SB 350 requirements.



## Valuation of Electric System Facilities

The following table sets forth the valuation of the Electric System facilities during the five Fiscal Years shown.

**TABLE 2  
ELECTRIC SYSTEM FACILITIES**

|   | Fiscal Year Ended June 30, |                      |                      |                      |                      |
|---|----------------------------|----------------------|----------------------|----------------------|----------------------|
|   | 2015                       | 2016                 | 2017                 | 2018                 | 2019 <sup>(1)</sup>  |
| Utility Plant <sup>(2)</sup>                    | \$671,436,881              | \$690,548,281        | \$859,715,234        | \$907,363,373        | \$902,338,335        |
| Less Accumulated<br>Depreciation <sup>(2)</sup> | (354,028,149)              | (373,031,191)        | (374,101,767)        | (399,731,051)        | (431,647,047)        |
| Construction in Progress <sup>(2)</sup>         | <u>160,588,141</u>         | <u>198,688,490</u>   | <u>40,335,714</u>    | <u>13,489,397</u>    | <u>30,722,167</u>    |
| <b>Total Facilities</b>                         | <b>\$477,996,873</b>       | <b>\$516,205,580</b> | <b>\$525,949,181</b> | <b>\$521,121,719</b> | <b>\$501,413,455</b> |

<sup>(1)</sup> Fiscal Year ended June 30, 2019 is based on estimated information.

<sup>(2)</sup> Increase in Utility Plant and decrease in Construction in Progress are mainly due to accounting treatment of costs of construction of projects upon their completion. Restated amounts for all the years.

Source: Finance and Administration Business Unit of PWP.

## Insurance

The insurable property and facilities of the Electric System are covered under the City's general insurance policies. Additional liability coverage for the City's generation facilities is provided by a separate Power Plant Boiler and Machinery Policy. The City does not carry earthquake insurance on the property and facilities of the Electric System. For additional information on the City's insurance, see APPENDIX A – "THE CITY OF PASADENA – Insurance."

## Power Supply Resources

The Electric System's resource mix includes local steam and gas turbines, a hydroelectric plant and long-term purchase contracts from a variety of sources including hydroelectric, gas-fired, coal and nuclear generating units and a variety of renewable energy resources including wind, solar, geothermal and biogas projects. In recent years, PWP has developed its resource mix in response to regional power shortages, energy price volatility, and environmental regulations, including stricter emissions control requirements adopted by the South Coast Air Quality Management District. The Electric System increased its power production for several consecutive years primarily as a result of increased energy sales to the California Independent System Operator ("CAISO") when called upon to meet regional demand.

In Fiscal Year 2018-19, PWP generated approximately 76 gigawatt hours ("GWh") from its local resources and purchased approximately 1,022 GWh from long-term contracts and the spot market. PWP's total supply decreased by approximately 0.7% in Fiscal Year 2017-18 compared to the prior year. The system peak demand in Fiscal Year 2017-18 was 315 MW.

The following table sets forth the total power generated and purchased during the five Fiscal Years shown.

**TABLE 3  
TOTAL POWER GENERATED AND PURCHASED (MWh)**

|                         | Fiscal Year Ended June 30, |           |           |           |                     |
|-------------------------|----------------------------|-----------|-----------|-----------|---------------------|
|                         | 2015                       | 2016      | 2017      | 2018      | 2019 <sup>(1)</sup> |
| Generated               | 83,296                     | 48,489    | 62,106    | 76,194    | 62,565              |
| Purchased               | 1,101,285                  | 1,099,525 | 1,043,220 | 1,022,168 | 1,052,585           |
| Total Supply            | 1,184,581                  | 1,148,014 | 1,105,326 | 1,098,362 | 1,115,150           |
| Wholesale Sales         | (30,969)                   | (310)     | (67)      | (13,096)  | (225)               |
| Net System Load         | 1,153,612                  | 1,147,704 | 1,105,259 | 1,085,266 | 1,114,925           |
| System Peak Demand (MW) | 316                        | 307       | 281       | 315       | 302                 |

<sup>(1)</sup> Fiscal Year ended June 30, 2019 is based on estimated information.  
Source: Finance and Administration Business Unit of PWP.

The following table sets forth information concerning the City's power supply resources and the energy supplied by each resource during the Fiscal Year ended June 30, 2019.

**TABLE 4  
POWER SUPPLY RESOURCES**

| Source   | Actual Energy<br>(GWh) <sup>(1)</sup> | Percent<br>of Total Energy |
|--|---------------------------------------|----------------------------|
| Pasadena-Owned Generating Facilities:          |                                       |                            |
| Combustion Turbines (Glenarm)                  | 62.6                                  | 5.61%                      |
| Joint Power Agency/Remote Ownership Interests: |                                       |                            |
| Intermountain Power Project (IPP)              | 478.4                                 | 42.91                      |
| Palo Verde Nuclear Gen. Station (SCPPA)        | 81.1                                  | 7.27                       |
| Magnolia Power Project (SCPPA)                 | 86.7                                  | 7.78                       |
| Renewable Resources                            | 272.1                                 | 24.40                      |
| Purchased Power <sup>(2)</sup>                 |                                       |                            |
| Market   | 88.1                                  | 7.90                       |
| Hoover Project                                 | 46.1                                  | 4.13                       |
| Total  | 1,115.1                               | 100.00%                    |
| Wholesale Sales                                | (0.2)                                 | (0.02)                     |
| Net System Load                                | 1,114.9                               | 99.98%                     |

<sup>(1)</sup> Preliminary data; GWh provided during the twelve-month period ended June 30, 2019.

<sup>(2)</sup> Entitlements, firm allocations and contract amounts.

Source: Finance and Administration Business Unit of PWP.

### City-Owned Generating Facilities

Currently, PWP owns and operates five gas-fired combustion turbines located at the Glenarm facility. In addition to the Glenarm facilities, the City owns the Azusa Hydroelectric Plant, which is interconnected to the SCE power distribution system. Each of these resources is more fully described below.

**Glenarm Power Plant.** The Glenarm Power Plant includes four natural gas-fired combustion turbine units. Two of the units, designated as Glenarm 1 and 2 generators, are identical 22 MW (rated net CAISO output) gas-fired combustion turbine units built in 1975. Historically, operation of these units has been limited to high peak or emergency conditions.

In October 2012, the Glenarm 2 generator (“GT2”) was severely damaged by mechanical failure and a subsequent fire. The incident destroyed the power turbine and severely damaged the enclosure. There were no injuries to PWP personnel.

An agreement has been reached with the insurance provider(s) that provided a reimbursement of approximately \$7.9 million to PWP for the “Actual Cash Value” (replacement value less depreciation) of the damaged unit. Investigations, inspections, and a comprehensive market study of GT2 have been completed, resulting in the determination to repair the unit.

The Glenarm Power Plant also includes two simple-cycle combustion turbines located on PWP’s Glenarm property (adjacent to Broadway) and designated as Gas Turbine Unit 3 with a net rated CAISO output of 44.83 MW and Gas Turbine Unit 4 with a net rated CAISO output of 42.42 MW.

In December of 2016, PWP completed the Glenarm Repowering Project (“Repowering Project”) when the newest unit at the Glenarm site went into commercial operation. Glenarm Turbine 5 is a 1X1 combined cycle gas turbine that is capable of operating in either combined cycle or simple cycle mode. The unit has a permitted capacity of 71 MW (gross). The plant consists of an aero-derivative combustion turbine, once-thru steam generator, a selective catalytic reduction pollution control system, a steam turbine, two electric generators, control and administrative facilities, wet mechanical draft cooling towers, electric driven gas compressors, and a three-winding step-up transformer. The gas turbine was manufactured by General Electric, the steam turbine by Shin-Nippon, and the once-thru steam generator by Innovative Steam Technologies. The Repowering Project utilizes water injection with selective catalytic reduction for NOx control and an oxidizing catalyst for carbon monoxide control as required by SCAQMD in order to meet the best available control technology/lowest achievable emission requirements. The air permit received for the Repowering Project allows the unit to operate at 8,760 hours per year with a maximum of 750 starts per year, 155 starts per month, and no more than five starts per day.

These units are primarily scheduled to economically meet PWP’s intermediate and peaking loads. Excess capacity, operating under the CAISO Participating Generator Agreement, provides ancillary services and energy to the CAISO market. See “– Inter-Utility Sales Transactions – *CAISO-Participating Generator Agreement.*” When imports are limited due to tie-line outages, or when loads reach about 257 MW, at least one unit is put on line for reliability purposes. Due to their relatively high cost of generation, utilization of these units is typically limited to periods when energy and ancillary service prices are economically favorable to support such utilization. The value provided by these units is in their “optionality.” “Optionality” refers to the ability to quickly adjust operating levels to changing market and load conditions.

***Azusa Hydroelectric Plant*** - The Azusa Hydroelectric Plant is a 3 MW hydroelectric plant located in the San Gabriel River Basin. The Azusa Hydroelectric Plant is interconnected to the SCE power distribution system. Energy is accumulated and delivered to the City by SCE through an agreement which provides for deliveries at rates up to 15 MW. The Azusa Hydroelectric Plant has historically delivered approximately 3 GWh of energy to the City annually. However, the plant has not produced energy in the last three years due to the failure of the water conveyance system. Repairs to the conveyance system are estimated to be completed in Fiscal Year 2019-20.

## **Joint Powers Agency Generation and Fuel Resources/Remote Ownership Interests**

### **General**

The City purchases power from the coal-fired Intermountain Power Project (“IPP”), which is owned and operated by the Intermountain Power Agency, a political subdivision of the State of Utah. In addition, the City and other public agencies in Southern California are members of SCPPA, a joint powers agency created for planning, financing, developing, acquiring, constructing, operating and maintaining electric generating and transmission projects for participation by some or all of its members. The City is a participant in the SCPPA portion of the Palo Verde Nuclear Generating Station (“PVNGS”), in the SCPPA Magnolia Power Project, in the SCPPA Milford Wind Corridor Phase I Project and in connection with its fuel supply, the SCPPA Prepaid Natural Gas Project and the SCPPA Natural Gas Project. In most cases, staff unrelated to the City’s bargaining units provide operating, maintenance, engineering, energy management and administrative services for such projects. Labor and related costs are charged to the related joint powers agency or other public agency. The City is informed that labor agreements are in place with each respective bargaining group but cannot give any assurances as to future agreements or the status of negotiations. Each of these resources is briefly described below.

### **Intermountain Power Agency**

Certain information under this subheading “Intermountain Power Agency” regarding the IPA, the IPP and its operations has been obtained from the IPA and sources that the City believes to be reliable, but the City takes no responsibility for the accuracy of such information obtained from sources other than the City.

*IPA Intermountain Power Project Interest.* The IPA has constructed and placed into commercial operation the IPP. The City has entered into certain power purchase contracts with the IPA and others to purchase certain entitlements of IPP and related facilities. The IPP consists of (a) a two unit, 1,800 MW net coal-fired, steam electric generation station and a switchyard located near Delta, Utah; (b) the Southern Transmission System (see “– Transmission Resources” below); (c) two 50-mile 345 kilovolt alternate current (“kV AC”) transmission lines from the generation station to a switchyard in the vicinity of Mona, Utah and a 144-mile 230 kV AC transmission line from the generation station to a switchyard near Ely, Nevada (collectively, the “Northern Transmission System”); (d) a railcar service center; (e) a microwave communications system; and (f) certain water rights and coal supplies.

There are 36 utilities (collectively, the “IPP Purchasers”) that purchase the output of the IPP generating station, consisting of the City, and the California cities of Los Angeles, Anaheim, Burbank, Glendale and Riverside (the “IPP California Participants”), PacifiCorp (which merged with Scottish Power), as successor to the obligations of Utah Power & Light Company, 23 Utah municipal members of IPA and six rural electric cooperatives serving loads in the States of Utah, Arizona, Colorado, Nevada and Wyoming. Pursuant to a Construction Management and Operation Agreement between IPA and LADWP, IPA appointed LADWP as project manager and operating agent responsible for, among other things, administering, operating and maintaining the IPP. The facilities of the IPP have been in commercial operation since May 1, 1987.

The City has two separate contracts with the IPA and certain Utah participants (the power sales entitlement contract and the excess sales contract, respectively, as further described below) which currently provide the City with a 107 MW (5.9%) entitlement in the facility. Approximately 450-500 GWh of energy are delivered to the City from IPP each year. See “TABLE 4 – POWER SUPPLY RESOURCES.”

Transmission of the output from IPP to the City and the other IPP California Participants is provided by the Southern Transmission System (see “– Transmission Resources” below).

IPP has been financed entirely with debt issued by IPA, of which approximately \$957 million principal amount was outstanding as of June 30, 2018, with a final maturity date of June 30, 2024. Debt service, net of projected investment earnings, constitutes in excess of 50% of IPA’s total annual costs of owning, operating and maintaining IPP and is the major factor in IPP’s power and energy costs. As of December 1, 2018, PWP is responsible for approximately \$48.2 million principal amount or 5.9% of the IPA IPP outstanding debt. The City is the payee of a subordinate note receivable from IPA in the approximate amount of \$22.7 million as of December 1, 2018 due to the City’s prepayment of a portion of its share of IPA’s debt. See TABLE 8 – “OUTSTANDING DEBT OF JOINT POWERS AGENCIES” herein for details of the City’s share of this debt.

Details of the contracts relating to the IPP are as follows:

Power Sales Entitlement. The City has contracted with IPA to purchase a 79 MW (4.409%) entitlement to the power of the IPP plant. This contract obligates the City to pay its proportional share of the plant costs (including debt and other fixed expenses), regardless of the amount of energy scheduled to the City, for the life of the IPP bonds. Originally, the City had an entitlement contract with IPA and a layoff which it entered into on February 1, 1983 with Scottish Power (now PacifiCorp), whereby the City purchased a 16 MW share from Scottish Power, which allocation was subsequently increased to 18 MW. Thereafter, in 1991, the layoff contract and the power sales entitlement contract with IPA were combined into one contract resulting in the City’s current 79 MW capacity entitlement. The term of the combined contract extends until all bonds issued by IPA to finance the IPP are retired. PacifiCorp is no longer an IPP power purchaser, its shares having been transferred to LADWP.

Excess Sales Contract. The City and the cities of Burbank and Glendale and LADWP (the “California Excess Sales Purchasers”) contracted with 27 sellers (the “Utah Participants”) and IPA (acting as agent for the sellers) to purchase an entitlement of the IPP plant which was deemed in excess of the sellers’ needs. The City’s current share of the excess is 29 MW (1.59107%). This contract also provides for access to the Northern Transmission System, which was built with IPA funds in order to deliver power from the IPP to the Utah Participants. The term of this contract extends until the IPA bonds are defeased or the sellers’ load requirements meet certain specified conditions; however, the Utah Participants have the unilateral right to recall their original entitlements at any time.

IPP Coal Requirement. The annual coal requirement for the IPP generating station is approximately 4.7 million tons. LADWP, in its role as operating agent of IPP, buys coal under contracts to fulfill this supply requirement of the IPP. Coal is purchased under a diversified portfolio of fixed price contracts that are of short-, medium- and long-term in duration, with pricing based on such factors as the fixed priced, the market and cost of production. The average cost of coal delivered at the IPP generating station in Fiscal Year 2017-18 was approximately \$49.44 per ton. During the prior Fiscal Year, the average cost of coal delivered was approximately \$48.73 per ton. LADWP projects the costs to fulfill IPP’s annual coal supply requirements to be higher due to the continual turnover of mining properties in Utah, difficult mining conditions at the remaining mines, increased mining costs due to regulatory oversight, and the continued increase in rail transportation costs, among other things. To ensure continued operation of the IPP in the event of a coal supply disruption, IPA attempts to maintain a coal stockpile at the IPP generating station that is sufficient to operate the plant at the IPP’s current plant capacity factors for a minimum of 60 days. Transportation of coal to the IPP generating station is provided primarily by rail under agreements between IPA and the Utah Railway and the Union Pacific Railroad companies, and the coal is transported in IPA-owned railcars. Coal is also transported to IPP, to some extent, in commercial trucks.

**IPP Water Supply.** IPA owns off-site water rights that yield approximately 45,000 acre-feet per year. This amount exceeds the annual water requirements of the IPP generating station and the Intermountain Converter Station. A reservoir at the IPP generating station, in combination with groundwater wells, can provide sufficient water to operate for approximately three months at average plant loads.

**Permits, Licenses and Approvals.** According to the IPA, the IPP has been designed, constructed and operated in compliance with all applicable federal, state and local regulations, codes, standards and laws, and all principal permits, licenses and approvals required to construct and operate the IPP have been acquired, including permits relating to air quality and rights-of-way on federally-owned land.

**Emissions.** The IPP generating station's boiler and flue-gas cleaning facilities have been designed and constructed to meet applicable federal and state emission regulations. The boilers have been designed to meet stringent regulatory emission limits for oxides of nitrogen. The flue-gas desulfurization equipment (scrubber) for each unit consists of a wet scrubber system using a limestone reagent designed and constructed to remove at least 90% of the sulfur dioxide before discharge to the atmosphere from a chimney 710 feet in height. The flue-gas particulate control (baghouse) equipment for each unit consists of three modular fabric filters utilizing reverse air for cleaning. The equipment has been designed and constructed to remove at least 99.75% of the particulate material.

**Waste Management.** Substantial federal, state and local legislation and regulations regarding various aspects of waste management are in effect. Federal laws as set forth in acts such as the Federal Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, impose strict liability for cleanup costs and damages regardless of time or location on generators, transporters, storers and disposers of hazardous waste. Many day-to-day activities connected with the generation and transmission of electricity generate both non-hazardous and hazardous wastes. Intermountain Power Service Corporation, under the direction of LADWP, has established a waste management plan for the IPP. The plan is designed to assure that the IPP's present and future operations conform to applicable waste disposal regulations. LADWP has also assessed IPP properties for potential liability arising from past, latent contamination. LADWP has indicated that its waste management program complies with all federal, state and local statutes and guidelines and all applicable permit requirements.

**Operating Experience.** The IPP facilities have operated to date with a high degree of availability, exceeding the average of coal-fired generating units of comparable size. During the Fiscal Year ended June 30, 2019, the IPP operated at a net capacity factor of 51.53%. In the Fiscal Year ended June 30, 2019, the IPP generating station provided 420,964 MWh of energy to the City at an average cost for delivered power of \$62.32 per MWh (excluding transmission costs).

**Intermountain Generating Station upon termination of the IPP Contract.** The current power purchase contracts with the IPA are in effect until June 15, 2027. In order to preserve the benefits of IPP, the IPA Board issued the Second Amendatory Power Sales Contract, which would supersede the current power sales contracts and allow the plant to replace the coal units with combined cycle natural gas units by 2025. The Second Amendatory Power Sales Contract has been executed by all of the IPP Purchasers and IPA, and will become effective once all parties have certified that they have all necessary regulatory approvals, included acceptance of an Emission Performance Standard compliance filing by the California Energy Commission as required under California Senate Bill 1368. The IPP Purchasers, including the City, are considering potential configurations for the new gas-fired power plant and possible alternative uses at the facility location. The City Council has authorized PWP to enter into a Renewal Contract with

IPA for a reduced share (up to 40 MW) in the new gas-fired project, with the understanding that the City will have an option to terminate its participation in the gas-fired renewal project in 2019.

On November 29, 2018, the City officially exercised its option to withdraw from the Renewal Contract with IPA. As a result, the City's entitlement under the IPP contract expires on June 15, 2027. The plan to convert the coal facility to natural gas is still on schedule, for a tentative transition to natural gas in June 2025. Decommissioning costs associated with the generating units have not been determined at this time, and the City's potential liability is unknown. The allocation of decommissioning costs to IPP Purchasers (including the City) may vary based on the commercial operation date of the renewal project, potential financing options for decommissioning costs as part of the renewal project and the amortization schedule for the decommissioning costs.

### **Southern California Public Power Authority**

Certain of the information under this subheading "Southern California Public Power Authority" regarding SCPPA, the SCPPA projects in which the City participates and their operations has been obtained from SCPPA and sources that the City believes to be reliable, but the City takes no responsibility for the accuracy of such information obtained from sources other than the City.

***SCPPA Palo Verde Nuclear Generating Station ("PVNGS") Interest.*** The City has contracted with SCPPA for a 9.9 MW (4.4%) entitlement of 225 MW SCPPA PVNGS Interest (as defined herein). This resource provides the City with approximately 75-85 GWh of baseload energy annually. The City has entered into a power sales agreement with SCPPA which obligates the City to pay the cost of its share of capacity and energy on a "take-or-pay" basis. SCPPA has issued bonds for PVNGS of which the City paid off its share of principal balance due as of December 1, 2018. SCPPA has undertaken certain actions, including collections of amounts in excess of operating and maintenance expenses and current debt service on its bonds for PVNGS to reduce the cost of power from this project. See "– Indebtedness and Joint Agency Obligations" below and TABLE 8 – "OUTSTANDING DEBT OF JOINT POWERS AGENCIES." The City, as well as the Cities of Azusa, Banning, Burbank, Colton, Glendale, Los Angeles, Riverside and Vernon and the Imperial Irrigation District ("IID") are PVNGS project participants.

The SCPPA PVNGS Interest consists of a 5.91% ownership interest in the Palo Verde Nuclear Generating Station, Units 1, 2 and 3, and certain associated facilities and contractual rights relating thereto, a 5.44% ownership interest in the Arizona Nuclear Power Project ("ANPP") High Voltage Switchyard and contractual rights relating thereto and a 6.55% share of the rights to use certain portions of the Arizona Nuclear Power Project Valley Transmission System. PVNGS is located on an approximately 4,000-acre site about 50 miles west of Phoenix, Arizona. PVNGS consists of three nuclear electric generating units (numbered 1, 2 and 3), with a design electrical rating of 1,333 MWs (unit 1), 1,336 MWs (unit 2) and 1,334 MWs (unit 3) and a dependable capacity of 1,311 MWs (unit 1), 1,314 MWs (unit 2) and 1,312 MWs (unit 3). PVNGS's combined design capacity is 4,003 MWs and its combined dependable capacity is 3,937 MWs. PVNGS Units 1, 2 and 3 achieved firm operation in January 1986, September 1986 and December 1987, respectively. Each PVNGS generating unit has been operating under 40-year Full-Power Operating Licenses granted by the Nuclear Regulatory Commission (the "NRC"). In April 2011, the NRC approved PVNGS's license renewal application, allowing the three units to extend operation for an additional 20 years until 2045, 2046 and 2047, respectively. Arizona Public Service Company ("APS") is the operating agent for PVNGS. Transmission is accomplished through agreements with Salt River Project Agricultural Improvement and Power District ("Salt River Project"), LADWP and SCE.

The owners of PVNGS have created external trusts in accordance with the PVNGS participation agreement and NRC requirements to fund the costs of decommissioning PVNGS. SCPPA's direct share of costs is \$161.9 million, of which the City's portion is \$7.1 million or 4.4%. Under the current funding plan, which was established based on the license expiration in 2047, the City estimates that its share of the decommissioning costs are fully funded. Such estimates assume 7% per annum in future investment returns and a 5% per annum cost escalation factor. No assurance or guarantee can be given that investment earnings will fully fund the City's remaining decommissioning obligations at current estimated costs or that the decommissioning costs will not exceed current estimates.

The NRC has broad authority under federal law to impose licensing and safety-related requirements for the operation of nuclear generation facilities. Events at nuclear facilities of other operators or impacting the industry generally may lead the NRC to impose additional requirements and regulations on existing and new facilities. As a result of the March 2011 earthquake and tsunami that caused significant damage to the Fukushima Daiichi Nuclear Power Plant in Japan, various industry organizations are working to analyze information from the Japan incident and develop action plans for U.S. nuclear power plants. Additionally, the NRC is performing its own independent review of the events at Fukushima Daiichi, including a review of the agency's processes and regulations in order to determine whether the agency should promulgate additional regulations and possibly make more fundamental changes to the NRC's system of regulation.

On March 12, 2012, the NRC issued the first regulatory requirements for all 104 operating reactors located in the United States based on the task force evaluations. The NRC issued three orders that modify operating licenses by requiring the following safety enhancements: (1) mitigation strategies to respond to extreme natural events resulting in the loss of power at plants; (2) ensuring reliable hardened containment vents; and (3) enhancing spent fuel pool instrumentation. The orders require prompt implementation of the safety enhancements and to complete implementation within two refueling outages or by December 31, 2016, whichever comes first. The safety enhancements were completed within the required timeframe. On January 4, 2013, the NRC issued guidance to enable U.S. nuclear power plant operators to perform the seismic and flooding hazard assessments. The City does not yet know the extent to which the changes in the regulations, programs, and processes of the NRC as a result of the recommendations of the task force will affect PVNGS operations. The financial and/or operational impacts on PVNGS may be significant.

In the event of noncompliance with its requirements, the NRC has the authority to impose monetary civil penalties or a progressively increased inspection regime that could ultimately result in the shut-down of a unit, or both, depending upon the NRC's assessment of the severity of the situation, until compliance is achieved.

***Magnolia Power Project.*** The City is a participant in the Magnolia Power Project, a gas-fired generating facility with a nominally rated net capacity of 242 MW and auxiliary facilities located in Burbank, California. Through a contract with SCPPA, the City is entitled to a 6.4% (14.8 MW base capacity and up to about 19 MW peaking capacity) entitlement in the project through a long-term power purchase agreement with SCPPA. SCPPA has entered into power sales agreements with the City and the Cities of Anaheim, Burbank, Cerritos, Colton, Glendale and Pasadena pursuant to which SCPPA has sold its entitlement to capacity and energy in the Magnolia Project to the applicable participants on a "take-or-pay" basis. The Magnolia Power Project commenced commercial operation on September 22, 2005. SCPPA issued bonds to finance the construction of the Magnolia Power Project, of which \$277,545,000 aggregate principal amount was outstanding as of December 1, 2018. PWP has entered into a power sales agreement with SCPPA for an approximate 6.4% participation share in the Magnolia Power Project and is therefore responsible for 6.4% of the costs of the Magnolia Power Project.



***Milford Wind Corridor Phase I Project*** In February 2009, the City entered into a 20-year power sales agreement with SCPPA for 2.5% (approximately 5 MW) of the output (including capacity, energy and associated environmental attributes) of Milford Wind Corridor Phase I Project, a 203.5 MW nameplate capacity wind farm comprised of 97 wind turbines located near Milford, Utah. The facility is owned by Milford Wind Corridor Phase I, LLC, a limited liability company organized and existing under the laws of the State of Delaware. The facility went into commercial operation on November 16, 2009. Energy from the facility is delivered over an approximately 88-mile, 345 kV, transmission line extending from the wind generation site to the IPP Switchyard in Delta, Utah, an ownership interest in which transmission line, together with certain structures, facilities, equipment, fixtures, improvements and associated real and personal property interests and other rights and interests necessary for the ownership and operation of the generation facility and the sale of power therefrom, comprise a part of the Milford facility. The City is able to accept the delivered facility energy utilizing its capacity rights in the IPP Switchyard that are provided under agreements relating to the IPP. The facility energy is then delivered over the Southern Transmission System of IPP to the Adelanto or Marketplace terminal in California utilizing the City's capacity rights in the IPP Southern Transmission System and other transmission systems. See “– Transmission Resources – Existing Transmission Resources – *Southern Transmission System*” below. The facility energy delivered at Adelanto or Marketplace is then transmitted to the City under certain transmission arrangements between LADWP or the CAISO and the City and certain transmission arrangements between the City and SCE. The City has entered into a power sales agreement with SCPPA that obligates the City to pay its share of capacity and energy on a “take-or-pay” basis. As of December 1, 2018, SCPPA had outstanding \$167,500,000 aggregate principal amount of bonds issued primarily for the purpose of prepaying for a guaranteed annual quantity of energy from the facility for approximately 20 years. When the IPP contract terminates in 2027, the City will no longer have rights on the STS to deliver power to the City from the Milford project. The City is currently working closely with LADWP to secure rights to the STS or potentially layoff the Milford power from 2027-2029 to a third party.

In addition to being a participant in the above-described SCPPA projects, the City has acquired certain of its other renewable resources through SCPPA. See also “Renewable Resources – Current Renewable Projects” below.

***Prepaid Natural Gas Project.*** In 2007, SCPPA undertook the Prepaid Natural Gas Project, in which the City is a participant. The Prepaid Natural Gas Project provides, through Gas Sales Agreements with the participants in the Prepaid Natural Gas Project, for a secure and long-term supply of natural gas. The original agreement provided the City with a supply of approximately 2,000 MMBtu daily or 730,000 MMBtu annually at a discounted price below spot market price (the SoCal Index) for a 30-year term. The projected discount of approximately 90 cents per MMBtu was expected to result in savings of approximately \$657,000 annually, or approximately \$19.7 million over the 30-year term.

On October 22, 2009, the Gas Sales Agreement with SCPPA was restructured to provide an acceleration of a portion of the long-term savings over the succeeding three years, reduce the remaining volumes of gas to be delivered and shorten the overall duration of the agreement. The restructured agreement provided additional savings of approximately \$2,700,000 to the participants through 2012 with the remainder to be realized over the new term of the transaction. Total expected savings from the project are not impacted by the restructuring. The restructured agreement will terminate in 2035 compared to the original termination year of 2038. The volumes of gas to be delivered are reduced from approximately 2,000 MMBtu to 1,340 MMBtu daily at a projected discount of approximately 98 cents per MMBtu. As a result of this restructuring, approximately \$165,000,000 worth of outstanding aggregate principal bonds were retired. On September 19, 2013, SCPPA entered into a second restructuring of the Prepaid Natural Gas Project. Although the terms of certain agreements to which SCPPA is a party were amended as part of this restructuring, the terms of the City's Gas Sales Agreement were not amended. As part of the

restructuring, SCPPA received a payment of approximately \$3,400,000 from the gas supplier, of which \$561,000 was remitted to the City. As of December 1, 2018, SCPPA had outstanding \$291,275,000 aggregate principal amount of bonds issued for the Prepaid Natural Gas Project. SCPPA will bill the City for actual quantities of natural gas delivered each month. PWP expects that these costs will be recovered through the energy charge component of the electric rates as they are incurred, just as costs for natural gas purchases are currently recovered.

***Natural Gas Project.*** The Natural Gas Project includes SCPPA's leasehold interests in (i) certain natural gas resources, reserves, fields, wells and related facilities located near Pinedale, Wyoming and (ii) certain natural gas resources, reserves, fields, wells and related facilities in (or near) the Barnett Shale geological formation in Texas. The capital costs of the entitlement shares purchased by certain participants were financed through SCPPA by the issuance of project revenue bonds. The City and the City of Glendale contributed capital to SCPPA for the payment of their respective shares of the capital costs of the Natural Gas Project. SCPPA has sold the entire production capacity of its member-related leasehold interests, on a "take-or-pay" basis (with the City and the City of Glendale having no obligation to pay any debt service). The City does not currently take physical delivery of gas from the natural gas resources. Currently, the City receives proceeds from the sale of the gas at the production facilities. However, the City's agreement for sale of the gas can be rescinded at any time.

### **Purchased Power**

In addition to City-owned resources and interests in the joint-venture generation projects described above, the City has long-term contractual arrangements for Electric System firm purchases, as well as enabling agreements, including Western Systems Power Pool ("WSPP") membership, which allow short-term power transactions in markets throughout the Western United States, Canada and Mexico. Each of these resources is briefly described below.

***Hoover Hydroelectric Project Interest.*** The City has two cost-based power purchase agreements with the United States Department of Energy Western Area Power Administration for a combined total of up to 20 MW capacity from the generating units at the hydroelectric power plant of the Boulder Canyon Project at Hoover Dam (the "Hoover Project"), located approximately 25 miles from Las Vegas on the Nevada/Arizona border. The previous Hoover Project contract expired in September of 2017 and was subsequently renewed until 2067. The City's capacity entitlement is comprised of an 11 MW renewal contract and a contract for 9 MW resulting from the uprating of the Hoover Project. The actual capacity available from the Hoover Project varies, depending on hydrologic conditions, maintenance scheduling and other outages. Under normal hydrologic conditions, the City receives approximately 60 GWh of annual energy deliveries. On December 20, 2011, President Obama signed the Hoover Power Allocation Act of 2011 providing for the distribution of power from the Hoover Project from 2017 through 2067. The Hoover Power Allocation Act of 2011 also mandated that each of then current power users give up 5% of its Hoover Project power resource so that an allotment is set aside for new participants in the Hoover Project region. In the Fiscal Year ended June 30, 2019, the Hoover Project provided 46.1 GWh of energy to the City at an average cost for delivered power of \$13.37 per MWh. The City Council has authorized the signing of the post-2017 Energy Services Agreement to preserve the benefits of the Hoover Project through 2067.

***Renewable Resource Purchases.*** The City has also entered into certain other power purchase agreements in furtherance of its adopted renewable resource portfolio standard. See "-- Renewable Resources" below.

***Bilateral (Spot Market) Energy Purchases.*** Approximately 6-15% of PWP's annual energy needs are met through economic purchases of spot market power through short-term bilateral transactions.

These transactions, which range in duration from one hour to one year, are made pursuant to the WSPP, of which the City has been a member since 1995. The WSPP is governed by a master enabling agreement with over 175 member utilities and power marketers. PWP's risk policy allows short-term transactions of one year or less for capacity, energy or both at negotiated market prices under the WSPP Agreement. In addition, the WSPP recently added a new schedule to the agreement to allow bilateral purchases of bundled or unbundled Renewable Energy Credits ("REC").

## **Renewable Resources**

In order to meet the City's RPS, the City continues to procure additional renewable resources through SCPPA as well as independent negotiations with renewable resources providers. An update of the IRP was approved by the City Council on July 20, 2015. In September of 2015, the State of California passed SB 350 – The Clean Energy and Pollution Reduction Act of 2015. SB 350 increases the statewide RPS to 50% by 2030. Beginning in 2025, the trajectory of reasonable progress toward the SB 350 mandatory state-wide RPS will surpass the City's 40% voluntary RPS. As of December 2018, PWP is at 35% RPS and by December 2019, PWP expects to be at 37.5% RPS, well on its way to meeting its voluntary RPS of 40% by 2020. In December 2018, following a lengthy and extensive stakeholder process, The City adopted a revised IRP that includes a plan for compliance with the SB100 mandate to achieve a 60% RPS by 2030. PWP submitted the revised IRP to the CEC in December 2018, ahead of the filing deadline of April 2019. See "DEVELOPMENTS IN THE CALIFORNIA ENERGY MARKETS – State Legislation."

Additional contracts with proposed renewable energy facilities are being negotiated to support the RPS in future years.

***Milford Wind Corridor Phase I Wind Generation Project.*** As described above, the City is a participant in SCPPA's Milford Wind Corridor Phase I Project, a 203.5 MW wind generating facility located in Millard County, Utah and a power sales agreement with SCPPA for an approximately 5 MW (2.5%) share of the project. The project began commercial operation in November 2009.

***High Winds Wind Generation Facility.*** In 2003, the City Council approved a 25-year power sales agreement with SCPPA for the purchase of wind-powered electrical energy associated with a 6 MW (or approximately 17,500 MWh per year) share of the PPM Energy, Inc. (now Avangrid Renewables ("Avangrid")) High Winds wind generation facility. The High Winds Project is a 145.6 MW wind generation facility located in Solano County, California. Avangrid is responsible for scheduling the wind energy as it is produced at the High Winds Project into the CAISO. Avangrid re-delivers the associated energy on a firm 2 MW basis to a delivery point in Southern California, providing PWP with a constant, reliable source of energy.

***Ameresco Chiquita Canyon Landfill Gas Project.*** In 2004, the City Council approved a 20-year power sales agreement with SCPPA for the purchase of 8.3 MW of landfill gas-generated electrical energy from the Ameresco, LLC, Chiquita Canyon Landfill Gas to Electricity generation project located in Valencia, California. The project began operation in 2010 and produced approximately 39 GWh in Fiscal Year 2018-19.

***Puente Hills Landfill Gas Project.*** On June 23, 2014, the City Council approved a 14-year power sales agreement with SCPPA for approximately 30% of the output from the Puente Hills landfill gas-to-energy project, starting January 1, 2017. The Puente Hills project is an existing 43 MW project located near Whittier, California. The project produced approximately 70 GWh in Fiscal Year 2018-19.

***Ormat Geothermal Energy Project.*** In 2005, the City Council approved a 25-year power sales agreement with SCPPA for the purchase of 2.5 MW of geothermal-generated electrical energy from the Herber South generation unit. Due to uncontrollable operational constraints, the project and agreement were subsequently revised to a 2.1 MW share of the geothermal project producing approximately 17,500 MWh per year. The Ormat geothermal project is located in the service area of Imperial Irrigation District (“IID”) in the Imperial Valley, California. The energy is delivered to the CAISO over the IID transmission system. This project generated approximately 17 GWh of energy in Fiscal Year 2018-19.

***Windsor Reservoir Solar Project.*** On March 30, 2010, PWP issued a Request for Proposals for a rooftop photovoltaic solar project to be installed on City facilities. Of the 24 responses received, PWP chose to proceed with a 0.564 MW project to be installed by Martifer Solar, Inc. atop the PWP Water Division’s Windsor Reservoir. Completed and operational on May 31, 2011, the project generated approximately 0.6 GWh of solar energy in Fiscal Year 2018-19. Through internal agreements, the renewable energy generated is purchased by the Power Division through bill credits to the Water Division thereby reducing PWP’s customers’ water bills. These savings benefit PWP’s water customers through reduced operating costs of the Water Division.

***Columbia II Solar Project.*** In December 2014, the City scheduled the first MWhs of energy from the Columbia II Solar project, owned and operated by Dominion Resources, Inc. The Columbia II Solar Project is a 15 MW solar plant located in Mojave, California. This project was procured through the 2013 SCPPA open Request for Proposal process. The City purchases 17.143% (approximately 2.6 MW) of the output from Columbia II through a power sales agreement with SCPPA dated September 19, 2013. The project generated approximately 7 GWh of energy in Fiscal Year 2018-19.

***Kingbird Solar Project.*** On September 9, 2013, the City Council approved a contract for 100% of the production from the 20 MW Kingbird Solar project in Rosamond, California. The Kingbird project achieved commercial operations on April 30, 2016 and is operated by First Solar. The Kingbird contract has a 20-year term which may be extended by the City in its sole discretion for an additional five contract years. The contract also includes an option for the City to purchase the project at various points during the term. The Kingbird project generated approximately 60 GWh of energy in Fiscal Year 2018-19.

***Summer Solar Project.*** The City executed a contract dated November 15, 2012 with SCPPA to purchase 32.5% of the output from the 20 MW Summer Solar project located near Lancaster, California. The contract was amended on March 10, 2014. Summer Solar achieved commercial operation on July 25, 2016. The project generated approximately 18 GWh of energy in Fiscal Year 2018-19.

***Antelope Big Sky Ranch Solar Project.*** The City executed a contract dated November 15, 2012 with SCPPA to purchase 32.5% of the output from the 20 MW Antelope Big Sky Ranch solar project located near Lancaster, California. The contract was amended on March 10, 2014. Antelope Big Sky Ranch achieved commercial operation on August 19, 2016. The project generated approximately 18 GWh of energy in Fiscal Year 2018-19.

***Powerex Renewable Energy Contract.*** On July 18, 2016, the City Council approved a four-year contract with Canadian firm Powerex Corp. for the purchase of 17,500 MWh per year of Category 1 and 35,000 MWh per year of Category 2 bundled renewable energy credits (“RECs”) beginning January 1, 2017. The products will be supplied from Powerex’s existing fleet of California RPS-certified renewable resources in British Columbia, Canada and the State of Washington.

***Falls Creek Category 3 Contract.*** On July 18, 2016, the City Council approved a ten-year contract with Falls Creek H.P., L.P. for the purchase of 35,000 to 69,000 Category 3 RECs per year

beginning January 1, 2017. The RECs will be generated by a group of existing California RPS-certified small hydroelectric projects located in Oregon and Idaho.

### **Solar Initiative and Photovoltaic Program**

PWP customers installed 1.1 MW of solar PV in the tenth calendar year of the Pasadena Solar Initiative (“PSI”) program. Since the launch of the PSI program in 2008, more than 1,240 PWP customers have installed a total of 10.07 MW of solar capacity. PWP has been recognized for its commitment to solar energy by the solar industry. The Smart Electric Power Alliance (SEPA) named PWP as one of the top ten utilities in the nation with the most solar watts per customer in 2010 and 2017. The PSI was concluded in December 2017 and PWP no longer offers rebate incentives for customer-owned solar installations. PWP has not reached its net metering cap and still offers net energy metering to qualifying customers.

### **Energy Efficiency Goals and Programs**

Pasadena’s energy efficiency programs are designed to meet energy efficiency goals adopted by the City Council, while serving a broad cross-section of PWP’s customer groups. These achievements support Pasadena’s sustainability goals and policies.

PWP surpassed its energy efficiency goals in Fiscal Year 2017-18, while helping PWP customers save 16,569 MWh of energy and reducing peak demand by 2.08 MW. In total, more than 2,300 PWP customers received an energy efficiency rebate or direct installation service last year as a result of PWP’s energy efficiency programs. Additionally, approximately 36,000 residential customers received quarterly Home Energy Reports containing personalized information on their home’s energy usage data, trends, and comparisons, as well as helpful savings tips and leads to PWP efficiency programs and rebates.

### **Future Power Supply Resources**

The City continues to procure additional renewable resources through SCPPA and directly with renewable resources providers to meet its projected RPS requirements. The City will continue to analyze a variety of renewable resources to meet the SB 100 compliance requirements. The City’s goal is to have a diverse resource portfolio to meet its energy and compliance requirements, while mitigating environmental impacts at reasonable rates.

### **Fuel Supply**

PWP’s local generating units are primarily fueled by natural gas, with average daily consumption of approximately 3,300 MMBtu during summer months. During peak months, gas requirements in excess of firm deliveries and long-term supply contracts are purchased at the Southern California Gas Company Citygate. The Southern California Gas Company provides intra-state delivery of PWP’s natural gas supplies.

As noted above, the City is a participant in SCPPA’s prepaid natural gas project which provides approximately 1,400 MMBtu of natural gas daily.

PWP also has access to Canadian gas via firm transportation on the Nova, Transcanada, and Pacific Gas & Electric (“PG&E”) expansion into the Southern California Gas Company system, with net capacity of approximately 3,989 MMBtu/day at Kern River Station in Kern County, California.

In January 2019, PG&E filed documents in a U.S. court seeking Chapter 11 reorganization. PWP currently holds a transportation service contract with PG&E for the option to transport up to 4,000 MMBtu of natural gas daily from Malin, Oregon to the southern terminus of the PG&E system. Although PWP pays a monthly reservation fee for the transportation contract, there is no activity that directly impacts PWP. From time to time, PWP has designated the capacity provided by the contract to other counterparties to recognize revenue to offset the reservation fee. PWP does not currently have any transactions directly with PG&E and does not expect to be adversely impacted by the bankruptcy filing.

In addition, the City is a participant in SCPPA's Natural Gas Project, consisting of leasehold interests in natural gas fields located in Wyoming and Texas, and its Prepaid Natural Gas Project Gas Sales Agreements which provide a supply at prices below spot market price through 2035. These supplies are expected to account for an average of approximately 650 MMBtu/day. The City is currently selling the gas produced by its interests in the SCPPA Natural Gas Project rather than utilizing it in energy production at the Magnolia Power Plant or its local generation. Such sale is rescindable at any time. See “– Joint Powers Agency Generation and Fuel Resources/Remote Ownership Interests – Southern California Public Power Authority – *Prepaid Natural Gas Project*” and “– *Natural Gas Project*.”

In October 2015, a leak was detected at Southern California Gas Company's Aliso Canyon storage facility. The California Public Utilities Commission (“CPUC”) ordered that the Aliso Canyon inventory levels be reduced to 15 billion cubic feet and ordered Southern California Gas Company (“SoCal Gas”) to stop injections into the facility and only allowed further withdraws of natural gas from the facility under emergency situations. In November 2017, the CPUC issued the Aliso Canyon Withdrawal Protocol (the “Protocol”) that allows for the limited use of Aliso Canyon. The Protocol set forth minimum storage inventories, permits withdrawals when it is necessary to maintain reliability, to respond to risk to electric system reliability, and/or to avoid or limit curtailments to customers.

Aliso Canyon historically has been used by SoCal Gas as a tool to balance supply and demand and not being able to use it for normal business has caused operational challenges for SoCal Gas's daily operation. As a result of the Aliso Canyon gas storage situation, there is a possibility of disruptions to the normal natural gas supply for power plants in Southern California, including PWP's local Glenarm power plant. Effective June 1, 2016, the SoCal Gas implemented strict limitations and high penalties regarding scheduling and use of natural gas within its distribution system. PWP purchases/sells natural gas in the wholesale market and schedules deliveries to its power plants through the SoCal Gas pipelines. PWP must now closely manage its natural gas supply daily and make adjustments to natural gas deliveries several times during the day as needed. Natural gas fired generation makes up approximately 10% of PWP's resource portfolio, however it performs a critical function of ensuring PWP's distribution system reliability, health and safety when peak energy demands exceed PWP's ability to deliver enough energy (from sources outside PWP's distribution system) to meet the demand. PWP utilizes its internal power plant to produce energy to make up for this shortfall in order to avoid rolling blackouts. The full impacts are not certain; however, the impacts on PWP's natural gas supply are expected to be infrequent.

## **Transmission Resources**

### **General**

In January 2005, the City became a Participating Transmission Owner (“PTO”) in the CAISO and placed certain transmission facilities and entitlements to transmission service on certain facilities under the CAISO's operational control. Pursuant to the CAISO Tariff and applicable Federal Energy Regulatory Commission (“FERC”) precedent, FERC approved a Base Transmission Revenue

Requirement (“TRR”) and a Transmission Revenue Balancing Account Adjustment (“TRBAA”) for the City to recover the costs of these facilities and entitlements.

The City has been filing annual updates to its TRBAA with FERC since becoming a PTO. The TRBAA is the mechanism by which transmission revenue credits associated with transmission service from the CAISO are flowed through to transmission customers. The TRBAA amount is used as an offset to the TRR of a PTO. The TRBAA does not change the Base TRR nor does it flow through transmission cost increases to PTOs. Any change to the Base TRR requires that a petition must be filed with FERC.

In February 2019, the City filed a petition with FERC to revise its Base TRR to recover the cost increases the City has been experiencing since FERC approved its initial Base TRR. In April 2019, FERC approved the City’s petition and increased the City’s TRR by approximately \$0.6 million effective March 1, 2019.

### **Existing Transmission Resources**

Transmission resources are an integral component of the City’s plan to provide economical and reliable electric service to its customers. The City currently has several firm capacity transmission agreements to deliver over 200 MW of remote generation to the T.M. Goodrich Receiving Station in the City, and to provide access to major hubs of the western wholesale power market. The transmission network allows the City to obtain low-cost energy supplies when available. Depending on the generation source, the energy is transmitted through a combination of the transmission resources listed in the following table.

**TABLE 5**  
**FIRM TRANSMISSION SERVICE AGREEMENTS**

| Transmission Line Path             | Owner/Party              | Capacity <sup>(2)</sup> |
|------------------------------------|--------------------------|-------------------------|
| Sylmar-T.M. Goodrich               | SCE/CAISO <sup>(1)</sup> | 336 MW                  |
| Pacific-Northwest DC Intertie      | Pasadena                 | 72 MW                   |
| Northern Transmission System (NTS) | IPA/Utah                 |                         |
| Mona Substation                    |                          | 106 MW                  |
| IPP-Gonder                         |                          | 16 MW                   |
| Southern Transmission System (STS) | SCPPA                    | 141 MW                  |
| Adelanto/Victorville-Sylmar        | LADWP                    | 136 MW                  |
| Mead-Phoenix                       | SCPPA                    |                         |
| Westwing-Mead                      |                          | 49 MW                   |
| Mead Substation                    |                          | 25 MW                   |
| Mead-Marketplace                   |                          | 84 MW                   |
| Mead-Adelanto                      | SCPPA                    | 75 MW                   |
| Hoover                             |                          |                         |
| McCullough-Victorville             | Pasadena                 | 26 MW                   |
| Adelanto-Victorville               | LADWP                    | 26 MW                   |
| Adelanto-Sylmar                    | LADWP                    | 26 MW                   |
| Victorville-Sylmar                 | LADWP                    | 26 MW                   |
| Hoover-Sylmar                      | LADWP                    | 26 MW                   |
| Mead-McCullough                    | LADWP                    | 26 MW                   |

<sup>(1)</sup> The CAISO became the control area operator and scheduling agent for this line commencing with CAISO operations.

<sup>(2)</sup> Transmission lines with different import/export ratings.

Source: Power Supply Business Unit of PWP.

***Southern California Edison Company.*** The City has a transmission contract with SCE for rights to firm transfer capacity from LADWP’s Sylmar Substation to the T. M. Goodrich Receiving Station in the City through SCE, as well as an agreement with SCE for interconnection of the T.M. Goodrich Receiving Station to the SCE system.

***Pacific Northwest DC Intertie.*** Spanning 850 miles from Celilo in northern Oregon to Sylmar, California, the Pacific Northwest DC Intertie (“PDCI”) is a double-pole, ±500 kV transmission line. The PDCI conveys energy to the City from the Bonneville Power Administration and other Pacific Northwest utilities. PWP is entitled to 72 MW (2.32%) of the total 3,100 MW capacity of the southern portion (south of the point where the line crosses the Nevada-Oregon Border (“NOB”) of the PDCI).

***Northern Transmission System.*** The Northern Transmission System consists of two 50-mile long 345 kV AC transmission lines which connect the IPP to the Mona Substation in Utah and the Gonder Substation in Nevada. The City currently has entitlements of 122 MW of capacity on these transmission lines as a result of the IPP Excess Sales Contract with the Utah Participants. IPA allocates 2.4735% of its outstanding debt to the Northern Transmission System. As of June 30, 2018, this allocation was approximately \$0.5 million. The City’s maximum share of this obligation is 7.6%.

***Southern Transmission System.*** The Southern Transmission System (“STS”) is a double-pole, ±500 kV DC transmission line spanning 488 miles from IPP in central Utah to the Adelanto Substation in Southern California, together with an AC/DC converter station at each end. It is operated and maintained



by the LADWP under contract with IPA. In connection with its entitlement to the IPP, the City acquired a contractual entitlement to 141 MW (5.9%) of the total 2,400 MW capacity of the STS. To facilitate financing of the STS, the City assigned its contractual transmission rights to SCPPA, and now receives its STS transmission through a service contract with SCPPA. As the result of an upgrade to the STS which was completed in December 2010, the capacity of the STS was increased from the previous 1,920 MW to 2,400 MW. The term of the City's contractual transmission right extends until the expiration of the IPP contract in June of 2027. The terms of the SCPPA transmission service contract also extend to June 2027, or until all SCPPA bonds issued to finance the STS are paid or defeased if later. The City's transmission service contract with SCPPA obligates the City to pay the cost of its share of the transfer capability on a "take-or pay" basis. As of December 1, 2018, SCPPA had outstanding \$430,305,000 principal amount of bonds relating to the STS.

***Adelanto-Sylmar Transmission Line.*** The City has a contract with LADWP for 136 MW of transmission capacity from the STS at either Adelanto or Victorville through the LADWP system to the CAISO at Sylmar.

***Mead-Phoenix Transmission Project.*** The Mead-Phoenix Transmission Project consists of a 256-mile, 500 kV AC transmission line, which was placed into commercial operation on April 15, 1996, extending between a southern terminus at the existing Westwing Substation (in the vicinity of Phoenix, Arizona) and a northern terminus at Marketplace Substation, a substation located approximately 17 miles southwest of Boulder City, Nevada. The line is looped through the 500-kV switchyard constructed in the existing Mead Substation in southern Nevada with a transfer capability of 1,923 MW (as a result of certain upgrades completed in 2009). By connecting to Marketplace Substation, the Mead-Phoenix Transmission Project interconnects with the Mead-Adelanto Transmission Project (as described below) and with the existing McCullough Substation. The Mead-Phoenix Transmission Project is comprised of three project components. SCPPA executed an ownership agreement providing it with an 18.3077% member-related ownership share in the Westwing-Mead project component, a 17.7563% member-related ownership share in the Mead Substation project component, and a 22.4082% member-related ownership share in the Mead-Marketplace project component. Other owners of the line are Arizona Public Service Company, M-S-R Public Power Agency, Salt River Project and Startrans IO, L.L.C. The City entered into a transmission service contract with SCPPA which provides to the City an entitlement to 49 MW on the Westwing – Mead component, 25 MW on the Mead Substation component, and 84 MW on the Mead to Marketplace component of the Mead-Phoenix Transmission Project and obligates the City to pay its share (13.8%) of the transfer capability on a "take-or-pay" basis. The term of this contract extends for the life of the facility, or until all SCPPA bonds issued to finance the project are defeased if later. As of December 1, 2018, SCPPA had outstanding \$10,645,000 principal amount of its bonds issued to finance the Authority Interest (Members) in the project.

***Mead-Adelanto Transmission Project.*** This arterial line consists of a 202-mile, 500 kV AC transmission line extending between a southwest terminus at the existing Adelanto Substation in Southern California and a northeast terminus at Marketplace Substation, located approximately 17 miles southwest of Boulder City, Nevada. By connecting to Marketplace Substation, the line interconnects with the Mead-Phoenix Transmission Project and the existing McCullough Substation in southern Nevada. The line has a transfer capability of 1,291 MW. SCPPA has executed an ownership agreement providing it with a total of a 67.9167% member-related ownership share in the project. The other owners of the line are M-S-R Public Power Agency and Startrans IO, L.L.C. The commercial operation date for the project was April 15, 1996, which coincided with the completion of the Mead-Phoenix Transmission Project. The City has entered into a transmission system contract with SCPPA which provides to the City an entitlement to 75 MW of transfer capability on the Mead-Adelanto Transmission Project and obligates the City to pay its share (8.6%) of the transfer capability on a "take-or-pay" basis. The term of this contract extends for the life of the facility, or until all SCPPA bonds issued to finance the project are defeased if

later. As of December 1, 2018, SCPA had outstanding \$34,475,000 principal amount of its bonds issued to finance SCPA's Authority Interest (Members) in the project.

***Hoover Transmission Projects.*** The City contracts with LADWP for 20.197 MW of transmission services from the Hoover Switchyard to the Sylmar Substation. The contract was executed in September 2017 and is currently scheduled to expire in September 2019. The City is currently working closely with LADWP to extend the existing agreement through September 2020 while continuing negotiations for a long term contract that will cover the term of the extended Hoover Contract through September 2067.

***McCullough-Victorville Transmission Line.*** The City acquired a 26 MW equity entitlement from LADWP in the 180-mile, 500 kV AC McCullough-Victorville No. 2 Transmission Line. Originally utilized to import the City's PVNGS power, this line provides a parallel path to the Mead-Adelanto transmission line into the critical Mead Substation.

***Victorville-Sylmar.*** The City contracts with LADWP for 26 MW of firm transmission service from the Victorville Substation to the Sylmar Substation as a continuation of the McCullough-Victorville Line.

### **Future Transmission Resources**

As a PTO CAISO member, PWP has rights to transmission resources throughout the west to deliver contractual and spot market supplies into the City through the CAISO grid through the Sylmar interconnection with LADWP, about 10 miles from the City, to PWP's CAISO interconnection point at PWP's TM Goodrich Substation.

### **Inter-Utility Sales Transactions**

***General.*** In addition to making market purchases when economical, PWP also sells excess electric and gas commodity and transmission capacity when the City does not need it. The City has entered into a number of long-term capacity sales, and energy schedulers and dispatchers also respond to opportunities to market excess power when conditions warrant. The additional net revenues from these transactions help keep electricity rates down by offsetting fixed energy costs.

***CAISO – Participating Generator Agreement.*** Under this agreement, the City sells capacity and energy from its local generation resources at Glenarm into the CAISO's ancillary service markets on a day-ahead and hour-ahead basis. Due to the short-term nature of the market, these ancillary service capacity and energy revenues are extremely volatile and difficult to predict; however, it is estimated that they will range from approximately \$3 million to \$10 million in future years.

### **Interconnections and Distribution Facilities**

PWP owns facilities for the distribution of electric power within the City limits (approximately 23 square miles). These facilities include approximately 85 miles of 34 kV subtransmission circuits, 389 miles of 17 kV distribution circuits, 273 miles of 4 kV distribution circuits, 3 receiving stations and 11 distribution stations. For Fiscal Year 2017-18, the City's system experienced approximately 22.8 minutes of outage time per customer served. PWP's benchmark for this metric is currently 120 minutes. Distribution infrastructure investments contributed to this improved measure of performance.

## Electric Rates and Charges

The City is obligated by its Charter and by its rate ordinance to establish rates and collect charges in an amount sufficient to meet its expenses of operation and maintenance and debt service requirements (with specific requirements as to priority and coverage). See “SECURITY AND SOURCES OF PAYMENT FOR THE 2019A BONDS – Rate Covenant.” Electric rates are subject to approval by the City Council. Electric rates are not subject to regulation by the CPUC or by any other state agency. See, however, “RATE REGULATION.”

PWP’s electric rate structure is unbundled into distribution, customer, energy, transmission and PBC. The PWP rate structure is cost-based and does not provide for cross subsidies among customer classes. The PWP electric rates include variable components which are designed to recover from customers increased costs to the utility associated with energy and transmission. The City provides no free electric service. The following table sets forth rates for each customer class as of June 30, 2015 through June 30, 2019.

**TABLE 6**  
**FIVE-YEAR HISTORY OF ELECTRIC RATES**  
**Dollars Per Kilowatt Hour**

| Customer Class                      | Fiscal Year Ended June 30, |          |          |          |                     |
|-------------------------------------|----------------------------|----------|----------|----------|---------------------|
|                                     | 2015                       | 2016     | 2017     | 2018     | 2019 <sup>(1)</sup> |
| Residential                         | \$0.1784                   | \$0.1827 | \$0.1828 | \$0.1932 | \$0.1929            |
| Small Commercial and Industrial     | 0.1659                     | 0.1683   | 0.1695   | 0.1769   | 0.1773              |
| Medium Commercial and Industrial    | 0.1575                     | 0.1610   | 0.1620   | 0.1664   | 0.1668              |
| Large Commercial and Industrial     | 0.1498                     | 0.1517   | 0.1538   | 0.1656   | 0.1660              |
| Street Lighting and Traffic Signals | 0.1514                     | 0.1505   | 0.1469   | 0.1495   | 0.1496              |

<sup>(1)</sup> Fiscal Year ended June 30, 2019 is based on estimated information.

Note: Rates above include Public Benefit Charge.

Source: Finance and Administration Business Unit of PWP.

Within PWP, “commercial and industrial” customers are principally educational and healthcare institutions and office buildings, as well as a wide range of businesses. These businesses include postal service, engineering, telecommunications, healthcare, property development, insurance, office products and packaging, and chemical products. No single commercial industrial customer currently accounts for more than 3% of total annual electrical sales revenue. The top 10 commercial and industrial customers typically represent approximately 11% of PWP’s annual electric sales revenue.

## Customers, Energy Sales and Revenues

The average number of customers, energy sales and revenues derived from sales, by classification of service, during the past five Fiscal Years, are listed below.

**TABLE 7  
CUSTOMERS, ENERGY SALES AND REVENUES**

|                                      | Fiscal Year Ended June 30, |               |               |               |                     |
|--------------------------------------|----------------------------|---------------|---------------|---------------|---------------------|
|                                      | 2015                       | 2016          | 2017          | 2018          | 2019 <sup>(1)</sup> |
| <b>Number of Customers</b>           |                            |               |               |               |                     |
| Residential                          | 56,645                     | 56,674        | 57,331        | 57,540        | 58,524              |
| Small Commercial & Industrial        | 7,557                      | 7,610         | 7,631         | 7,603         | 7,585               |
| Medium Commercial & Industrial       | 890                        | 864           | 864           | 897           | 894                 |
| Large Commercial & Industrial        | 162                        | 155           | 153           | 153           | 153                 |
| Public Street & Highway Lighting     | 5                          | 5             | 5             | 5             | 5                   |
| Wholesale Sales to Other Utilities   | 10                         | 10            | 8             | 5             | 5                   |
| Total                                | 65,269                     | 65,318        | 65,992        | 66,203        | 67,166              |
| <b>Megawatt-hour Sales:</b>          |                            |               |               |               |                     |
| Residential                          | 324,656                    | 326,023       | 320,280       | 320,878       | 317,239             |
| Small Commercial & Industrial        | 149,097                    | 149,036       | 146,852       | 145,268       | 143,622             |
| Medium Commercial & Industrial       | 263,559                    | 261,189       | 257,746       | 260,324       | 257,372             |
| Large Commercial & Industrial        | 356,079                    | 345,285       | 316,079       | 304,006       | 300,558             |
| Public Street and Highway Lighting   | 13,423                     | 13,384        | 13,368        | 13,372        | 13,220              |
| Other (Misc.)                        | 22,803                     | (167)         | 1,721         | (3,208)       | 0                   |
| Total Retail Energy Sales            | 1,129,617                  | 1,094,750     | 1,056,046     | 1,040,640     | 1,032,011           |
| Wholesale Sales to Other Utilities   | 30,969                     | 310           | 67            | 13,096        | 225                 |
| Total Energy Sales                   | 1,160,586                  | 1,095,060     | 1,056,113     | 1,053,736     | 1,032,236           |
| <b>Revenues from Sale of Energy:</b> |                            |               |               |               |                     |
| Residential                          | \$57,904,418               | \$59,634,283  | \$58,558,745  | \$61,829,167  | \$61,184,604        |
| Small Commercial & Industrial        | 24,728,258                 | 25,109,230    | 24,893,613    | 25,726,420    | 25,458,225          |
| Medium Commercial & Industrial       | 41,522,097                 | 42,089,694    | 41,756,154    | 43,372,063    | 42,919,914          |
| Large Commercial & Industrial        | 53,352,051                 | 52,425,815    | 48,610,712    | 50,411,693    | 49,886,156          |
| Wholesale Sales to Other Utilities   | 3,763,555                  | 2,256,353     | 5,542,824     | 9,911,089     | 10,138,583          |
| Public Street & Highway Lighting     | 2,031,654                  | 2,016,163     | 1,963,895     | 1,998,735     | 1,977,898           |
| Other <sup>(2)</sup>                 | 20,446,194                 | 15,665,917    | 21,154,386    | 18,866,514    | 26,976,230          |
| Total Energy Revenue                 | \$203,748,227              | \$199,197,455 | \$202,480,329 | \$212,115,681 | \$218,541,610       |

<sup>(1)</sup> Fiscal Year ended June 30, 2019 is based on estimated information.

<sup>(2)</sup> Other revenue includes PTO – TRR revenues, Cap and Trade revenues, unbilled revenue and miscellaneous governmental revenue.

Source: Finance and Administration Business Unit of PWP.

## Indebtedness and Joint Agency Obligations

Upon the issuance of the 2019A Bonds and the refunding of the 2009 Bonds, in addition to the 2019A Bonds, the City will have outstanding \$205,105,000 aggregate principal amount of Bonds which are payable from the Light and Power Fund and secured by a pledge of the Net Income of the Electric System. See “SECURITY AND SOURCES OF PAYMENT FOR THE 2019A BONDS.”

As previously discussed, the City participates in the SCPPA joint powers agency. SCPPA provides for the financing and construction of electric generating and transmission projects for participation by some or all of its members. The City is a participant in the following SCPPA projects: PVNGS, Magnolia Power Project and Milford Wind Corridor Phase I Project, with respect to generation, is a participant in the Mead-Phoenix Transmission Project, the Mead-Adelanto Transmission Project and

the Southern Transmission System, with respect to transmission, and is a participant in the Prepaid Natural Gas Project and the Natural Gas Project, with respect to fuel supply. To the extent the City participates in projects developed by SCPPA, the Electric System is obligated for its proportionate share of the cost of the particular project, including in most cases, the costs of debt service on indebtedness incurred by SCPPA to finance the costs of such projects. See TABLE 8 – “OUTSTANDING DEBT OF JOINT POWERS AGENCIES.”

In addition, the City has entered into certain power sales contracts with IPA and others for the delivery of electric power from IPP. The Electric System’s share of IPP power is equal to 6.0% of the generation output of IPP, IPA’s 1,800 MW coal-fueled generating station, located in central Utah. The contracts constitute an obligation of the Electric System to make payments solely from revenues from the Light and Power Fund. The power sales contracts also require the Electric System to pay certain minimum charges that are based on debt service requirements. However, the City’s entitlement under the IPP contract expires on June 15, 2027.

Obligations of the City under the agreements with IPA and SCPPA constitute Maintenance and Operating Expenses of the City payable prior to any of the payments required to be made on the Bonds. Agreements between the City and SCPPA (other than the agreement relating to SCPPA’s Natural Gas Prepaid bonds) and the City and IPA are on a “take-or-pay” basis, which requires payments to be made whether or not applicable projects are operating or operable, or whether the output from such projects is suspended, interfered with, reduced, curtailed or terminated in whole or in part. In addition, all of these agreements (other than the agreement relating to SCPPA’s Natural Gas Prepaid bonds and the agreement relating to SCPPA’s Natural Gas Project in which the City contributed its share of capital costs and did not participate in the related financing) contain “step-up” provisions obligating the City to pay a share of the obligations of a defaulting participant. Such payments represent the Electric System’s share of current and long-term obligations. Payment for these obligations will be made from operating revenues received during the year that payment is due. The City’s participation and share of debt service obligations (without giving effect to interest due on the obligations or any “step up” provisions) for each of the joint powers agency projects in which it participates are shown in the following table.

**TABLE 8**  
**OUTSTANDING DEBT OF JOINT POWERS AGENCIES**  
**As of December 1, 2018**  
**(Dollars in Millions)**

|  | <u>Outstanding Debt</u> | <u>City's Participation<sup>(1)</sup></u> | <u>City's Share of Outstanding Debt<sup>(2)</sup></u> |
|--|-------------------------|---|---|
| IPA  |                         |   |   |
| Intermountain Power Project <sup>(3)</sup> | \$816.955               | 5.9%                                      | \$48.163 <sup>(3)</sup>                               |
| SCPPA                                      |                         |   |   |
| Southern Transmission System               | 430.305                 | 5.9                                       | 25.315  |
| Mead-Adelanto Transmission Project         | 34.475                  | 8.6                                       | 2.961   |
| Mead-Phoenix Transmission Project          | 10.645                  | 13.8                                      | 1.469   |
| Magnolia Power Project <sup>(4)</sup>      | 277.545                 | 6.4                                       | 17.761  |
| Milford Wind Corridor Phase I Project      | 167.500                 | 2.5                                       | 4.188   |
| Natural Gas Prepaid <sup>(5)</sup>         | 291.275                 | 16.5                                      | 48.060  |
| TOTAL                                      | \$2,028.700             |   | \$147.917   |

(1) City's Participation percentages have been rounded in this table. Participation obligation is subject to increase upon default of another project participant (other than with respect to SCPPA's Natural Gas Prepaid bonds). The City has no obligation for debt service costs (and no "step-up" obligation) in connection with SCPPA's Natural Gas Project.

(2) Principal only. Total amount is actual participation percentage of outstanding debt service amount.

(3) Includes commercial paper, subordinate notes and line of credit and excludes unamortized (premium)/discount. Includes IPP bonds defeased with funds provided by the City for which the City is the payee of a subordinate note receivable from IPA of approximately \$22,739,167 outstanding as of December 1, 2018.

(4) Excludes bonds relating solely to City of Cerritos.

(5) City payment obligation is with respect to actual quantity of natural gas delivered each month on a take-and-pay basis. Responsibility for bond repayment is non-recourse to the City.

Sources: Finance and Administration Business Unit of PWP, SCPPA and IPA.

For the Fiscal Year ended June 30, 2018, the City's payments of debt service on its joint powers agency obligations aggregated approximately \$32.9 million. A portion of the joint powers agency obligation debt service is variable rate debt. Unreimbursed draws under liquidity arrangements supporting joint powers agency variable rate debt obligations bear interest at rates well in excess of the current variable rate on such bonds. Moreover, in certain circumstances, the failure to reimburse draws on the liquidity agreements may result in the acceleration of scheduled payment of the principal of such variable rate joint powers agency obligations. In addition, swap agreements entered into by the joint powers agencies in connection with certain of such obligations are subject to early termination under certain circumstances, in which event the joint powers agency could owe substantial termination payments to the applicable swap provider (an allocable portion of such payments the project participants would be obligated for).

### Reserve Policies

During the past few years PWP has, in practice, had cash balances that exceeded 60 days of operating expenses on hand in accordance with reserve policies formalized in May 2006 as a matter of policy and not pursuant to any bond indenture or agreement. PWP was as of June 30, 2019, and currently is, in compliance with such policies. These funds represent moneys required for unanticipated operational expenses, as well as approved capital expenditures, unexpended PBC moneys and reserves for energy and transmission cost increases. The following table sets forth estimated reserves at June 30, 2019 based on unaudited information, for each fund. Reserve levels are calculated in accordance with PWP's reserve policy.

| <u>Reserves<sup>(1)</sup></u> | <u>(\$ million)</u> |
|-------------------------------|---------------------|
| Operating Reserve             | \$ 29.1             |
| Energy Reserve                | 50.9                |
| Transmission Reserve          | 0.1                 |
| Contingency Reserve           | 0.5                 |
| Bond Service Reserve          | 17.9                |
| PBC Reserve                   | 3.9                 |
| General Fund Transfer Reserve | 17.4                |
| Stranded Investment Reserve   | 63.9                |
| Capital Reserve               | <u>37.1</u>         |
| Total                         | \$220.8             |

<sup>(1)</sup> Based on estimated information.

Source: Finance and Administration Business Unit of PWP.

**Operating Reserve.** This reserve account provides for 60 days of operations and maintenance expenses.

**Energy Reserve.** This reserve account is available to mitigate energy cost volatility and unexpected plant outages, which have to be covered by power purchased in the energy markets. The reserve amount is driven mainly by a periodic assessment of PWP's load forecast, the amount of power required to be purchased in the energy markets to supplement power already secured through long-term commitments and past purchases, and the estimated near-term forecast of natural gas and power costs.

**Transmission Reserve.** This reserve account is available to mitigate transmission cost volatility and is calculated based on proposed Transmission Services Charge reserve requirement.

**Contingency Reserve.** This reserve account is designated for equipment replacement and/or emergency work due to natural disasters.

**Bond Service Reserve.** This reserve account is a depository account for bond debt service reserves funds held by the City for PWP bonds.

**Public Benefit Charge ("PBC") Reserve.** This reserve account is a depository account for balancing costs and revenues associated with the PBC Program and it is used exclusively to fund PBC-related expenditures.

**General Fund Transfer Reserve.** This reserve account is designated to provide funding to complete the General Fund transfer from the Light and Power Fund according to the schedule determined in the City Charter. The schedule provides for 75% of the transfer to be made in July of the succeeding fiscal year with the remaining 25% to be made upon delivery of the audited financial statements. This reserve account is built up in the applicable fiscal year and depleted in the following fiscal year.

**Stranded Investment Reserve.** This reserve account was established in 1997 to mitigate the difference between the costs associated long-term contracts with IPA and SCPPA, and the anticipated energy costs in a deregulated energy market.

**Capital Reserve.** This reserve account is designated to fund the design and construction costs of near-term committed capital projects. PWP generally maintains a cash flow budget for key capital projects and ensures that it has on hand sufficient funds to cover its current year ongoing capital projects.

Currently, PWP is utilizing the Capital Reserve to cover its pay-as-you-go portion of the financing required for its near-term capital investments.

### Funding of Capital Improvements

Five-year capital plans for the PWP Electric System are based on the City’s Power Distribution System Master Plan and Energy Integrated Resource Plan and approved by the City Council. In March 2005, the City Council adopted the Power Distribution System Master Plan which identified the infrastructure needs of the power distribution system and recommended system improvements over a 20-year planning period (2005 - 2025). In December 2018, the City Council approved the Energy Integrated Resource Plan which provides a 20-year strategic power resource plan that establishes broad objectives and an overall direction for future policy, program and procurement decisions with respect to PWP’s power supply resource portfolio. See also “THE ELECTRIC SYSTEM OF PWP – Energy Integrated Resource Plan.”

The City expects routine capital requirements, including those contemplated by the Power Distribution System Master Plan and the Energy Integrated Resource Plan for the next five Fiscal Years to aggregate approximately \$208.1 million. These improvements are expected to be funded through revenues and the balance will be funded through the issuance of the future financings. The City does not plan to issue additional revenue bonds over the next two years. PWP seeks to maintain a long-term funding ratio for capital investment of approximately 65-70% from long-term debt and 30-35% from pay-as-you-go funding made available through current rates.

**TABLE 9**  
**CAPITAL REQUIREMENTS**  
**(In Thousands)**

| Fiscal Year | Capital Requirements |
|-------------|----------------------|
| 2020        | \$37,168             |
| 2021        | 43,855               |
| 2022        | 37,985               |
| 2023        | 45,770               |
| 2024        | 43,333               |
| Total       | \$208,111            |

Source: Finance and Administration Business Unit of PWP.

The major objectives of the Capital Improvement Program during the five-year period are focused on improving system infrastructure, system capacity, and reliability. Projects will focus on upgrades to distribution components as well as major facilities: switchgear, cable, overcurrent protection devices, substations and dispatch sites. Conversion to 17kV distribution systems and cable rejuvenation programs ensure adequate service for new customers; construction of electrical systems undergrounding and planning for subtransmission system enhancements will mitigate risk and ensure dependability in service. Components of the near-term capital plan include, but are not limited to, the following:

**Distribution Switch Replacements** - This project provides for the continued repair and replacement of electrical distribution components such as transformers, cable, switches, and overcurrent protection devices that have unexpectedly failed or reached the end of their useful life. Additionally, existing and five-year projected system peak loads are determined to identify system deficiencies and criteria violations for necessary configuration and planning improvements.



**Distribution System Conversion to 17 kV** - This project provides for the conversion of existing 4 kV distribution systems to 17 kV. Existing 4 kV equipment will be replaced with 17 kV equipment to prevent overloading, voltage fluctuations, outages, and sustained damage to the electrical system. Conversion to 17 kV systems will ensure adequate electrical service for new residential and commercial construction, renovation, and upgrades.

**Conductor Replacement Program** - This project provides for the testing and replacement of subtransmission and distribution underground cables. Proactive testing and rejuvenation of 34 kV lines are completed to avoid untimely cable failure and to maintain the reliability of the electrical system.

**GT2 Replacement and Upgrades** - This project provides for the repair of the Glenarm Gas Turbine unit 2 that was damaged in a fire. The GT2 unit is used to quickly provide electrical power during periods of high power demand and during emergencies.

**Customer Information Systems** - This project provides for the procurement and implementation costs for a new Customer Information and Utility Billing System (CIS). The current billing system (ECIS), implemented in 2001 on an IBM AS400 hardware platform, is unable to keep up with the newer software enhancements available to improve meter reading, billing, customer payment, and collection. The CIS utility billing system is vital to the security and timeliness of customer information, meter reads, billing, customer payment and collection. As the system ages and its capabilities become limited, it no longer delivers the service and information customers expect. Further, the current system is not flexible, which requires vendor support at an hourly rate for any changes needed by the Department. Significant changes in utility markets and regulations have developed since the CIS system was installed in 2001. Utility customer needs and expectations require more from a CIS – sophisticated metering, distribution systems automation, new rate structures, accessible billing, and communication technologies. In addition, IBM has scheduled the termination of support for the AS/400 platform in March 2019.

#### **Historical Operating Results and Debt Service Coverage**

The following table shows the historical operating results and debt service coverage during the past five Fiscal Years on PWP's parity obligations payable from PWP's Light and Power Fund.

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**TABLE 10**  
**HISTORICAL OPERATING RESULTS AND DEBT SERVICE COVERAGE**  
(Dollar Amounts in Thousands)

|   | Fiscal Year Ended June 30,     |                  |                          |                  |                     |
|---|--------------------------------|------------------|--------------------------|------------------|---------------------|
|   | 2015                           | 2016             | 2017                     | 2018             | 2019 <sup>(1)</sup> |
| Revenues:   |                                |                  |                          |                  |                     |
| Base Rate Operating Revenues                          | \$ 58,082                      | \$ 61,955        | \$ 64,498                | \$ 69,836        | \$ 68,999           |
| Recovered Energy and Transmission Costs               | 117,174                        | 111,831          | 104,913                  | 105,669          | 105,256             |
| PTO – TRR Revenues                                    | 13,608                         | 13,528           | 14,218                   | 14,652           | 14,431              |
| Public Benefit Charge Revenues                        | 7,689                          | 7,562            | 7,317                    | 7,250            | 7,172               |
| Sales to Other Utilities                              | 3,764                          | 2,256            | 5,543                    | 9,911            | 10,164              |
| Other Operating Revenues                              | <u>3,431</u>                   | <u>2,065</u>     | <u>5,991</u>             | <u>4,798</u>     | <u>11,479</u>       |
| Total Operating Revenues                              | <u>\$203,748</u>               | <u>\$199,197</u> | <u>\$202,480</u>         | <u>\$212,116</u> | <u>\$217,501</u>    |
| Expenses:   |                                |                  |                          |                  |                     |
| Energy Costs – Fuel                                   |                                |                  |                          |                  |                     |
| Retail  | \$ 7,636                       | \$ 5,617         | \$ 5,134                 | \$ 4,490         | \$ 5,588            |
| Wholesale   | 2,012                          | 741              | 1,150                    | 2,968            | 4,801               |
| Purchased Power                                       |                                |                  |                          |                  |                     |
| Retail <sup>(4)</sup>                                 | 87,544                         | 86,161           | 87,256                   | 84,509           | 89,471              |
| Wholesale   | 963                            | 1,185            | 861                      | 1,269            | 1,715               |
| Direct Operating Expenses <sup>(4)</sup>              | 22,327                         | 24,439           | 33,000                   | 28,961           | 28,661              |
| General, Administrative and Commercial <sup>(4)</sup> | 27,171                         | 28,208           | 31,044                   | 26,439           | 26,164              |
| Interest Expense                                      | 4,556                          | 4,204            | 7,194                    | 9,019            | 9,590               |
| Depreciation <sup>(4)</sup>                           | <u>19,290</u>                  | <u>25,156</u>    | <u>25,760</u>            | <u>30,217</u>    | <u>31,941</u>       |
| Total Expenses  | <u>\$171,499</u>               | <u>\$175,711</u> | <u>\$191,399</u>         | <u>\$187,872</u> | <u>\$197,931</u>    |
| Earnings from Operations                              | \$ 32,249 <sup>(2)</sup>       | \$ 23,486        | \$ 11,081                | \$ 24,244        | \$ 19,570           |
| Non-Operating Income <sup>(4)</sup>                   | <u>17,802</u>                  | <u>13,294</u>    | <u>10,851</u>            | <u>7,254</u>     | <u>9,359</u>        |
| Net Income  | \$ 50,051                      | \$ 36,780        | \$ 21,932                | \$ 31,498        | \$ 28,929           |
| Cash Flow and Debt Service Calculation                |                                |                  |                          |                  |                     |
| Add Back Interest Expense                             | \$ 4,556                       | \$ 4,204         | \$ 7,194                 | \$ 9,019         | \$ 9,590            |
| Add Back Depreciation                                 | <u>19,290</u>                  | <u>25,156</u>    | <u>25,760</u>            | <u>30,217</u>    | <u>31,941</u>       |
| Available for Debt Service                            | <u>\$ 73,897<sup>(2)</sup></u> | <u>\$ 66,140</u> | <u>\$ 54,886</u>         | <u>\$ 70,734</u> | <u>\$ 70,460</u>    |
| Debt Service <sup>(2)</sup>                           | \$ 17,665                      | \$ 17,687        | \$ 21,114 <sup>(3)</sup> | \$ 23,250        | \$ 23,125           |
| Debt Service Coverage                                 | 4.18x                          | 3.74x            | 2.60x                    | 3.04x            | 3.05x               |
| Amount Available After Debt Service                   | \$ 56,232                      | \$ 48,453        | \$ 33,772                | \$ 47,484        | \$ 47,335           |

<sup>(1)</sup> Fiscal Year ended June 30, 2019 is based on estimated information.

<sup>(2)</sup> Earnings from Operations increased in Fiscal Year ended June 30, 2015 as a result of the implementation of rate increases and reduction in purchased power costs due to lower energy market prices. This also increased available cash for debt service.

<sup>(3)</sup> Debt Service increased starting Fiscal Year ended June 30, 2017 as a result of issuance of 2016A Electric Revenue/Refunding Bonds.

<sup>(4)</sup> Amount restated due to (a) a price adjustment of energy expense accrued in prior years causing reduction in purchased power expenses for retail service in Fiscal Years 2014-2015; (b) an implementation of Governmental Accounting Standards Board Statement No. 75 ("GASB 75") -Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions impacting higher operating expenses in Fiscal Year 2017; (c) closing of capital projects that were completed in prior years resulted in higher depreciation expenses in Fiscal Years 2014-2017; and (d) an adjustment to non-operating income as a result of a reconciliation of capital assets in Fiscal Year 2015.

Source: Finance and Administration Business Unit of PWP.

## Condensed Balance Sheet

The following Condensed Balance Sheet has been prepared by the City. The information for the Fiscal Years ended June 30, 2015 through June 30, 2018 has been prepared based upon audited financial statements. The information for the Fiscal Year ended June 30, 2019 is based on estimated information.

**TABLE 11**  
**CITY OF PASADENA**  
**ELECTRIC UTILITY FUND**  
**CONDENSED BALANCE SHEET**  
**(Dollar Amounts in Thousands)**

|  | Fiscal Year Ended June 30, |                |                              |                |                     |
|--|----------------------------|----------------|------------------------------|----------------|---------------------|
|  | 2015                       | 2016           | 2017                         | 2018           | 2019 <sup>(1)</sup> |
| Current & Non-Current Assets                     | \$176,693                  | \$220,807      | \$231,554                    | \$255,341      | \$264,546           |
| Restricted Assets                                | 139,308                    | 115,692        | 135,093                      | 111,872        | 114,755             |
| Net Property, Plant and Equipment <sup>(3)</sup> | <u>477,997</u>             | <u>516,206</u> | <u>525,949</u>               | <u>521,122</u> | <u>501,413</u>      |
| Total Assets                                     | <u>793,998</u>             | <u>852,705</u> | <u>892,596</u>               | <u>888,335</u> | <u>880,714</u>      |
| Deferred Outflow of Resources                    | <u>6,250</u>               | <u>6,366</u>   | <u>14,109</u>                | <u>17,484</u>  | <u>17,104</u>       |
| Current Liabilities <sup>(3)</sup>               | 33,672                     | 86,974         | 34,948                       | 27,954         | 36,091              |
| Long-Term Liabilities <sup>(3)</sup>             | <u>236,917</u>             | <u>227,200</u> | <u>323,842<sup>(2)</sup></u> | <u>315,561</u> | <u>288,104</u>      |
| Total Liabilities                                | <u>270,589</u>             | <u>314,174</u> | <u>358,790</u>               | <u>343,515</u> | <u>324,195</u>      |
| Deferred Inflow of Resources                     | <u>9,578</u>               | <u>5,625</u>   | <u>4,082</u>                 | <u>3,820</u>   | <u>3,819</u>        |
| Total Net Position                               | \$520,081                  | \$539,272      | \$543,833                    | \$558,484      | \$569,804           |

<sup>(1)</sup> Fiscal Year ended June 30, 2019 is based on estimated information.

<sup>(2)</sup> Changes in Long-Term Liabilities primarily due to the issuance of 2016A Electric Revenue/Refunding Bonds.

<sup>(3)</sup> Amount restated due to an implementation of GASB 75, the closing of capital projects completed in prior years, and a price adjustment of energy expense accrued in prior years as mentioned in previous table.

Source: Finance and Administration Business Unit of PWP.

## RATE REGULATION

The City sets rates, fees and charges for electric service. The authority of the City to impose and collect rates and charges for electric power and energy sold and delivered is not subject to the general regulatory jurisdiction of the CPUC and presently neither the CPUC nor any other regulatory authority of the State of California nor the FERC approves such rates and charges. Although the retail rates of the City for electric service are not subject to approval by any federal agency, the City is subject to certain ratemaking provisions of Sections 211-213 of the Federal Power Act ("FPA"). [CONFIRM] It is possible that future legislative and/or regulatory changes could subject the rates and/or service area of the City to the jurisdiction of the CPUC or to other limitations or requirements.

FERC could potentially assert jurisdiction over rates of licensees of hydroelectric projects and customers of such licensees under Part I of the Federal Power Act, although it has not as a practical matter exercised or sought to exercise such jurisdiction to modify rates that would legitimately be charged.

Under Sections 211, 211A, 212 and 213 of the FPA, FERC has the authority, under certain circumstances and pursuant to certain procedures, to order any utility (municipal or otherwise) to provide transmission access to others at FERC-approved rates. In addition, the Energy Policy Act of 2005 expanded FERC's jurisdiction to require municipal utilities that sell more than eight million MWhs of energy per year to pay refunds under certain circumstances for sales into organized markets. To date, it is unclear when, if ever, the City would meet this threshold requirement.

The California Energy Commission (the “CEC”) is authorized to evaluate rate policies for electric energy as related to the goals of the Energy Resources Conservation and Development Act and to make recommendations to the Governor, the Legislature and publicly owned electric utilities.

## DEVELOPMENTS IN THE CALIFORNIA ENERGY MARKETS

### State Legislation

A number of bills affecting the electric utility industry have been introduced or enacted by the California Legislature in recent years. In general, these bills regulate greenhouse gas emissions and provide for greater investment in energy efficiency and environmentally friendly generation and storage alternatives, principally through more stringent renewable resource portfolio standard requirements. The following is a brief summary of certain of these bills that have been enacted.

**Greenhouse Gas Emissions – Executive Orders.** On June 1, 2005, then Governor Arnold Schwarzenegger signed Executive Order S-3-05, which placed an emphasis on efforts to reduce greenhouse gas emissions by establishing statewide greenhouse gas reduction targets. The targets are: (i) a reduction to 2000 emissions levels by 2010; (ii) a reduction to 1990 levels by 2020; and (iii) a reduction to 80% below 1990 levels by 2050. The Executive Order also called for the California Environmental Protection Agency to lead a multi-agency effort to examine the impacts of climate change on California and develop strategies and mitigation plans to achieve the targets. On April 25, 2006, then Governor Schwarzenegger also signed Executive Order S-06-06 which directs the State of California to meet a 20% biomass utilization target within the renewable generation targets of 2010 and 2020 for the contribution to greenhouse gas emission reduction.

On April 29, 2015, then Governor Jerry Brown signed Executive Order B-30-15, which establishes a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40% below 1990 levels by 2030. Executive Order B-30-15 indicates that the new interim target is aimed at ensuring that California meets the target established by Executive Order S-3-05 of reducing greenhouse gas emissions to 80% below 1990 levels by 2050. Executive Order B-30-15 also directs the California Natural Resources Agency to update the State’s climate adaptation strategy every three years and to ensure that its provisions are fully implemented. Among other requirements, Executive Order B-30-15 provides that the State’s adaptation strategy must identify a lead agency or agencies that are responsible for adaptation efforts in at least the following sectors: water, energy, transportation, public health, agriculture, emergency services, forestry, biodiversity and habitat, and ocean and coastal resources. Executive Order B-30-15 required that the lead agencies for each sector outline the actions in their sector that will be taken as identified in the State’s adaptation strategy and report back to the California Natural Resources Agency by June 2016.

The interim statewide greenhouse gas emission reduction target established by Executive Order B-30-15 was codified with the enactment of Senate Bill 32 (“SB 32”), which was signed by then Governor Brown on September 8, 2016 became effective as law on January 1, 2017. SB 32 requires the California Air Resources Board (“CARB”), the designated state agency charged with monitoring and regulating sources of emissions of greenhouse gases, to ensure that statewide greenhouse gas emissions are reduced to at least 40% below the 1990 level no later than December 31, 2030. Companion legislation, Assembly Bill 197 (“AB 197”), also signed by then Governor Brown on September 8, 2016, increases legislative oversight of CARB. AB 197 adds to the CARB board two members of the State Legislature as ex officio, nonvoting members and provides for the voting members to serve staggered six-year terms. Subject to specified requirements, an individual voting member may serve longer but only upon reappointment at the end of their six-year term. AB 197 further establishes a Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three

members of the Assembly, to ascertain facts and make recommendations to the houses of the Legislature concerning the State's programs, policies and investments related to climate change. In addition, AB 197 requires that CARB, when adopting rules and regulations to achieve emissions reductions beyond the statewide greenhouse gas emissions limit, and to protect the state's most impacted and disadvantaged communities, to follow specified requirements, consider the social costs of the emissions of greenhouse gases, and prioritize emission reduction rules and regulations that achieve specified results.

*Greenhouse Gas Emissions – Global Warming Solutions Act.* Then Governor Schwarzenegger signed Assembly Bill 32 (“AB 32”), the Global Warming Solutions Act of 2006 (the “GWSA”), which became effective as law on January 1, 2007. The GWSA prescribed a statewide cap on global warming pollution with a goal of returning to 1990 greenhouse gas emission levels by 2020. In addition, the GWSA established an annual mandatory reporting requirement for all investor-owned utilities (“IOUs”), local publicly-owned electric utilities (“POUs”) and other load-serving entities (electric utilities providing energy to end-use customers) to inventory and report greenhouse gas emissions to CARB, required CARB to adopt regulations for significant greenhouse gas emission sources (allowing CARB to design a “cap-and-trade” system) and gave CARB the authority to enforce such regulations beginning in 2012.

On December 11, 2008, CARB adopted a “scoping plan” to reduce greenhouse gas emissions. The scoping plan set out a mixed approach of market structures, regulation, fees and voluntary measures. The scoping plan included a cap-and-trade program. In August 2011, CARB revised the scoping plan in response to litigation. The revised scoping plan also included a cap-and-trade program. The scoping plan is required to be updated every five years. CARB issued the proposed first update to the scoping plan update on February 10, 2014, which was approved by CARB on May 22, 2014. The scoping plan update recommends that a plan to extend the cap-and-trade program beyond 2020 be developed by 2017. In addition, CARB approved a resolution at its October 25, 2013 board meeting that directs CARB's executive officer to develop a plan for a post-2020 program, including a cost containment mechanism, before 2018. CARB has completed the 2030 Target Scoping Plan Update towards incorporating the 2030 interim emissions reduction target (40% below 1990 emissions levels by 2030). The 2030 Target Scoping Plan was adopted by CARB on December 14, 2017.

On October 20, 2011, CARB adopted a regulation implementing its cap-and-trade program. The California Office of Administrative Law (“OAL”) approved the regulation on December 13, 2011. The cap-and-trade regulation became effective on January 1, 2012. Emission compliance obligations under the regulation began on January 1, 2013. The cap-and-trade program covers sources accounting for 85% of California's greenhouse gas emissions, the largest program of its type in the United States.

The cap-and-trade program was implemented in phases. The first phase of the program (January 1, 2013 to December 31, 2014) introduced a hard emissions cap covering emissions from electricity generators, electricity importers and large industrial sources emitting more than 25,000 metric tons of carbon dioxide-equivalent greenhouse gases (“CDE”) per year. In 2015, the program was expanded to cover emissions from transportation fuels, natural gas, propane and other fossil fuels. The cap will decline each year until the end of the program currently scheduled for 2020 unless otherwise extended.

The cap-and-trade program includes the distribution of carbon allowances equal to the annual emissions cap. Each allowance is equal to one metric ton of CDE. As part of a transition process, initially, most of the allowances were distributed for free. Additional allowances are being auctioned quarterly (auctions began in November 2012). Utilities can acquire more allowances at these auctions or on the secondary market. IOUs are required to auction the allowances they received for free from CARB. This requirement also applies to POUs that sell electricity into the CAISO markets, other than sales of electricity from resources funded by municipal tax-exempt debt where the POU makes a matched purchase to serve its traditional retail customers. Utilities required to sell their allowances in the auctions

are then required to purchase allowances to meet their compliance obligations, and use any remaining proceeds from the sale of their allocated allowances for the benefit of their ratepayers and to meet the goals of the GWSA. POU's that do not sell into the CAISO markets, and those that sell into the CAISO markets only electricity from resources funded by municipal tax-exempt debt, have three options (which are not mutually exclusive) once their allocated allowances are distributed to them. They can (i) place allowances in their compliance accounts to meet compliance obligations, (ii) place allowances in the compliance account of a joint powers agency or public power utility that generates power on their behalf, and/or (iii) auction the allowances and use the proceeds to benefit their ratepayers and meet the goals of the GWSA.

The cap-and-trade program also allows covered entities to use offset credits for compliance (not exceeding 8% of a covered entity's compliance obligation). Offsets can be generated by emission reduction projects in sectors that are not regulated under the cap-and-trade program. CARB has approved the following types of offset projects: urban forest projects, reforestation projects, destruction of ozone-depleting substances, livestock methane management projects, destruction of fugitive coal mine methane and rice cultivation practices. CARB will continue to consider additional and updated offset protocols, including international, sector-based offsets.

The California cap-and-trade program is linked to the equivalent program in Quebec, Canada. The link took effect on January 1, 2014, although the first joint auction was delayed until November 25, 2014 in order to resolve certain technical issues. California's program may be linked to additional Canadian provincial cap-and-trade programs, and possibly other U.S. state cap-and-trade programs, in later years as part of the Western Climate Initiative ("WCI"). The Western Climate Initiative is a regional effort consisting of California and four Canadian provinces (Quebec, British Columbia, Ontario and Manitoba), which have established a greenhouse gas reduction trading framework.

The California Third District Court of Appeals case alleged that CARB's sale of allowances in the cap-and-trade auctions was an unconstitutional tax, since the legislation authorizing cap-and-trade (Assembly Bill 32) was not passed with a 2/3 supermajority vote of the California Legislature. In 2016, California's Supreme Court ruled in CARB's favor, essentially ending the legal challenge. This court decision paved the way for the extension of the program to align cap-and-trade with Senate Bill 32.

CARB adopted amended cap-and-trade Regulation to extend the program beyond 2020 by establishing new emissions caps. Enabling future auction and allocation of allowances on behalf of ratepayers, and Program linkage beyond 2020 with WCI participants. The 2016 rulemaking became effective October 1, 2017. CARB also adopted revised Regulation in 2018 to address programmatic clarifications, and to address, allowance price caps, offset usage, Energy Imbalance Market related GHG emissions accounting, and Ontario's actions to revoke its participation in California cap-and-trade market. The regulatory amendments were adopted by CARB in December 2018.

The City is unable to predict at this time the full impact of the cap-and-trade program over the long-term on the Electric System or on the electric utility industry generally or whether any additional changes to the adopted program will be made. Since the advent of the cap-and-trade program in 2012, regulations by CARB have provided the electric sector, including the City, with sufficient allocated greenhouse gas allowances or credits to cover existing operations in meeting retail load obligations. The City may bank allocated allowances in its compliance account to satisfy a portion of its ongoing compliance obligations. The City may also buy or sell allowances in the quarterly auctions or on the bi-lateral market to meet its additional compliance obligations. The City could be adversely affected in the future if CARB changes the allowance allocation methodology, or if the greenhouse gas emissions of its resource portfolio is in excess of the allowances administratively allocated to it and it is required to purchase compliance instruments on the market to cover its emissions.

**Low Carbon Fuel Standard (“LCFS”)** – LCFS is one of a suite of programs designed to reduce greenhouse gas (GHG) emissions enacted through AB 32, the 2006 Global Warming Solutions Act. LCFS applies to fuels used for transportation and works with the cap-and-trade program and with the advance car clean cars program to reduce transportation GHG emissions. LCFS requires a 10% reduction in the GHG emissions carbon intensity (“CI”) of all transportation fuel by 2020 and a 20% reduction by 2030. The LCFS standards are expressed in terms of the CI of gasoline and diesel fuel and their individual substitutes. The program is based on the standard that each fuel has "life cycle" greenhouse gas emissions that includes CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O. This life cycle calculation examines the GHG emissions related to the production, transportation, and the use of a given fuel.

LCFS sets an annual CI benchmark for gasoline, diesel, and the fuels that replace them, such as electricity. Each fuel’s annual CI scores are compared to a declining CI benchmark. Low carbon fuels below the benchmark generate credits. Fuels above the CI standard generate deficits.

LCFS specifically exempts a number of lower-carbon fuels, such as electricity and hydrogen, because they meet the 2020 carbon intensity targets. Providers of these fuels that choose not to participate in the LCFS program have no obligations for these fuels under LCFS. However, LCFS allows these fuel providers to “opt-in” to the program and generate LCFS credits that they can sell and trade in the California LCFS market. LCFS regulation provides guidelines on permissible uses of credit sale proceeds.

PWP opted in to the LCFS program in the winter of 2017 and uses credit revenue for a variety of activities, including point-of-sale rebates to Electric Vehicle (“EV”) buyers, EV outreach and supporting community-based EV programs. Credit sale proceeds have also been used to educate the public on EV usage, and to provide EV charging equipment incentives through customer rebates up \$50,000 per site.

Electric utilities value the LCFS credit program because it encourages the sale of EVs, which provides a new electricity market. It also supports EV charging to balance uneven demand and variable wind and solar power supply.

Since January 2018, credit prices have ranged from as low as \$111/MT to as high as \$193/MT. Prices in the market trading are based on the immediate needs of market participants. Since the credits do not expire, and with the extension of the LCFS program through 2030, LCFS entities, with a compliance obligation, can bank their credits for future compliance.

**Greenhouse Gas Emissions – Emissions Performance Standard.** Senate Bill 1368 (“SB 1368”) became effective as law on January 1, 2007. It provides for an emission performance standard (“EPS”), restricting new investments in baseload fossil fuel electric generating resources that exceed the rate of greenhouse gas emissions for existing combined-cycle natural gas baseload generation. SB 1368 allows the CEC to establish a regulatory framework to enforce the EPS for POU’s such as the City. The CPUC has a similar responsibility for the IOUs. The regulations promulgated by the CEC were approved by the OAL on October 16, 2007. The CEC regulations prohibit any investment in baseload generation that does not meet the EPS of 1,100 pounds of carbon dioxide (“CO<sub>2</sub>”) per MWh of electricity produced, with limited exceptions for routine maintenance, requirements of pre-existing contractual commitments, or threat of significant financial harm.

The EPS standard is 1,100 lbs CO<sub>2</sub>/MWh, meaning that utilities cannot enter into any new long term fossil fuel contracts higher than this EPS.

**Energy Procurement and Efficiency Reporting.** Senate Bill 1037 (“SB 1037”) was signed by then Governor Schwarzenegger on September 29, 2005. It requires that each POU, including the City,

prior to procuring new energy generation resources, first acquire all available energy efficiency, demand reduction, and renewable resources that are cost-effective, reliable and feasible. SB 1037 also requires each POU to report annually to its customers and to the CEC its investment in energy efficiency and demand reduction programs. The City has complied with such reporting requirements.

Further, California Assembly Bill 2021 (“AB 2021”), signed by then Governor Schwarzenegger on September 29, 2006, requires that POUs establish, report, and explain the basis of the annual energy efficiency and demand reduction targets by June 1, 2007 and every three years thereafter for a ten-year horizon. A subsequent bill has changed the time interval for establishing annual targets to every four years. The City has complied with this reporting requirement under AB 2021. Future reporting requirements under AB 2021 include: (i) the identification of sources of funding for the investment in energy efficiency and demand reduction programs; (ii) the methodologies and input assumptions used to determine cost-effectiveness; and (iii) the results of an independent evaluation to measure and verify energy efficiency savings and demand reduction program impacts. The information obtained from the POUs is being used by the CEC to present the progress made by the POUs towards the State of California’s goal of reducing electrical consumption by 10% within ten years and the greenhouse gas targets presented in Executive Order S-3-05. In addition, the CEC will provide recommendations for improvement to assist each POU in achieving cost-effective, reliable, and feasible savings in conjunction with the established targets for reduction. Then Governor Brown signed Assembly Bill 802 into law on October 8, 2015 that allows savings to bring buildings up to code to count (rather than only “above code” savings to count) towards energy efficiency and demand reduction targets while setting new benchmarking requirements for building owners and usage disclosure requirements for California utilities.

SB 350, signed by then Governor Brown in October 2015, requires the CEC to establish a statewide goal of a cumulative doubling of statewide energy efficiency savings in electricity by retail customers by January 1, 2030. See “– *Clean Energy and Pollution Reduction Act of 2015*” below.

***Renewables Portfolio Standard.*** Senate Bill X1-2 (“SBX1-2”), the “California Renewable Energy Resources Act,” was signed into law by then Governor Brown on April 12, 2011. SBX1-2 codifies the Renewables Portfolio Standard (“RPS”) target for retail electricity sellers to serve 33% of their loads with eligible renewable energy resources by 2020 as provided in Executive Order S-14-08 (signed by then Governor Brown in November 2008). As enacted, SBX1-2 makes the requirements of the RPS program applicable to POUs (rather than just prescribing that POUs meet the intent of the legislation as under previous statutes). However, the governing boards of POUs are responsible for implementing the requirements, rather than the CPUC, as is the case for the IOUs. In addition, the CEC is given certain enforcement authority for POUs and CARB is given the authority to set penalties.

SBX1-2 requires each POU to adopt and implement a renewable energy resource procurement plan. As set out in more detail in the CEC’s RPS enforcement regulation, noted below, the plan must require the utility to procure at least the following amounts of electricity products from eligible renewable energy resources, which may include RECs, as a proportion of total kilowatt hours sold to the utility’s retail end-use customers: (i) over the 2011-2013 compliance period, an average of 20% of retail sales from January 1, 2011 to December 31, 2013, inclusive; (ii) over the 2014-2016 compliance period, a total equal to 20% of 2014 retail sales, 20% of 2015 retail sales, and 25% of 2016 retail sales; and (iii) over the 2017-2020 compliance period, a total equal to 27% of 2017 retail sales, 29% of 2018 retail sales, 31% of 2019 retail sales, and 33% of 2020 retail sales. More recently, SB 350 increased the statewide RPS to 50% by 2030. See “– *Clean Energy and Pollution Reduction Act of 2015*” below.

SBX1-2 provides exemption for any facility approved by the governing board of a POU prior to June 1, 2010 as satisfying renewable energy procurement obligations adopted under prior law if the facility is a “renewable electrical generation facility” as defined in the bill (subject to certain restrictions).



Renewable electrical generation facilities include certain out-of-state renewable energy generation facilities if such facility: (i) will not cause or contribute to any violation of a California environmental quality standard or requirement, (ii) participates in the accounting system to verify compliance with the RPS program requirements, and (iii) either (a) commenced initial commercial operation after January 1, 2005 or (b) either (x) the electricity generated by the facility is from incremental generation resulting from expansion or repowering of the facility or (y) the electricity generated by the facility was procured by a retail seller or POU as of January 1, 2010. The percentage of a retail electricity seller's RPS requirements that may be met with unbundled RECs from generating facilities outside California declines over time, beginning at 25% through 2013 and declining to a level of 10% in 2017 and beyond.

***Clean Energy and Pollution Reduction Act of 2015.*** SB 350, the “Clean Energy and Pollution Reduction Act of 2015,” was signed into law by then Governor Brown on October 7, 2015. SB 350, establishes an RPS target of 50% by December 31, 2030 for the amount of electricity generated and sold to retail customers from eligible renewable energy resources for retail sellers and POUs, including interim targets of (i) 40% by the end of the 2021-2024 compliance period, (ii) 45% by the end of the 2025-2027 compliance period and (iii) 50% by the end of the 2028-2030 compliance period.

SB 350 requires each retail seller of electricity (including IOUs, most POUs above a certain size threshold, community choice aggregators and energy service providers) to provide a renewable energy procurement plan on an annual basis, and to file an integrated resource plan (“IRP”), and a schedule for periodic updates to the plan, for approval. This includes addressing how affected utilities plan to meet the 2030 interim emissions reductions goal set by CARB. IRPs for retail sellers other than POUs will be reviewed by the CPUC. For POUs, the governing body of the POU is responsible for adopting the IRP, subject to review by the CEC, which can recommend modifications to correct any shortcomings.

The CEC adopted an order instituting a new rulemaking proceeding on January 13, 2016 to implement the RPS and IRP provisions of SB 350. CARB has begun a public comment process to determine how best to set utility-specific greenhouse gas emissions reduction goals for those utilities that meet the IRP size threshold (*i.e.*, local publicly-owned electric utilities with an annual electrical demand exceeding 700 gigawatt hours, as determined on a three-year average commencing January 1, 2013). The CARB's draft proposal on the utility-sector targets shows a reduction of 81% reductions in GHG compared to 1990 levels. Pasadena's share is estimated between a 75%-86% reduction in GHG emissions, based on 1990 levels.

SB 350 specifies the factors that must be considered in proposed procurement plans and provides that the goals must be balanced by the need to have just and reasonable rates, to ensure system and local reliability, to preserve the resilience of the electric grid, and to enhance distribution system management. The bill specifically requires the CPUC to identify a “balanced portfolio of resources” to ensure “reliability” and “optimal integration” of renewables, and requires that utilities include in their procurement plans a “strategy for procuring best-fit and least cost resources” to meet the portfolio needs the CPUC identifies.

SB 350 further requires the CEC to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030. The CPUC is required to establish energy efficiency targets for electrical and gas corporations consistent with this goal, and specifies programs that may be used to achieve the goal. POUs are required to establish annual targets for energy efficiency savings and demand reduction consistent with the goal and to report those targets to the CEC every four years for the next 10-year period. The bill provides guidance as to what measures qualify and requires an evaluation of feasibility and cost effectiveness in setting annual targets for those savings. SB 350 also requires the CEC to adopt a responsible contractor policy and establish

consumer protection guidelines. The CEC is developing additional guidelines on the statewide energy efficiency goals.

SB 350 required the CAISO to prepare proposed governance modifications to facilitate the transformation of the CAISO into a regional organization but provides that such governance modifications will not take effect prior to completion of a specified process for review and study of the impacts of a regional market and the enactment by the California Legislature of future legislation implementing the proposed governance changes by 2019. Stakeholder and public review of the study results and potential governance structure are ongoing and are expected to be ongoing at least through the balance of calendar year 2019.

In July 2016, the CAISO released a revised set of proposed principles for regional governance of the CAISO, which were presented at a joint state agency workshop on July 26, 2016. Following further input from stakeholders, the second revised proposal “Principles for Governance of a Regional ISO” was published in October 2016. The following year, AB 813 (Holden) was introduced and would have authorized the transformation of the CAISO into a multistate regional transmission system. After a two-year legislative session, the bill ultimately failed in August 2018.

In addition, in furtherance of the potential transformation of the CAISO into a regional organization, the CAISO and PacifiCorp have been studying the feasibility, costs and benefits of full participation by PacifiCorp in the CAISO. These activities are ongoing. Approval from the California Legislature and Governor for the CAISO to become a regional organization as described above would be required before full integration of the PacifiCorp and CAISO balancing authority areas could occur, which is currently not expected prior to 2019.

***The 100 Percent Clean Energy Act of 2018.*** SB100, the “100 Percent Clean Energy Act of 2018”, was signed into law by then Governor Brown on September 10, 2018. SB 100 establishes a state policy that RPS-eligible and zero-carbon resources supply 100 percent of all retail sales in California by December 31, 2045. SB 100, establishes a 60% renewable energy procurement requirement of retail sales by December 31, 2030. SB 100 also accelerates the interim RPS targets established by SB 350 in 2015. New requirements are 44% by the end of the 2021 – 2024 compliance period, 52% by the end of 2025 – 2027, and 60% by the end of the 2028-2030 compliance period.

SB100 also restricts utilities from increasing carbon emissions out of state to achieve this state policy. Regulatory agencies such as CEC, ARB and CPUC are tasked with ensuring that the electric system is balanced and reliable, and that the policy does not cause unreasonable impacts to customer rates and bills. Regulatory agencies are also required to prepare a joint report to the state legislature in collaboration with California balancing authorities by January 1, 2021, and every four years thereafter. The report will include a review of policy implementation including costs, resources and barriers to achieving the 100 clean energy goal.

***Solar Power.*** On August 21, 2006, then Governor Schwarzenegger signed into law California Senate Bill 1 (also known as the “California Solar Initiative”). This legislation requires POU, including the City, to establish a program supporting the stated goal of the legislation to install 3,000 MW of photovoltaic energy in California. POU are also required to establish eligibility criteria in collaboration with the CEC for the funding of solar energy systems receiving ratepayer-funded incentives. The legislation gives a POU the choice of selecting an incentive based on the installed capacity or based on the energy produced by the solar energy system, measured in kilowatt-hours. Incentives would be required to decrease at a minimum average rate of 7% per year. POU also have to meet certain reporting requirements regarding the installed capacity, number of installed systems, number of applicants, amount of awarded incentives and the contribution toward the program’s goals. The City has established the

“Pasadena Solar Initiative” in accordance with the requirements of the Senate Bill 1. The Pasadena Solar Initiative provided rebates for solar installations from a 10 year period during 2008-2017. As of January 1<sup>st</sup>, 2018, Pasadena Water and Power no longer provides rebates for solar installations and stopped accepting new applications, primarily because the residential solar market in Pasadena has matured and is expected to be sustainable without further rebate programs from PWP. After many years of contributing towards market transformation, the Pasadena Solar Initiative is expected to reach 10.54 MW of total installed solar capacity.

**Legislation Relating to Wildfires.** In September 2016, then Governor Brown signed into law Senate Bill 2018 (“SB 1028”), which requires each POU, including the City, each IOU and each electric cooperative in the State to construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfire posed by those electrical lines and equipment. Effective January 1, 2017, SB 1028 requires the governing board of each POU to make an initial determination of whether its overhead electric lines and equipment pose a significant risk of catastrophic wildfire based on historical fires and local conditions. POU governing boards must independently make this determination based on all relevant information, including the CPUC’s Fire Threat Map which was adopted by the CPUC in January 2018. PWP has identified the portions of its overhead electrical lines and equipment that are located within each of threat areas identified in CPUC’s Fire Threat Map. PWP has determined that its overhead electric lines and equipment does not pose a significant risk of catastrophic wildfire.

Senate Bill 901 (“SB 901”), which signed into law in September 2018, is meant to further address response, mitigation, and prevention of wildfires. SB 901 requires, among other things, POUs, such as the City, to prepare before January 1, 2020 and annually thereafter, a wildfire mitigation plan. SB 901 requires the City to contract with a qualified independent evaluator to review and assess the comprehensiveness of its plan. The report of the independent evaluator is to be made available to the public and presented at a public meeting of the POU’s governing board. PWP is currently developing a new plan and expects to present the report of the independent evaluator regarding the Electric System to the City Council prior to January 1, 2020.

A number of wildfires occurred in California in 2017 and 2018. Under the doctrine of inverse condemnation (a legal concept that entitles property owners to just compensation if their property is damaged by a public use), California courts have imposed liability on utilities in legal actions brought by property holders for damages caused by such utilities’ infrastructure. Thus, if the facilities of a utility, such as its electric distribution and transmission lines, are determined to be the substantial cause of a fire, and the doctrine of inverse condemnation applies, the utility could be liable for damages without having been found negligent. SB 901 does not address existing legal doctrine relating to utilities’ liability for wildfires. How any future legislation addresses the State’s inverse condemnation and “strict liability” issues for utilities in the context of wildfires in particular is not certain at this time but could be significant for the electric utility industry, including PWP.

### **Future Regulation**

The electric industry is subject to continuing legislative, regulatory and administrative reform. States routinely consider changes to the way in which they regulate the electric industry. Historically, both further deregulation and forms of additional regulation have been proposed for the industry, which has been highly regulated throughout its history. While there is no current proposal to further deregulate the industry, there still are additional regulations or legislative mandates being proposed or considered for the industry such as higher reliance on renewable energy and tighter regulations for greenhouse gas emission reductions. The City is unable to predict at this time the impact any such proposals will have on the operations and finances of the Electric System or the electric utility industry generally.

## **Impact of Developments on the City**

The effect of the developments in the California energy markets described above on the Electric System cannot be fully ascertained at this time. Also, volatility in energy prices in California may return due to a variety of factors that affect both the supply and demand for electric energy in the western United States. The Aliso Canyon storage issues, the SB 100 goal of a carbon neutral economy by 2045, coupled with the pending closure of once through cooling units, will impact the electric industry in the years to come. Mandates to force procurement (energy storage, wind, etc.) will also continue to impact the electric industry. Additional factors include, but are not limited to, the adequacy of generation resources to meet peak demands, the availability and cost of renewable energy, the impact of economy-wide greenhouse gas emission legislation and regulations, fuel costs and availability, weather effects on customer demand, transmission congestion, the strength of the economy in California and surrounding states and levels of hydroelectric generation within the region (including the Pacific Northwest). See “OTHER FACTORS AFFECTING THE ELECTRIC UTILITY INDUSTRY.”

### **OTHER FACTORS AFFECTING THE ELECTRIC UTILITY INDUSTRY**

#### **Federal Policy on Cybersecurity**

On February 13, 2013, President Obama issued the Executive Order “Improving Critical Infrastructure Security” (“Executive Order”). Among other things, the Executive Order calls for improved information sharing and processing of security clearances for owners and operators of critical infrastructure. The Executive Order further requires the Secretary of Commerce to direct the National Institute of Standards and Technology (“NIST”) to lead the development of a framework (“Framework”) to reduce cyber risks to critical infrastructure. NIST released the first version of the voluntary Framework on February 12, 2014. NIST has indicated that it intends for the Framework to be a living document that will continue to be updated and improved as industry provides feedback on implementation.

The Executive Order could result in substantive changes to policy, regulatory and compliance issues that will affect the electric industry. The City will continue to monitor this issue in order to help ensure that the Framework continues to recognize the existing cybersecurity efforts in the electric sector, and does not undermine them by creating duplicative or inconsistent processes.

The Cybersecurity Information Sharing Act of 2015 was signed into law on December 18, 2015 as part of the year-end Omnibus Appropriations Act. It creates an industry-supported, voluntary cybersecurity information sharing program that will encourage both public and private sector entities to share cyber-related threat information.

On November 16, 2018, President Trump signed into law the Cybersecurity and Infrastructure Security Agency Act of 2018. This landmark legislation elevates the mission of the former National Protection and Programs Directorate (“NPPD”) within Department of Homeland Security (“DHS”) and establishes the Cybersecurity and Infrastructure Security Agency (“CISA”). CISA builds the national capacity to defend against cyber attacks and works with the federal government to provide cybersecurity tools, incident response services and assessment capabilities to safeguard the ‘.gov’ networks that support the essential operations of partner departments and agencies.

#### **Federal Energy Legislation**

*[Energy Policy Act of 2005.* Under the federal Energy Policy Act of 2005 (“EPAct 2005”), FERC was given refund authority over POUs if they sell into short-term markets, like the CAISO markets, and sell eight million MWhs or more of electric energy on an annual basis. In addition, FERC

was given authority over the behavior of market participants. Under FERC's authority it can impose penalties on any seller for using a manipulative or deceptive device, including market manipulation, in connection with the purchase or sale of energy or of transmission service. The Commodity Futures Trading Commission also has jurisdiction to enforce certain types of market manipulation or deception claims under the Commodity Exchange Act.

EPAct 2005 authorized FERC to issue permits to construct or modify transmission facilities located in a national interest electric transmission corridor if FERC determines that the statutory conditions are met. EPAct 2005 also required the creation of an electric reliability organization ("ERO") to establish and enforce, under FERC supervision, mandatory reliability standards ("Reliability Standards") to increase system reliability and minimize blackouts. Failure to comply with such Reliability Standards exposes a utility to significant fines and penalties by the ERO.][CONSIDER DELETING]

***NERC Reliability Standards.*** EPAct 2005 required FERC to certify an ERO to develop mandatory and enforceable Reliability Standards, subject to FERC review and approval. The Reliability Standards apply to users, owners and operators of the Bulk-Power System, as more specifically set forth in each Reliability Standard. On February 3, 2006, FERC issued Order 672, which certified the North American Electric Reliability Corporation ("NERC") as the ERO. Many Reliability Standards have since been approved by FERC. Such standards pertain not only to the planning, operations, and maintenance of Bulk-Power System facilities, but also to the cyber and physical security of certain critical facilities.

The ERO or the entities to which NERC has delegated enforcement authority through an agreement approved by FERC ("Regional Entities"), such as WECC, may enforce the Reliability Standards, subject to FERC oversight, or FERC may independently enforce them. Potential monetary sanctions include fines of up to \$1 million per violation per day. FERC Order 693 further provided the ERO and Regional Entities with the discretion necessary to assess penalties for such violations, while also having discretion to calculate a penalty without collecting the penalty if circumstances warrant.

### **Federal Regulation of Transmission Access**

EPAct 2005 authorizes FERC to compel "open access" to the transmission systems of certain utilities that are not generally regulated by FERC, including municipal utilities if the utility sells more than four million MWhs of electricity per year. Under open access, a transmission provider must allow all customers to use the system under standardized rates, terms and conditions of service.

FERC Order No. 888 requires the provision of open access transmission services on a nondiscriminatory basis by all "jurisdictional utilities" (which, by definition, does not include municipal entities like the City) by requiring all such utilities to file Open Access Transmission Tariffs ("OATTs"). Order No. 888 also requires "non-jurisdictional utilities" (which, by definition, does include the City) that purchase transmission services from a jurisdictional utility under an open access tariff and that owns or controls transmission facilities to provide open access service to the jurisdictional utility under terms that are comparable to the service that the non-jurisdictional utility provides itself. Section 211A of the EPAct 2005 authorizes, but does not require, FERC to order unregulated transmission utilities to provide transmission services. Specifically, FERC may require an unregulated transmitting utility to provide access to their transmission facilities (1) at rates that are comparable to those that the unregulated transmitting utility charges to itself; and (2) on terms and conditions (not relating to rates) that are comparable to those under which the unregulated transmitting utility provides transmission services to itself that are not unduly discriminatory or preferential.

On February 16, 2007, FERC issued Order 890, which concluded that reform of its pro forma OATT was necessary to reduce the potential for undue discrimination and provide clarity in the obligations of transmission providers and customers. Significantly, in Order 890 FERC stated that it will implement its authority under Section 211A with respect to unregulated transmitting utilities on a case-by-case basis and retain the current reciprocity provisions.

On July 21, 2011, FERC issued Order 1000, which among other things requires public utility (jurisdictional) transmission providers to participate in a regional transmission planning process that produces a regional transmission plan and that incorporates a regional and inter-regional cost allocation methodology. Further, FERC states that it has the authority to allocate costs to beneficiaries of transmission services, even in the absence of a contractual relationship between the owner of the transmission facilities and the beneficiary. Under EPCRA 2005, FERC may not require municipal utilities to join regional transmission organizations, in which participating utilities allow an independent entity to oversee operation of the utilities' transmission facilities. FERC has stated, however, that FERC expects such utilities to participate in the regional processes for transmission planning and that FERC will pursue associated complaints against such utilities on a case-by-case basis.

### **Other Federal Legislation**

Congress has considered and is considering numerous bills addressing domestic energy policies and various environmental matters, including bills relating to energy supplies and development (such as a federal energy efficiency standard and expedited permitting for natural gas drilling projects), global warming and water quality. Many of these bills, if enacted into law, could have a material impact on the Electric System and the electric utility industry generally. In light of the variety of issues affecting the utility sector, federal energy legislation in other areas such as reliability, transmission planning and cost allocation, operation of markets and environmental requirements is also possible. However, the City is unable to predict the outcome or potential impacts of any possible legislation on the Electric System at this time.

**[Shari and Marvin to add section about wildfire litigation risk]**

**[Shari to add PG&E exposure]**

### **Environmental Issues**

*General.* Electric utilities are subject to continuing environmental regulation. Federal, State and local standards and procedures which regulate the environmental impact of electric utilities are subject to change. These changes may arise from continuing legislative, regulatory and judicial action regarding such standards and procedures. Consequently, there is no assurance that any City facility or project will remain subject to the laws and regulations currently in effect, will always be in compliance with future laws and regulations or will always be able to obtain all required operating permits. An inability to comply with environmental standards could result in additional capital expenditures, reduced operating levels or the shutdown of individual units not in compliance. In addition, increased environmental laws and regulations may create certain barriers to new facility development, may require modification of existing facilities and may result in additional costs for affected resources.

*Greenhouse Gas Regulations Under the Clean Air Act.* The United States Environmental Protection Agency (the "EPA") has taken steps to regulate greenhouse gas emissions under existing law. In 2009, the EPA issued a final "endangerment finding," in which it declared that the weight of scientific evidence requires a finding that six identified greenhouse gases, namely, CO<sub>2</sub>, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, cause global warming, and that global

warming endangers the public health and welfare. The final rule for the “endangerment finding” was published in the Federal Register on December 15, 2009. As a result of this finding, the EPA determined that it was authorized to issue regulations limiting CO<sub>2</sub> emissions from, among other things, motor vehicles and stationary sources, such as electric generating facilities, under the federal Clean Air Act. The EPA then developed a Clean Power Plan (“CPP”) designed to reduce CO<sub>2</sub> emissions from the power sector by 32% on average nationwide by 2030, from a 2012 baseline. Under the final rule, the EPA will set different interim and final emissions targets for each state based on overall CO<sub>2</sub> emissions and the amount of electricity generated in the state, and revised the proposed rule to encourage greater regional cooperation (through WECC for California) The CPP and the carbon pollution standards for new, modified and reconstructed power plants became effective on October 23, 2015; the carbon pollution standards for existing power plants became effective on December 22, 2015.

California became the first state in the country to release to the public a draft of its state implementation plan (“SIP”) to comply with the CPP and carbon pollution standards. Under the draft SIP for California, CARB used the “state measures” approach, applying the mass-based state emissions limit for the total affected power plants and proposed to use the state cap-and-trade program as its state measure. The SIP was expected to be considered by the CARB board in the Spring of 2017, in coordination with other proposed measures.

However, the United States Supreme Court stayed the CPP pending judicial review; the U.S. Court of Appeals for the D.C. Circuit has been holding Clean Power Plan litigation in abeyance since April 28, 2017. And on October 10, 2017, following a review directed by President Trump’s Energy Independence Executive Order, the EPA proposed to repeal the CPP and replace with the proposed Affordable Clean Energy Rule (“ACE”), which would establish emission guidelines for states to develop plans addressing greenhouse gas emissions from existing coal-fired power plants. Currently, neither of these rules have been finalized; both face legal challenges.

The City is unable to predict at this time the outcome of any ongoing legal challenges to the EPA’s proposed repeal of the CPP or the effect that any final rules promulgated by the EPA to replace these rules would have on the City’s electrical generating units, projects or the Electric System. In the meantime, the State of California has moved forward with its plans to reduce GHG emissions. In 2016, the Legislature passed SB 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the Legislature passed companion legislation AB 197, which provides additional direction for developing the Scoping Plan. CARB is moving forward with a second update to the States Climate Change Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. See “DEVELOPMENTS IN THE CALIFORNIA ENERGY MARKETS – State Legislation – *Greenhouse Gas Emissions – Global Warming Solutions Act.*”

***Air Quality – National Ambient Air Quality Standards.*** The Clean Air Act requires that the EPA establish National Ambient Air Quality Standards (“NAAQS”) for certain air pollutants. When a NAAQS has been established, each state must identify areas in its state that do not meet the EPA standard (known as “non-attainment areas”) and develop regulatory measures in its state implementation plan to reduce or control the emissions of that air pollutant in order to meet the applicable standard and become an “attainment area.” The EPA periodically reviews the NAAQS for various air pollutants and has in recent years increased, or proposed to increase, the stringency of the NAAQS for certain air pollutants. The EPA revised the NAAQS for particulate matter on December 14, 2012, the NAAQS for sulfur dioxide on June 22, 2010, and the NAAQS for nitrogen dioxide on February 9, 2010, and in each case made them more stringent. On December 18, 2014, the EPA issued a final rule making initial area designations for the 2012 NAAQS for fine particulate matter (“PM<sub>2.5</sub>”), designating 14 areas in six states as non-attainment, including the Los Angeles South Coast Air Basin, CA effective on April 15, 2015. On October 1, 2015, the EPA lowered the ozone standard to 70 ppb effective December 28, 2015. On June 4,

2018 they published a final rule initially designating some areas and voluntarily reclassifying five of six nonattainment areas in California, including the Los Angeles – South Coast Air Basin. This reclassification ensures that these five areas will have an attainment date for the 2015 ozone NAAQS that is no earlier than the areas attainment date for the prior 2008 ozone NAAQS. California declined reclassification for the Sacramento Metro area only. These developments may result in stringent permitting processes for new sources of emissions and additional state restrictions on existing sources of emissions, such as power plants.

***Mercury and Air Toxics Standards.*** On December 16, 2011, the EPA signed a rule establishing new standards to reduce air pollution from coal- and oil-fired power plants under sections 111 (new source performance standards, or “NSPS”) and 112 (toxics program) of the Clean Air Act. The final rule was published in the Federal Register on February 16, 2012. The EPA updated the Mercury and Air Toxics Standards (“MATS”) emission limits on November 30, 2012 and again on March 28, 2013. Under section 111 of the Clean Air Act, MATS revised the standards that new and modified facilities, including coal- and oil-fired power plants, must meet for particulate matter, sulfur dioxide, and nitrogen oxide. Under section 112, MATS sets toxics standards limiting emissions of heavy metals, including mercury, arsenic, chromium, and nickel; and acid gases, including hydrochloric acid and hydrofluoric acid, from existing and new power plants larger than 25 MW that burn coal or oil. Power plants have up to four years to meet these standards. While many plants already meet some or all of these new standards, some plants will be required to install new equipment to meet the standards. On November 25, 2014, the U.S. Supreme Court agreed to review the MATS rule following the filing of petitions for writ of certiorari from 23 states and industry groups. On June 29, 2015, the U.S. Supreme Court issued its decision in the case, finding that the EPA interpreted the Clean Air Act improperly because it did not consider the costs of emissions reductions prior to crafting the MATS rules, and remanded the case back to the District of Columbia Circuit Court. On December 15, 2015, the District of Columbia Circuit Court determined to leave the MATS rule in place while it was being revised on remand as ordered by the U.S. Supreme Court. The EPA issued a final finding on April 14, 2016. On March 3, 2016, the U.S. Supreme Court denied an application filed by several states to stay the rule during the litigation. On December 27, 2018, EPA proposed to revise the supplemental cost finding for the MATS rule, as well as the Clean Air Act’s required “risk and technology review.” After evaluating projected costs to coal- and oil-fired power plants of complying with the MATS rule, and the benefits attributable to regulating hazardous air pollutant (“HAP”) emissions from such power plants (as directed by the Supreme Court, *Michigan v. EPA*), EPA proposed that it is not “appropriate and necessary” to regulate HAP emissions from power plants under Section 112 of the Clean Air Act. Under the EPA proposal, the emission standards and other requirements of the MATS rule (from 2012) would remain in place since EPA did not propose to remove coal- and oil-fired power plants from the list of sources that are regulated under Section 112 of the Act. The City currently purchases power from coal-fired power stations that may be affected by the regulations, and in the event the MATS standards are ultimately upheld, the City may be exposed to increased costs. However, under the City’s 2018 Power Integrated Resource Plan (“IRP”), the City will remove coal from its power portfolio by June 2027, potentially as early as 2025.

***Regulation of Coal Combustion Residuals.*** On June 21, 2010, the EPA proposed to regulate coal combustion residuals (“CCR”) such as ash. The EPA proposed to list these residuals as a special waste and regulate them as a hazardous waste. This would have required a federal or state permitting program covering the storage, treatment, transport, disposal, and other activities related to residuals. The EPA also proposed an alternative regulation that would classify residuals as nonhazardous solid waste. Under the alternative regulation, plants could dispose of residuals in surface impoundments or landfills if they comply with national minimum standards. The disposal standards would address location, liner requirements, groundwater monitoring and other issues, but permits would not be required under the alternative regulation. The EPA solicited additional public comments on its proposed coal combustion residual regulation on October 12, 2011 and again on August 2, 2013. The EPA released its final CCR



rule on December 19, 2014, adopting the industry-preferred alternative regulation classifying CCRs as nonhazardous solid waste. These requirements have been finalized under the solid waste provisions, subtitle D, of the Resource Conservation and Recovery Act.

***Effluent Limitations Guidelines and Standards.*** On June 7, 2013, the EPA proposed to set technology-based effluent limitations guidelines and standards for metals and other pollutants in wastewater discharged from steam electric power plants. The proposal covered wastewater associated with several types of equipment and processes, including flue gas desulfurization, fly ash, bottom ash, flue gas mercury control and gasification of fuels. The EPA also considered best management practices for surface impoundments containing CCRs. The EPA proposed four preferred alternatives for regulating wastewater discharges. The stringency of controls, types of waste streams covered, and the costs vary between the four alternatives. On September 30, 2015, the EPA announced its final Steam Electric Effluent Limitation Guidelines to update the federal limits on toxic metals in discharge wastewater. As a result, EPA received multiple petitions challenging the regulations. On August 11, 2017 the EPA announced plans for a new rulemaking and estimated it will take approximately three years to propose and finalize a new rule (i.e., Fall 2020).

The City currently purchases power from coal-fired power stations that may be affected by the regulations described above; compliance with such rules could therefore result in an increase in the cost of power that the City purchases from such units. However, as stated earlier, under the City's 2018 Power IRP, the City will remove coal from its power portfolio by June 2027, potentially as early as 2025.

#### **Other Factors**

The electric utility industry in general has been, or in the future may be, affected by a number of other factors which could impact the financial condition and competitiveness of many electric utilities and the level of utilization of generating and transmission facilities. In addition to the factors discussed above, such factors include, among others, (a) effects of compliance with rapidly changing environmental, safety, licensing, regulatory and legislative requirements other than those described above (including those affecting nuclear power plants or potential new energy storage requirements), (b) changes resulting from conservation and demand-side management programs on the timing and use of electric energy, (c) changes resulting from a national energy policy, (d) effects of competition from other electric utilities (including increased competition resulting from a movement to allow direct access or from mergers, acquisitions, and "strategic alliances" of competing electric and natural gas utilities and from competitors transmitting less expensive electricity from much greater distances over an interconnected system) and new methods of, and new facilities for, producing low-cost electricity, (e) the repeal of certain federal statutes that would have the effect of increasing the competitiveness of many IOUs, (f) increased competition from independent power producers and marketers, brokers and federal power marketing agencies, (g) "self-generation" or "distributed generation" (such as microturbines and fuel cells) by industrial and commercial customers and others, (h) issues relating to the ability to issue tax-exempt obligations, including severe restrictions on the ability to sell to nongovernmental entities electricity from generation projects and transmission service from transmission line projects financed with outstanding tax-exempt obligations, (i) effects of inflation on the operating and maintenance costs of an electric utility and its facilities, (j) changes from projected future load requirements, (k) increases in costs and uncertain availability of capital, (l) shifts in the availability and relative costs of different fuels (including the cost of natural gas and nuclear fuel), (m) sudden and dramatic increases in the price of energy purchased on the open market that may occur in times of high peak demand in an area of the country experiencing such high peak demand, such as has occurred in California, (n) inadequate risk management procedures and practices with respect to, among other things, the purchase and sale of energy and transmission capacity, (o) other legislative changes, voter initiatives, referenda and statewide propositions, (p) effects of the changes in the economy, (q) effects of possible manipulation of the electric

markets, (r) natural disasters or other physical calamities, including, but not limited to, earthquakes and floods, (s) terrorist attacks and (t) changes to the climate. Any of these factors (as well as other factors) could have an adverse effect on the financial condition of any given electric utility and likely will affect individual utilities in different ways.

The City is unable to predict what impact such factors will have on the business operations and financial condition of the Electric System, but the impact could be significant. This Official Statement includes a brief discussion of certain of these factors. This discussion does not purport to be comprehensive or definitive, and these matters are subject to change subsequent to the date hereof. Extensive information on the electric utility industry is available from the legislative and regulatory bodies and other sources in the public domain, and potential purchasers of the 2019A Bonds should obtain and review such information.

### **CONSTITUTIONAL LIMITATIONS IN CALIFORNIA AFFECTING FEES AND CHARGES IMPOSED BY THE CITY**

The following is a discussion of certain limitations under provisions of the California Constitution that may affect the rates, fees and charges imposed by the City for the electric services it provides.

#### **Proposition 218 and Proposition 26**

Proposition 218, a State ballot initiative known as the “Right to Vote on Taxes Act,” was approved by the voters of the State of California on November 5, 1996. Proposition 218 added Articles XIIC and XIID to the State Constitution. Article XIIC imposes a majority voter approval requirement on local governments (including the City) with respect to taxes for general purposes, and a two-thirds voter approval requirement with respect to taxes for special purposes. Article XIID creates additional requirements for the imposition by most local governments of general taxes, special taxes, assessments and “property-related” fees and charges. Article XIID explicitly exempts fees for the provision of electric service from the provisions of such article.

Article XIIC expressly extends the people's initiative power to the reduction or repeal of local taxes, assessments, and fees and charges imposed prior to its effective date (November 1996). The California Supreme Court held in *Bighorn-Desert View Water Agency v. Verjil*, 39 Cal.4th 205 (2006) that, under Article XIIC, local voters by initiative may reduce a public agency's water rates and delivery charges, as those are property-related fees or charges within the meaning of Article XIID, and noted that the initiative power described in Article XIIC may extend to a broader category of fees and charges than the property-related fees and charges governed by Article XIID. Moreover, in the case of *Bock v. City Council of Lompoc*, 109 Cal.App.3d 52 (1980), the Court of Appeal determined that an electric rate ordinance was not subject to the same constitutional restrictions that are applied to the use of the initiative process for tax measures so as to render it an improper subject of the initiative process. Thus, electric service charges (which are expressly exempted from the provisions of Article XIID) may be subject to the initiative provisions of Article XIIC, thereby subjecting such fees and charges to reduction by the electorate. The Authority believes that even if the electric rates of the City are subject to the initiative power, under Article XIIC or otherwise, the electorate of the City would be precluded from reducing its electric rates and charges in a manner materially and adversely affecting the payment of the 2019A Bonds by virtue of the “impairment of contracts clause” of the United States Constitution.

The California electorate approved Proposition 26 at the November 2, 2010 election, amending Article XIIC of the California Constitution. Proposition 26 was designed to supplement tax limitations California voters adopted when they approved Proposition 13 in 1978, and Proposition 218 in 1996.

Proposition 26 applies by its terms to any levy, charge or exaction imposed, increased or extended by a local government on or after November 3, 2010. Proposition 26 deems any such levy, charge or fee to be a “tax”, requiring voter approval under Article XIIIIC unless it comes within one of the listed exceptions. Proposition 26 expressly excludes from its definition of a “tax,” among other things, a “charge imposed for a specific government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product.” Proposition 26 is applicable to the electric rates of governmental entities such as the City; therefore, newly adopted rates must conform to its requirements.

Proposition 26 is subject to interpretation by California courts, including the extent to which it is applicable to pre-existing electric rates and general fund transfers. A number of lawsuits have been filed against public agencies in California relating to electric utility fund transfers. In *Citizens for Fair REU Rates v. City of Redding* (filed on January 20, 2015 and modified on February 19, 2015), for example, the California Court of Appeal considered a ratepayer challenge to a “payment in lieu of taxes” (or “PILOT”) required by the City of Redding to be made by its electric utility as an annual budgetary transfer amount without voter approval. The city's PILOT was designed to compensate the general fund for the costs of services that other city departments provide to the electric utility. The amount of the PILOT was equivalent to the *ad valorem* taxes the electric utility would have had to pay if the electric utility were privately owned. The suits alleged that the PILOT was passed through to the city's electric utility customers as part of the rates and charges for electric service in excess of the reasonable costs to the city of providing electric service. The Court of Appeal determined that Proposition 26 has no retroactive effect as to local taxes that existed prior to November 3, 2010, but found that since the PILOT was subject to the City Council's recurring discretion, the PILOT did not escape the purview of Proposition 26. The Court of Appeal concluded that the PILOT constituted a “tax” under Proposition 26 for which the city must secure voter approval unless the city proved that the amount collected was necessary to cover the reasonable costs to the city of providing electric service. On April 29, 2015, the California Supreme Court granted review of the decision of the Court of Appeal. The California Supreme Court rendered its decision on August 27, 2018, reversing the judgment of the Court of Appeal. The California Supreme Court determined that the budgetary transfer from the Redding electric utility to the city's general fund, calculated by using the PILOT, itself is not the type of exaction that is subject to Article XIIIIC of the California Constitution. The court reasoned that it is only the Redding electric utility rate, not the PILOT, that is imposed on customers for electric service. The California Supreme Court concluded that because the total rate revenue of the electric utility was insufficient to cover the electric utility's uncontested operating expenses (other than the PILOT) in the years at issue, the challenged rate did not exceed the reasonable costs of providing electric service, and therefore did not constitute a tax.

The City is unable to predict at this time how Propositions 218 and 26 will ultimately be interpreted by the courts in the context of the Electric System rates or what the ultimate impact of Propositions 218 or 26 will be.

### **Future Initiatives**

Articles XIIIIC and XIID and the amendments effected thereto by Proposition 26 were adopted as measures that qualified for the ballot pursuant to California's initiative process. From time to time, including presently, other initiatives have been, and could be, proposed, and if qualified for the ballot, could be adopted affecting the City and/or the City's revenues or operations. Neither the nature and impact of these measures nor the likelihood of qualification for ballot or passage can be predicted by the City.

## RATINGS

Fitch Ratings, Inc. (“Fitch”) and S&P Global Ratings have assigned their municipal bond ratings of “\_\_\_\_\_” and “\_\_\_\_\_,” respectively, to the 2019A Bonds. Such ratings reflect only the views of such organizations and any desired explanation of the significance of such ratings may be obtained from the rating agency furnishing the same, at the following addresses: Fitch Ratings, Inc., One State Street Plaza, New York, New York 10004; and S&P Global Ratings, 55 Water Street, New York, New York 10041. Generally, a rating agency bases its rating on the information and materials furnished to it and on investigations, studies and assumptions of its own. There is no assurance that any of such ratings will continue for any given period of time or that such ratings will not be revised downward or withdrawn entirely by the applicable rating agency, if in the judgment of such rating agency circumstances so warrant. Any such downward revision or withdrawal of such ratings may have an adverse effect on the 2019A Bonds.

## TAX MATTERS

### Federal Income Taxes

The Internal Revenue Code of 1986, as amended (the “Code”), imposes certain requirements that must be met subsequent to the issuance and delivery of the 2019A Bonds for interest thereon to be and remain excluded from gross income for federal income tax purposes. Noncompliance with such requirements could cause the interest on the 2019A Bonds to be included in gross income for federal income tax purposes retroactive to the date of issue of the 2019A Bonds. Pursuant to the Fiscal Agent Agreement and the Tax Certificate the City has covenanted to comply with the applicable requirements of the Code in order to maintain the exclusion of the interest on the 2019A Bonds from gross income for federal income tax purposes pursuant to Section 103 of the Code. In addition, the City has made certain representations and certifications in the Fiscal Agent Agreement and the Tax Certificate. Bond Counsel will not independently verify the accuracy of those representations and certifications.

In the opinion of Nixon Peabody LLP, Bond Counsel, under existing law and assuming compliance with the aforementioned covenant, and the accuracy of certain representations and certifications made by the City described above, interest on the 2019A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Code. Bond Counsel is also of the opinion that such interest is not treated as a preference item in calculating the alternative minimum tax imposed under the Code.

In rendering these opinions, Bond Counsel has relied upon representations and covenants of the City concerning the property financed with 2019A Bond proceeds, the investment and use of 2019A Bond proceeds and the rebate to the federal government of certain earnings thereon. In addition, Bond Counsel has assumed that all such representations are true and correct and that the City will comply with such covenants. Bond Counsel has expressed no opinion with respect to the exclusion of the interest on the 2019A Bonds from gross income under Section 103(a) of the Code in the event that any of such representations by the City are untrue or the City fails to comply with such covenants, unless such failure to comply is based on the advice or the opinion of Bond Counsel.

### State Taxes

Bond Counsel is also of the opinion that interest on the 2019A Bonds is exempt from personal income taxes of the State of California under present State law. Bond Counsel expresses no opinion as to other state or local tax consequences arising with respect to the 2019A Bonds nor as to the taxability of the 2019A Bonds or the income therefrom under the laws of any state other than California.

## **Original Issue Discount**

Bond Counsel is further of the opinion that the excess of the principal amount of a maturity of the 2019A Bonds over its issue price (i.e., the first price at which price a substantial amount of such maturity of the 2019A Bonds was sold to the public, excluding bond houses, brokers or similar persons or organizations acting in the capacity of underwriters or wholesalers) (each, a “Discount Bond” and collectively the “Discount Bonds”) constitutes original issue discount which is excluded from gross income for federal income tax purposes to the same extent as interest on the 2019A Bonds. Further, such original issue discount accrues actuarially on a constant interest rate basis over the term of each Discount Bond and the basis of each Discount Bond acquired at such issue price by an initial purchaser thereof will be increased by the amount of such accrued original issue discount. The accrual of original issue discount may be taken into account as an increase in the amount of tax-exempt income for purposes of determining various other tax consequences of owning the Discount Bonds, even though there will not be a corresponding cash payment. Owners of the Discount Bonds are advised that they should consult with their own advisors with respect to the state and local tax consequences of owning such Discount Bonds.

## **Original Issue Premium**

2019A Bonds sold at prices in excess of their principal amounts are “Premium Bonds”. An initial purchaser with an initial adjusted basis in a Premium Bond in excess of its principal amount will have amortizable bond premium which is not deductible from gross income for federal income tax purposes. The amount of amortizable bond premium for a taxable year is determined actuarially on a constant interest rate basis over the term of each Premium Bond based on the purchaser’s yield to maturity (or, in the case of Premium Bonds callable prior to their maturity, over the period to the call date, based on the purchaser’s yield to the call date and giving effect to any call premium). For purposes of determining gain or loss on the sale or other disposition of a Premium Bond, an initial purchaser who acquires such obligation with an amortizable bond premium is required to decrease such purchaser’s adjusted basis in such Premium Bond annually by the amount of amortizable bond premium for the taxable year. The amortization of bond premium may be taken into account as a reduction in the amount of tax-exempt income for purposes of determining various other tax consequences of owning such 2019A Bonds. Owners of the Premium Bonds are advised that they should consult with their own advisors with respect to the state and local tax consequences of owning such Premium Bonds.

## **Ancillary Tax Matters**

Ownership of the 2019A Bonds may result in other federal tax consequences to certain taxpayers, including, without limitation, certain S corporations, foreign corporations with branches in the United States, property and casualty insurance companies, individuals receiving Social Security or Railroad Retirement benefits, individuals seeking to claim the earned income credit, and taxpayers (including banks, thrift institutions and other financial institutions) who may be deemed to have incurred or continued indebtedness to purchase or to carry the 2019A Bonds. Prospective investors are advised to consult their own tax advisors regarding these rules.

Interest paid on tax-exempt obligations such as the 2019A Bonds is subject to information reporting to the Internal Revenue Service (the “IRS”) in a manner similar to interest paid on taxable obligations. In addition, interest on the 2019A Bonds may be subject to backup withholding if such interest is paid to a registered owner that (a) fails to provide certain identifying information (such as the registered owner’s taxpayer identification number) in the manner required by the IRS, or (b) has been identified by the IRS as being subject to backup withholding.

Bond Counsel is not rendering any opinion as to any federal tax matters other than those described in the opinions attached as Appendix F. Prospective investors, particularly those who may be subject to special rules described above, are advised to consult their own tax advisors regarding the federal tax consequences of owning and disposing of the 2019A Bonds, as well as any tax consequences arising under the laws of any state or other taxing jurisdiction.

### **Changes in Law and Post Issuance Events**

Legislative or administrative actions and court decisions, at either the federal or state level, could have an adverse impact on the potential benefits of the exclusion from gross income of the interest on the 2019A Bonds for federal or state income tax purposes, and thus on the value or marketability of the 2019A Bonds. This could result from changes to federal or state income tax rates, changes in the structure of federal or state income taxes (including replacement with another type of tax), repeal of the exclusion of the interest on the 2019A Bonds from gross income for federal or state income tax purposes, or otherwise. It is not possible to predict whether any legislative or administrative actions or court decisions having an adverse impact on the federal or state income tax treatment of holders of the 2019A Bonds may occur. Prospective purchasers of the 2019A Bonds should consult their own tax advisors regarding the impact of any change in law on the 2019A Bonds.

Bond Counsel has not undertaken to advise in the future whether any events after the date of issuance and delivery of the 2019A Bonds may affect the tax status of interest on the 2019A Bonds. Bond Counsel expresses no opinion as to any federal, state or local tax law consequences with respect to the 2019A Bonds, or the interest thereon, if any action is taken with respect to the 2019A Bonds or the proceeds thereof upon the advice or approval of other counsel.

### **LITIGATION**

There is no litigation or action of any nature now pending against the City or, to the knowledge of its respective officers, threatened, seeking to restrain or enjoin the issuance, sale, execution or delivery of the 2019A Bonds or in any way contesting or affecting the validity of the 2019A Bonds or any proceedings of the City taken with respect to the issuance or sale thereof, or the pledge or application of any moneys or security provided for the payment of the 2019A Bonds or the use of proceeds thereof. There is no litigation pending, or to the knowledge of the City, threatened, questioning the existence of the City or the title of the officers of the City to their respective offices. There is no litigation pending, or to the knowledge of the City, threatened, which materially questions or affects the financial condition of the Electric System.

***Lawsuit Challenging Annual Charter-Authorized Light and Power Fund Transfer.*** Since the passage of Proposition 26 in 2010, any new or increased electric rates may not exceed the reasonable cost of providing electric service and the burden of establishing the reasonableness of such rates is placed upon the City. Sections 1407 and 1408 of the City Charter, last approved by Pasadena voters in 1993, authorizes the City to transfer up to 16% of the gross income from the electric enterprise fund to the General Fund for general municipal purposes. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2019A BONDS - The Light and Power Fund."

In October 2017, the City was served with a putative class action lawsuit entitled *Komesar v. City of Pasadena*, which generally asserts that the City's electric utility rates are more than reasonably necessary to operate the utility to the extent they finance the City's annual Charter-authorized transfers from the Light & Power Fund to the General Fund, and, as such, are taxes requiring voter approval pursuant to Article XIII C of the California Constitution (last amended through Proposition 26 in 2010). Plaintiff is seeking a refund, on behalf of herself and a class of all others similarly situated, of the

alleged taxes. Plaintiff has also asked the court to prevent the City from continuing to impose electric rates based on its current rate structure, until and unless the City obtains voter approval. No trial date is set in the case.

A number of lawsuits asserting similar claims have been filed against cities around the State of California, and in several of such cases, the trial courts have held that such transfers violate Proposition 26. In August 2018, the California Supreme Court decided *Citizens for Fair REU Rates v. City of Redding*, 6 Cal.5th 1 (2018). The Supreme Court held that transfers (described as "payments in lieu of taxes" or a PILOT) from the City of Redding's electric utility to that city's general fund, approved with each biennial budget, are not the type of exaction that is subject to Article XIII C of the California Constitution. The court reasoned that it is only the Redding electric utility rate, not the PILOT, that is imposed on customers for electric service. The Supreme Court concluded that because the total rate revenue of Redding's electric utility was insufficient to cover its operating expenses (other than the PILOT), Redding's electric rates did not exceed the costs of providing electric service, and therefore did not constitute a tax. It should be noted, however, that the Supreme Court's decision in the Redding case did not address the validity of any charter-authorized transfers, as Redding is a general law city, not a charter city.

Another published appellate opinion holds that Proposition 26 is not retroactive as to local governments (*Brooktrails Township Community Services Dist. v. Board of Supervisors of Mendocino County* (2013) 218 Cal.App.4th 195) and, for that reason, it is the City's further belief that transfers from its Light & Power Fund should be unaffected by Proposition 26. Accordingly, in the absence of judicial authority to the contrary, the City intends to continue making these transfers to the General Fund in accordance with its Charter. However, the City is unable to predict the outcome of the pending *Komesar* litigation. Accordingly, there can be no assurance that Light and Power Fund transfers to the General Fund will not have to be reduced or eliminated in the future as a result of this or other litigation. Further it is possible that the *Komesar* litigation could result in a refund back to the taxpayers for transfers from the Light and Power Fund dating back to Fiscal Year 2017-18, if the court finds a violation of Proposition 26.

The ultimate outcome and the full impact on the City's finances in the event of an adverse outcome are uncertain.

## AUDITED FINANCIAL STATEMENTS

The audited financial statements of the City's Water and Power Enterprise Funds, as of June 30, 2018 and for the year then ended, are included in Appendix B to this Official Statement. A complete copy of the City's Comprehensive Annual Financial Report may be obtained from the City. There has been no material adverse change in the finances of the Electric System since June 30, 2018. The 2019A Bonds are revenue obligations of the City payable only from the Net Income of the Electric System in the Light and Power Fund and certain other funds as provided in the Fiscal Agent Agreement. The financial statements of the City's Water and Power Enterprise Funds for the Fiscal Year ended June 30, 2018 have been audited by Lance, Soll & Lunghard, LLP, independent accountants (the "Auditor") as stated in their report appearing in Appendix B. The Auditor has not updated its report or taken any action intended or likely to elicit information concerning the accuracy, completeness or fairness of the statements made in this Official Statement, and no opinion is expressed by Lance, Soll & Lunghard, LLP with respect to any event or transaction subsequent to their report dated January 24, 2019. The City has not requested, nor has the Auditor given, the Auditor's consent to the inclusion in Appendix B of its report on such financial statements.

## **FORWARD-LOOKING STATEMENTS**

The statements contained in this Official Statement and in the Appendices hereto, and in any other information provided by PWP or the City, that are not purely historical, are forward-looking statements, including statements regarding PWP or the City's expectations, hopes, intentions or strategies regarding the future. Prospective investors should not place undue reliance on forward-looking statements. All forward-looking statements included in this Official Statement are based on information available to PWP and the City on the date hereof, and PWP and the City assume no obligation to update any such forward-looking statements. It is important to note that PWP's actual results could differ materially from those in such forward-looking statements.

The forward-looking statements herein are necessarily based on various assumptions and estimates and are inherently subject to various risks and uncertainties, including risks and uncertainties relating to the possible invalidity of the underlying assumptions and estimates and possible changes or developments in social, economic, business, industry, market, legal and regulatory circumstances and conditions and actions taken or omitted to be taken by third parties, including customers, suppliers and competitors, and legislative, judicial and other governmental authorities and officials. Assumptions related to the foregoing involve judgments with respect to, among other things, future economic, competitive and market conditions and future business decisions, all of which are difficult or impossible to predict accurately and many of which are beyond the control of PWP and the City. Any of such assumptions could be inaccurate and, therefore, there can be no assurance that the forward-looking statements included in this Official Statement would prove to be accurate.

## **MUNICIPAL ADVISOR**

The City has retained Public Resources Advisory Group, Los Angeles, California, as municipal advisor (the "Municipal Advisor") in connection with the issuance of the 2019A Bonds. The Municipal Advisor has not been engaged, nor has it undertaken, to audit, authenticate or otherwise verify the information set forth in this Official Statement, or any other related information available to the City, with respect to accuracy and completeness of disclosure of such information. The Municipal Advisor has reviewed this Official Statement, but makes no guaranty, warranty or other representation respecting accuracy and completeness of the information contained in this Official Statement. Certain fees of the Municipal Advisor are contingent on the issuance and delivery of the 2019A Bonds.

## **CERTAIN LEGAL MATTERS**

The issuance of the 2019A Bonds is subject to the approving opinion of Nixon Peabody LLP, Los Angeles, California, Bond Counsel. A complete copy of the proposed form of Bond Counsel opinion is contained in Appendix F. Bond Counsel will receive compensation from the City contingent upon the sale and delivery of the 2019A Bonds. Certain legal matters will be passed upon for the City by Michele Beal Bagneris, City Attorney of the City, and by Nixon Peabody LLP, Los Angeles, California, Disclosure Counsel.

## **PURCHASE AND REOFFERING**

\_\_\_\_\_ (the "Initial Purchaser") purchased the 2019A Bonds from the City at a competitive sale at an aggregate purchase price of \$ \_\_\_\_\_ (representing the aggregate principal amount of the 2019A Bonds, plus original issue premium of \$ \_\_\_\_\_, and less an Initial Purchaser's discount of \$ \_\_\_\_\_). The public offering prices may be changed from time to time by the Initial Purchaser. The Initial Purchaser may offer and sell 2019A Bonds to certain dealers and others at prices lower than the offering prices shown on the inside cover page hereof.



## CONTINUING DISCLOSURE

Pursuant to a Continuing Disclosure Agreement to be entered into with Digital Assurance Certification, L.L.C. (“DAC”) simultaneously with the issuance of the 2019A Bonds (the “Continuing Disclosure Agreement”), under which the City has designated DAC as Disclosure Dissemination Agent (the “Disclosure Dissemination Agent”), the City has covenanted for the benefit of the holders and beneficial owners of the 2019A Bonds to provide certain financial information and operating data relating to the City and the Electric System by not later than 210 days following the end of the City’s Fiscal Year (which Fiscal Year presently ends on June 30) (the “Annual Report”), commencing with the report for Fiscal Year 2018-19, and to provide notices of the occurrence of certain enumerated events. The Annual Report and the notices of specified events will be filed by the City with the Municipal Securities Rulemaking Board (“MSRB”) through the MSRB’s Electronic Municipal Market Access (EMMA) System. The specific nature of the information to be contained in the Annual Report and the notice of specified events is set forth in APPENDIX E – “FORM OF CONTINUING DISCLOSURE AGREEMENT” herein. These covenants have been made in order to assist the Initial Purchaser in complying with S.E.C. Rule 15c2-12(b)(5) (the “Rule”).

In the last five years, the City has failed to comply with certain of its prior continuing disclosure agreements as follows: (1) due to the implementation of a new enterprise resource planning system, the City was 59 days late in filing its unaudited Water and Power Annual Report for fiscal year 2014-15, and did not file its unaudited Comprehensive Annual Financial Report but rather filed its audited Comprehensive Annual Financial Report and its audited Water and Power Annual Report when they became available on February 29, 2016; (2) for fiscal years ended June 30, 2013 through 2017, the City filed certain annual reports that were missing certain information required under some of its prior continuing disclosure obligations; and (3) the City did not timely file a notice of a rating upgrade in connection with one of its electric revenue fund obligations.

The City will reserve the right to amend the Continuing Disclosure Agreement, and to obtain the waiver of non-compliance with any provision of the Continuing Disclosure Agreement, if such amendment or waiver is supported by a written opinion of counsel expert in federal securities laws selected by the City to the effect that such amendment or waiver would not materially impair the interest of the holders of the 2019A Bond and would not, in and of itself, cause the Continuing Disclosure Agreement to violate the Rule if such amendment or waiver had been effective at the time of the primary offering of the 2019A Bonds, after taking into account any applicable amendments to or official interpretations of the Rule.

The Disclosure Dissemination Agent has only the duties specified in the Continuing Disclosure Agreement. The Disclosure Dissemination Agent’s obligation to deliver the information at the times and with the contents described in the Continuing Disclosure Agreement is limited to the extent the City has provided that information to the Disclosure Dissemination Agent as required by the Continuing Disclosure Agreement. The Disclosure Dissemination Agent has no duty with respect to the content of any disclosures or notice made pursuant to the terms of the Continuing Disclosure Agreement or duty or obligation to review or verify any information in the Annual Report, Audited Financial Statements, notice of Notice Event or Voluntary Report (all as defined in the Continuing Disclosure Agreement), or any other information, disclosure or notices provided to it by the City, and the Disclosure Dissemination Agent shall not be deemed to be acting in any fiduciary capacity for the City, the holders of the 2019A Bonds or any other party. The Disclosure Dissemination Agent has no responsibility for any failure to report to the Disclosure Dissemination Agent a Notice Event or a duty to determine the materiality thereof, as to determine or liability for failing to determine whether the City has complied with the Continuing Disclosure Agreement, and the Disclosure Dissemination Agent may conclusively rely upon certification of the City at all times.

**EXECUTION AND DELIVERY**

The execution and delivery of this Official Statement have been duly authorized by the City.

CITY OF PASADENA, CALIFORNIA

By: \_\_\_\_\_  
Director of Finance

## APPENDIX A

### THE CITY OF PASADENA

#### General

The City of Pasadena, California (the “City”) was incorporated in 1886 and became a freeholder charter city in 1901. The City adopted its city manager form of government by amendments to the City Charter in 1921. The City Council is responsible for the administration of the City.

The City covers nearly 23 square miles and is located in Los Angeles County in the northwestern portion of the San Gabriel Valley. The City is bounded on the west by the cities of Los Angeles, La Cañada and Glendale, on the south by South Pasadena and San Marino, on the east by Arcadia and Sierra Madre, and on the north by the unincorporated community of Altadena and the San Gabriel Mountains.

In addition to general governmental services such as fire and safety, the City provides its approximately 140,000 residents with power, water and refuse services. The Southern California Gas Company supplies natural gas, and the County of Los Angeles provides sewage services.

The City consistently receives international recognition for the Rose Parade and Rose Bowl events and has achieved significant success in blending urban amenities with suburban neighborhoods. Engineering, finance and health care comprise the primary industry sectors. In addition, the academic and research pursuits of the California Institute of Technology, the Jet Propulsion Laboratory and the Art Center College of Design bring a unique combination of resources to the City. The City’s downtown continues to serve as the corporate and entertainment center for the San Gabriel Valley’s 1.8 million residents.

#### City Council

All powers of the City are vested in the City Council which is empowered to carry out the provisions of the City Charter and perform all duties and obligations of the City as imposed by State law. The City has an eight-member City Council comprised of members elected in seven City Council districts and a citywide elected mayor. Each Council Member and the Mayor are elected for four-year staggered terms. The Council Members elect the Vice-Mayor from their membership, who traditionally serves two consecutive one-year terms. The names, occupations and term expirations of the current members of the City Council are as follows:

| <u>Name</u>                          | <u>Occupation</u>           | <u>Term Expiration</u> |
|--------------------------------------|-----------------------------|------------------------|
| Terry Tornek, Mayor                  | Real Estate Investor        | December 2020          |
| Tyrone A.L. Hampton (District 1)     | Business Owner              | December 2020          |
| Margaret McAustin (District 2)       | Asset Manager - Real Estate | December 2020          |
| John J. Kennedy (District 3)         | Executive Consultant        | December 2022          |
| Gene Masuda, Vice Mayor (District 4) | Business Owner              | December 2020          |
| Victor Gordo (District 5)            | Attorney                    | December 2022          |
| Steve Madison (District 6)           | Attorney                    | December 2020          |
| Andy Wilson (District 7)             | Business Owner              | December 2022          |

## City Staff

*Steve Mermell, City Manager*, was appointed Pasadena City Manager in July 2016, after having served as the City's Interim City Manager for the previous five months, and as Assistant City Manager since 2009. Mr. Mermell has spent his entire professional government service career at Pasadena and is well-acquainted with all aspects and operations of the City, [www.cityofpasadena.net](http://www.cityofpasadena.net), by working in a variety of positions since joining the organization in 1989 as an analyst for the Water and Power Department. In addition to the top management positions, he has held numerous key positions, including, among others, Acting Finance Director, 2008-2009; Deputy Finance Director, 2006-2007; Budget Administrator, 2001-2006, and Purchasing Administrator, 1995-2001. Mr. Mermell also fulfilled temporary assignments as the director for both the Planning and Public Health departments.

As Pasadena's City Manager, Mr. Mermell is responsible for implementing the policies and ordinances enacted by the Pasadena City Council; and ensuring that the City's Charter and Municipal Code are properly utilized by the City's 16 departments and 2,000-plus employees. He is responsible for development of the annual operating and capital improvement budgets of the City, which \$816 million for Fiscal Year 2018-2019 that began July 1, 2018, and also includes funding for the City's three Operating Companies—the Rose Bowl (Stadium) Operating Company; the Pasadena (Convention) Center Operating Company and the Pasadena Community Access Corporation, which oversees the public, education and government (PEG) cable channels for Pasadena.

During his time at Pasadena, Mr. Mermell has helped ensure stability for several city departments and has guided the City's economic development strategies during the recent Great Recession, including moving forward with a successor plan for redevelopment agency issues. He had a lead role in transforming the City Public Health Department's clinical programs from City to non-profit health providers; lead a task force to successfully address funding issues associated with the City's closed Fire and Police Retirement System and its \$150 million unfunded liability; developed working agreements to strengthen ties between the City and the Pasadena Unified School District to better use City and PUSD resources to benefit Pasadena children; and negotiated a new long-term lease for the historic Pasadena Playhouse, California's official State Theater, in wake of the theater organization's bankruptcy.

As City Manager, Mr. Mermell also now leads the City's Executive Leadership Team, comprised of 13 Department Directors, the City Attorney, City Clerk, Assistant City Managers and Public Information Officer; and is the City's chief executive liaison for the Tournament of Roses Association; the Chamber of Commerce and the numerous business improvement and management districts throughout town. Mr. Mermell has a master's degree in Public Administration and a bachelor's degree in Political Science, both from the California State University, Northridge.

*Matthew E. Hawkesworth, Director of Finance*, joined the City in October 2015. His responsibilities include management of the financial affairs of the City and the Successor Agency to the Pasadena Community Development Commission, which include: preparation of the annual operating budget; preparation of the Comprehensive Annual Financial Report (CAFR); purchasing; collections; payroll; investments; debt management and financing of major City capital improvements. Prior to his current position, he served as Assistant City Manager for the City of Rosemead for eight years overseeing Finance, Human Resources, Public Works, Technology and Risk Management; Finance Director/Treasurer for the City of Claremont for three years; and a variety of positions in the Finance Department for the City of El Monte over nine years. Mr. Hawkesworth received his Bachelor of Arts degree in Social Science (economics and political science) from the University of La Verne (California) in 1995. He has completed numerous advanced courses in finance and accounting through the Government Finance Officers Association and is a graduate of the Claremont Leadership Academy, sponsored by the Claremont McKenna College Kravis Leadership Institute. During his career, Mr.

Hawkesworth has been an active participant of the Government Finance Officers Association and California Society of Municipal Finance Officers, serving as a budget and CAFR reviewer for the annual awards program; served on the League of California Cities Revenue and Taxation Committee and Other Post-Employment Benefits (OPEB) Taskforce. Mr. Hawkesworth also has a humanistic side, demonstrated by his founding of a non-profit organization in 2011 dedicated to providing refurbished bicycles and new helmets to low-income and at-risk youth.

*Michele Beal Bagneris, City Attorney*, was named the Pasadena City Attorney in May 1997. At that time, she was a shareholder in the law firm of Richards, Watson & Gershon, where she specialized in public law since joining the firm in 1983. Initially, while serving as City Attorney, she continued to practice law as a member of the law firm, advising public clients in a wide range of areas, including land use, general advisory matters, litigation, labor and employment, code enforcement and nuisance abatement matters. She also served as the City Attorney for the City of Monrovia from 1992 through September 1999, when she became the in-house City Attorney for the City of Pasadena. She currently serves in that position and is also the City Prosecutor. As the City Attorney/City Prosecutor, she is responsible for managing all legal matters for the City, including supervision of in-house lawyers and any outside counsel engaged to advise the City. Ms. Bagneris received her bachelor's degree in International Relations from Stanford University in 1980 and her Juris Doctorate Degree in 1983 from Boalt Hall School of Law, University of California, Berkeley. She is active in professional and community organizations including serving as member of the Board of Directors of the League of California Cities, Vice-President of the Board of Directors of the Institute for Local Government, past President of the Los Angeles County Prosecutor's Association; past President of the League of California Cities City Attorney's Department; past President of the City Attorney's Association of Los Angeles County; and member of other legal and community organizations. She is admitted to practice law in the State of California, United States District Court and the U.S. Court of Appeals, Ninth Circuit.

**Population**

The following table presents a ten-year history of the population of the City since 2009.

**TABLE A-1  
POPULATION  
For Years 2009 through 2018**

| <b>Year<br/>(as of January 1)</b> | <b>Population</b> |
|-----------------------------------|-------------------|
| 2009                              | 150,185           |
| 2010                              | 136,769           |
| 2011                              | 138,768           |
| 2012                              | 139,222           |
| 2013                              | 140,102           |
| 2014                              | 140,879           |
| 2015                              | 141,510           |
| 2016                              | 141,023           |
| 2017                              | 143,333           |
| 2018                              | 144,388           |

Source: State of California, Department of Finance.

## Education

Total enrollment within the Pasadena Unified School District is shown below for the last ten fiscal years.

**TABLE A-2**  
**PASADENA UNIFIED SCHOOL DISTRICT**  
**TOTAL ENROLLMENT<sup>(1)</sup>**  
**Fiscal Years 2008-09 through 2017-18**

| <b>Fiscal Year Ended</b> | <b>Total Enrollment</b> |
|--------------------------|-------------------------|
| <b>June 30</b>           |                         |
| 2009                     | 20,526                  |
| 2010                     | 20,084                  |
| 2011                     | 19,803                  |
| 2012                     | 19,805                  |
| 2013                     | 19,540                  |
| 2014                     | 19,102                  |
| 2015                     | 18,586                  |
| 2016                     | 18,492                  |
| 2017                     | 18,410                  |
| 2018                     | 18,164                  |

Source: California Department of Education

## Employment

Although no annual calendar year information is regularly compiled on employment and unemployment in the City alone, fiscal year unemployment rates can be found in Table 18 of the City's Comprehensive Annual Financial Report for the year ended June 30, 2018.

The following table shows employment, unemployment and labor force information for Los Angeles County for calendar years 2013 through 2018.

**TABLE A-3**  
**LOS ANGELES COUNTY**  
**EMPLOYMENT, UNEMPLOYMENT AND LABOR FORCE**  
**AVERAGES FOR CALENDAR YEARS 2013 THROUGH 2018<sup>(1)</sup>**  
**(in thousands)**

|                             | <b>2013</b> | <b>2014</b> | <b>2015</b> | <b>2016</b> | <b>2017</b> | <b>2018</b> |
|-----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| County Employment           | 4,471       | 4,659       | 4,707       | 4,777       | 4,884       | 4,930       |
| County Unemployment         | 490         | 376         | 284         | 213         | 240         | 236         |
| County Civilian Labor Force | 4,960       | 5,035       | 4,992       | 4,990       | 5,124       | 5,166       |
| County Unemployment Rate    | 9.9%        | 7.5%        | 5.7%        | 4.3%        | 4.7%        | 4.6%        |
| State Unemployment Rate     | 8.9%        | 7.0%        | 6.2%        | 5.7%        | 4.8%        | 4.1%        |

Source: State of California Employment Development Department. Current Labor Force and Industry Employment. Los Angeles-Long Beach Metropolitan Statistical Area

## Major Employers

Industry in the City is diversified. Some of the leading industries include higher education, research and development, health care, financial services and communications. The major employers within the City as of June 2018 are listed below.

**TABLE A-4  
MAJOR EMPLOYERS  
2018**

| <b>Company</b>   | <b>Approximate Number of Employees</b> | <b>Business Line</b>     |
|--|--|--------------------------|
| California Institute of Technology-Jet Propulsion Laboratory | 6,197                                  | Aerospace Research       |
| Kaiser Permanente  | 3,152                                  | Health Care              |
| California Institute of Technology-Campus                    | 3,900                                  | Education                |
| Huntington Memorial Hospital                                 | 3,737                                  | Hospital                 |
| Pasadena Unified School District                             | 2,420                                  | Education                |
| The City of Pasadena   | 2,139                                  | Government               |
| Bank of America  | 1,410                                  | Financial                |
| Pasadena City College  | 2,619                                  | Education                |
| Art Center College of Design                                 | 1,177                                  | Education                |
| Hathaway-Sycamores   | 673                                    | Social Services          |
| ATT (SBC in 2007)  | 491                                    | Telecommunication        |
| The Langham Huntington Hotel (Ritz-Carlton)                  | 541                                    | Hotel                    |
| East West Bank   | 552                                    | Financial                |
| Western Asset  | 573                                    | Financial                |
| Cit/One West Bank  | 554                                    | Financial                |
| Parsons Corporation  | 504                                    | Engineering/Construction |
| Open X   | 300                                    | Software                 |
| Green Dot  | 300                                    | Financial                |
| Rusnak Pasadena  | 355                                    | Automotive Retail        |
| Pacific Clinics Administration                               | 254                                    | Healthcare               |
| Bluebeam   | 250                                    | Software                 |
| Alexandria RE  | 200                                    | Financial                |
| ADP  | 180                                    | Financial                |
| Avon Products  | 78                                     | Consumer Products        |

Source: City of Pasadena, Comprehensive Annual Financial Report for Fiscal Year ended June 30, 2018.

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## Housing

The following table presents a ten-year history of total housing units within the City, for fiscal years 2009 through 2018.

**TABLE A-5  
HOUSING UNITS<sup>(1)</sup>  
For Fiscal Years 2009 through 2018**

| <u>Fiscal Year Ended<br/>January 1</u> | <u>Housing Units</u> |
|--|----------------------|
| 2009                                   | 58,800               |
| 2010                                   | 59,331               |
| 2011                                   | 60,178               |
| 2012                                   | 60,263               |
| 2013                                   | 60,314               |
| 2014                                   | 60,369               |
| 2015                                   | 60,361               |
| 2016                                   | 60,703               |
| 2017                                   | 61,766               |
| 2018                                   | 62,170               |

<sup>(1)</sup> As of fiscal year end. Includes single family dwellings and multifamily units, including rental units and condominiums.  
Source: State of California, Department of Finance; Years 2009-2010- E-8 Historical Population and Housing Estimates for Cities, Counties, and the State; Years 2011-2018 - E-5 Population and Housing Estimates for Cities, Counties and the State.

## Building Permit Activity

The City's General Plan targets development in the City, providing for growth in employment and housing. Since 1992 (the year the General Plan was approved), there have been seven specific plan areas established and approved by the City Council for the following areas: North Lake, West Gateway, South Fair Oaks, East Pasadena, East Colorado, Fair Oaks/Orange Grove and the Central District. The Land Use and Mobility Elements of the General Plan were updated in 2004 at the same time the City's Zoning Code was updated.

The following table shows the value of building permits issued in the City for fiscal years 2010-11 through 2017-18.

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**TABLE A-6**  
**CITY OF PASADENA**  
**BUILDING PERMIT VALUATION AND PERMIT ACTIVITY**  
**for Fiscal Years 2010-11 through 2017-18**  
**(Valuation in Millions)**

|                              | Fiscal Year Ended June 30, |         |         |         |         |         |         |        |
|------------------------------|----------------------------|---------|---------|---------|---------|---------|---------|--------|
|                              | 2011                       | 2012    | 2013    | 2014    | 2015    | 2016    | 2017    | 2018   |
| Building Permit Valuations   |                            |         |         |         |         |         |         |        |
| Nonresidential               | \$56.3                     | \$ 92.5 | \$ 62.8 | \$ 97.5 | \$103.3 | \$72.8  | \$61.3  | \$18.8 |
| Residential                  | 24.4                       | 24.3    | 34.5    | 37.4    | 48.6    | 47.4    | 22.2    | 64.7   |
| Residential New Construction | 9.8                        | 61.2    | 23.3    | 81.1    | 124.7   | 118.8   | 112.4   | 101.4  |
| Total                        | \$90.5                     | \$178.1 | \$120.6 | \$216.1 | \$276.6 | \$239.1 | \$195.9 | 184.9  |
| Number of Permits Issued     |                            |         |         |         |         |         |         |        |
| Non Residential              | 619                        | 717     | 663     | 606     | 663     | 570     | 580     | 585    |
| Residential                  | 2,077                      | 3,022   | 2,106   | 2,234   | 2,188   | 2,867   | 2,377   | 2,517  |
| Residential New Construction | 39                         | 25      | 20      | 27      | 40      | 38      | 52      | 39     |
| Total                        | 2,735                      | 3,764   | 2,789   | 2,867   | 2,891   | 3,475   | 3,009   | 3,141  |

Source: City of Pasadena, Planning and Permitting Department.

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## Taxable Sales

The following table indicates taxable transactions in the City by type of business for the twelve-month periods ending September 30, 2012 through September 30, 2017.

**TABLE A-7**  
**CITY OF PASADENA**  
**TAXABLE TRANSACTIONS BY TYPE OF BUSINESS**  
**(\$ in Millions)**

| Type of Business                | Twelve Month Periods Ended September 30, |           |           |           |           |           |
|---------------------------------|--|-----------|-----------|-----------|-----------|-----------|
|                                 | 2012                                     | 2013      | 2014      | 2015      | 2016      | 2017      |
| Apparel Stores                  | \$ 179.6                                 | \$ 191.4  | \$191.3   | \$ 189.2  | \$188.1   | \$178.9   |
| Auto Dealers & Supplies         | 450.7                                    | 464.8     | 502.2     | 569.6     | 569.8     | 611.1     |
| Building Materials              | 107.9                                    | 127.1     | 139.9     | 149.5     | 154.4     | 162.2     |
| Drug Stores                     | 32.0                                     | 32.0      | 32.3      | 32.4      | 32.3      | 34.7      |
| Eating & Drinking Places        | 432.9                                    | 458.3     | 483.9     | 522.3     | 555.1     | 582.8     |
| Food Stores                     | 117.9                                    | 120.9     | 123.3     | 125.5     | 129.1     | 118.0     |
| Furnishing & Appliances         | 269.0                                    | 274.6     | 273.0     | 295.4     | 289.1     | 276.4     |
| General Merchandise             | 243.5                                    | 236.3     | 227.2     | 222.4     | 219.1     | 216.2     |
| Other Retail Stores             | 267.9                                    | 267.7     | 278.3     | 266.6     | 265.6     | 268.2     |
| Packaged Liquor                 | 28.8                                     | 29.3      | 29.5      | 30.5      | 30.0      | 32.6      |
| Service Stations                | 189.4                                    | 180.4     | 175.1     | 153.5     | 132.8     | 141.7     |
| Total Retail                    | 2,319.6                                  | 2,382.8   | 2,456.0   | 2,556.9   | 2,565.4   | 2622.8    |
| Non-Store & Part time Retailers | 6.0                                      | 5.3       | 5.5       | 4.8       | 5.4       | 5.3       |
| Business, Serv & Repair Group   | 182.4                                    | 188.5     | 202.8     | 212.5     | 223.1     | 229.3     |
| Manufacturer & Wholesaler Group | 314.4                                    | 291.3     | 251.0     | 228.1     | 185.2     | 223.3     |
| Total Point of Sales            | \$2,822.4                                | \$2,867.9 | \$2,915.3 | \$3,002.3 | \$2,979.1 | \$3,080.7 |

Source: State Board of Equalization, City of Pasadena: HDL Companies.

## Community Facilities

The City has a central library and eight branch libraries, four community centers, 24 parks and 33 playgrounds. Other entertainment and cultural facilities include the Rose Bowl, the Norton Simon Museum, the Pacific Asia Museum, the Gamble House, the Wrigley Estate, California Institute of Technology, Beckman Auditorium, the Pasadena Civic Auditorium and the Pasadena Playhouse. The City has long enjoyed a reputation as a community rich in culture, traditions and quality of life. The City is also home to the Tournament of Roses, sponsors of the well-known New Year's Day Parade and Rose Bowl football game held in the City each January.

## Transportation

The City is served by an extensive surface and air transportation network. Several major freeways make the City accessible to the entire Los Angeles Basin. The City is served by three commercial airports: Bob Hope Airport, located in nearby Burbank, is within 15 miles, Los Angeles International Airport is within 27 miles and Ontario International Airport is within 45 miles. Continental Trailways and Greyhound bus lines have local depots in the City. The City supplements the local Metropolitan Transit Authority and the Foothill Transit Authority bus routes with the Pasadena Area Rapid Transit Services ("ARTS") bus services to expand the covered area. The ARTS buses provide convenient and nominal-fare transportation between many of the City's residential neighborhoods, retail, business and

entertainment centers within the City. There are currently two ARTS routes that offer service seven days per week. In addition, the City provides Dial-A-Ride bus services for the elderly and disabled which is available for a nominal usage fee.

The nearest port facilities are located in the Los Angeles and Long Beach harbors which are approximately 30 and 35 miles away, respectively. The \$1 billion Alameda Corridor East project, being undertaken by the Alameda Corridor East Construction Authority, consists of safety upgrades, traffic signal control measures, road widening and grade separation projects to improve traffic conditions along the railroad facilities connecting the Ports of Los Angeles and Long Beach with the transcontinental rail network through the San Gabriel Valley, creating a faster more efficient method of distributing trade.

In addition, the Gold Line of the Metro Line light rail system runs from Union Station in the City of Los Angeles, through the City and terminates in the City of Sierra Madre. The Gold Line began operations in 2003.

### Employee Relations

City employees are represented by various unions and labor relations have been generally amicable. The City has experienced no major strikes, work stoppages or other incidents. Currently, most City employees are represented by unions. Set forth below is a table indicating the various unions representing employees within the City. The number of employees represented by these unions as of April 30, 2019, and the dates on which the current labor agreements expire (there are no provisions for the reopening of wage or benefit levels prior to expiration) are set forth in the following table.

**TABLE A-8  
CITY OF PASADENA  
EMPLOYEE UNION REPRESENTATION**

| Name of Union  | Number of<br>Employees Represented<br>As of April 30, 2019 | Expiration of Contract |
|--|--|------------------------|
| American Federation of State, County and Municipal Employees | 272  | June 30, 2019          |
| International Brotherhood of Electrical Workers              | 104  | June 30, 2019          |
| International Union of Operating Engineers                   | 18   | June 30, 2020          |
| Service Employee International Union                         | 26   | June 30, 2021          |
| Laborers International Union of North America                | 315  | June 30, 2019          |
| Pasadena Fire Fighters Association                           | 136  | June 30, 2020          |
| Pasadena Police Officers Association                         | 199  | June 30, 2021          |
| Pasadena Fire Fighters Management Association                | 6  | June 30, 2020          |
| Pasadena Management Association                              | 458  | June 30, 2020          |

Source: City of Pasadena, Human Resources Department.

In contract negotiations between 2014-16, employees represented by the various unions and employee organizations agreed that employees will assume full or partial responsibility for their respective obligation owed by the employees to the California Public Employees' Retirement System ("CalPERS"). Prior to these negotiations, the City had agreed with the Police Officers Association ("POA"), Fire Fighters Association ("FFA"), American Federation of State, County and Municipal Employees ("AFSCME"), and Pasadena Management Association ("PMA") to pay (or "pick-up") all or a portion of the employees' required contribution to CalPERS. These employee contributions range from

6.25% to 11.75% in total compensation. As of July 1, 2015 the POA and FFA members began paying their full 9% obligation, and as of July 1, 2017 FFA members began paying an additional 3% for a total of 12% in total compensation. As of July 9, 2018, the City picks-up 2% for PMA members (PMA members offset this amount by paying 2.5% of the City's employer rate), but the rate reduces by 2% each January 1. The City continues to pick up the full 8% for AFSCME members (AFSCME members offset this amount by paying the City's 8% employer rate). These payment arrangements, for their duration, results in an increase in the income used to calculate pension benefits to employees under the CalPERS formula.

## **Retirement Systems**

### *Pasadena Fire and Police Retirement System.*

#### General.

Police and Fire personnel hired prior to July 1, 1977 were covered by the City's Fire & Police Retirement System ("FPRS"). FPRS was originally established by the City Charter in 1919. FPRS was closed on June 30, 1977 but continues to pay out benefits to retirees and their beneficiaries. FPRS covers all sworn fire and police personnel who were employed by the City prior to July 1, 1977, except those who elected to transfer to the California Public Employees' Retirement System ("CalPERS") either when FPRS closed to new members or in June 2004. FPRS is managed by a five-member retirement board. As of June 30, 2017, FPRS had an unfunded actuarial accrued liability of \$16.9 million and had a funded ratio of 82.5%. For fiscal year 2017-18, the City's annual pension cost was \$6,927,000 for FPRS. In July 2018 the FPRS approved changes to its actuarial assumptions, reducing the discount rate and rate of return to 5.75% and the inflation rate to 2.75%. The draft preliminary actuarial valuation report indicates a funded ratio of 79.85% as of June 30, 2018. The actuarial value of FPRS' assets was determined using techniques that smooth the effects of short-term volatility in the market value of investments over a five-year period (smoothed market value). Copies of FPRS' annual financial report may be obtained from the City's Department of Finance, 100 North Garfield Avenue, 3rd Floor, Pasadena, California 91109. This annual financial report includes the required three-year trend information. Additional information concerning the FPRS is also contained in Note 18 to the City's Audited Financial Statement attached as Appendix B to this Official Statement.

#### Funding History.

In 1960, the City Charter was amended to provide an unlimited cost of living adjustment ("COLA") for the FPRS members that was fully adjustable based on changes in the consumer price index. With inflation in the broader economy during the subsequent years, the FPRS saw dramatic increases in the COLA and, therefore, in its expenses. In 1977, the FPRS was modified to increase contribution rates for the City and for active FPRS members. Additionally, active FPRS members were given the option of transferring to the California Public Employees' Retirement System ("CalPERS") plan. However, few existing participants elected to join CalPERS and the modifications proved inadequate to address the continuing rise in the COLA benefit.

The City attempted to roll back the COLA benefit and successfully obtained voter approval in 1981 for a City Charter amendment that limited the COLA to 2%. However, the Pasadena Police Officers Association sued successfully, claiming that the amendments impaired the vested rights of its members. An appellate court upheld the ruling and the uncapped COLA was reinstated.

In 1987, the City sponsored and secured the passage of Senate Bill No. 481 ("SB 481"), which established a funding mechanism for the FPRS. SB 481 authorized the City to utilize payments made by the Pasadena Community Development Commission (the "Commission") under a reimbursement

agreement entered into in 1987 (the “Reimbursement Agreement”), after required deductions, for the purpose of funding the City’s liabilities to FPRS. The Commission’s payments consist of property tax increments from the City’s Downtown Project Area (hereinafter defined as the “SB 481 Receipts”). The Reimbursement Agreement was validated by SB 481, which became law in 1987. Under SB 481, the right to receive SB 481 Receipts terminated on December 31, 2014. As described below, the enforceability of the Reimbursement Agreement is being challenged by the State.

In 1999, after the FPRS-funded status dropped to approximately 30%, the City and the FPRS negotiated a Contribution Agreement (the “Prior Contribution Agreement”) whereby the City agreed to issue approximately \$100 million of pension obligation bonds (*i.e.*, the Series 1999 Bonds) and transfer the proceeds to the FPRS in order to increase the actuarial funding level to 70%. Further, the City agreed to make supplemental contributions to the FPRS to ensure that the funding level increased by ½% each year for 20 years, in order to reach a funding level of 80% by 2020. FPRS, in turn, assigned to the City its rights to receive the SB 481 Receipts under a prior agreement, but required such revenues to be applied to the payment of the City’s funding obligations to FPRS, including payments on the City’s pension obligation bonds.

In 2004 the City issued approximately \$40 million of additional pension obligation bonds (*i.e.*, the Series 2004 Bonds) in order to maintain the contribution levels agreed upon in the Prior Contribution Agreement. This occurred after a dispute between the City and the FPRS regarding the accounting methodology for treating the investment losses of the early 2000s. The FPRS agreed to allow the actuarial valuation to be conducted without the requirement that the actuarial value of assets remain within a 20% “corridor” around the actual market value of assets, in exchange for the City providing additional funds through the issuance of the 2004 Bonds.

In November 2011, the City and FPRS agreed to amend the Prior Contribution Agreement (such amendment herein referred to as the “Amended Contribution Agreement”) for the purpose of revising the methodology used to calculate the unfunded liability of the City and the City’s required payments to the FPRS. To fulfill its commitment under the Amended Contribution Agreement, the City issued a third series of pension bonds (*i.e.*, the Series 2012 Bonds) in the principal amount of \$47,440,000 and deposited the proceeds with FPRS. Prior to the Amended Contribution Agreement, FPRS was required to use, in its actuarial calculations, the average assumed investment return and cost of living adjustment used by counties with pension systems established under 1937 Act (“1937 Act Counties”).

Under the Amended Contribution Agreement, the City must pay to FPRS, in addition to the net proceeds of the Series 2012 Bonds, supplemental payments (“Supplemental Payments”) if FPRS falls below the required minimum funding percentage in any fiscal year, to fund the unfunded accrued actuarial liability (the “UAAL”) of FPRS. The Amended Contribution Agreement requires FPRS to be at least 75.5% funded for the fiscal year in which the City paid the net proceeds of such bonds to FPRS (the “Minimum Funding Percentage”). For each succeeding year, the Minimum Funding Percentage increases by 0.5% per year over a nine-year period, up to 80%. To protect the City against large swings in asset values from one year to the next, the annual amount of any Supplemental Payments is subject to a cap, which is the lesser of certain benefit payments paid by FPRS in the prior fiscal year, or \$3 million, plus a varying percentage of any funding deficit in the Minimum Funding Percentage over \$3 million, beginning with 20% of the remaining deficit in the base year up to 100% of any deficit remaining for the fifth and any subsequent consecutive fiscal year following the base year.

The principal change implemented by the Amended Contribution Agreement was to alter the assumed rate of investment and cost of living adjustments used to calculate the Minimum Funding Percentage and UAAL. The Amended Contribution Agreement allows FPRS to use rates of investment and cost of living increases recommended by FPRS’s actuary and approved by FPRS after consultation

with the City and the City's consultants. When the Amended Contribution Agreement was executed in November 2012, the average investment rate used by 1937 Act Counties was approximately 8%; following execution, the actuarial rate as recommended by the system's actuary was reduced to 6.5%. The actuarial valuation for the year ending June 30, 2017 assumed, among other assumption, a discount rate of 6.5% and an inflation rate of 3%<sup>3</sup>

The City has structured \$121,490,000 principal amount of the Series 1999 Bonds, the Series 2004 Bonds and the Series 2012 Bonds to mature, or to be subject to mandatory tender, on May 15, 2015, with the expectation that the SB 481 Receipt would be sufficient to pay approximately \$40 million of the maturing principal amount or purchase price of such bonds, as applicable. However, as the SB 481 Litigation was not resolved by May 2015, the City refinanced all of its pension obligation bonds in 2015.

As of June 30, 2017, the FPRS was funded at 82.5%, satisfying the 78.5% minimum requirement as calculated in accordance with the procedures of the Amended Contribution Agreement. The funding history for the FPRS is shown in Table A-14 herein.

In July 2018, the Fire and Police Retirement Board approved changes to its actuarial assumptions, including reducing the discount rate and rate of return to 5.75% and the inflation rate to 2.75% as well as assumptions relating to morality resulting from a new experiential and mortality study. As a result, a preliminary draft actuarial report indicates a reduction of the funding ratio to 79.83% as of June 30, 2018, satisfying the minimum funding requirement of 79%. The actuary has also projected the need for supplemental General Fund contributions beginning in Fiscal year 2020 (estimated at \$3.1 million). This report was presented to the FPRS Board. Further, the additional projected General Fund contributions have not been included in the City's Five-year financial plan projections included in this Official Statement.

#### SB 481 Litigation.

Through 2011, SB 481 Receipts received by the City under the Reimbursement Agreement were sufficient to cover the debt service on the City's pension obligation bonds, to provide funds for the City to make required supplemental payments to the FPRS under the prior contribution agreement, as amended and superseded (as described above) and to generate a reserve fund to be used for future obligations of the FPRS.

Following passage of the State legislation ABx1 26 in 2011, which required the dissolution of California redevelopment agencies ("CRA's"), including the Commission and the disposition and winding-up of the operations of CRS's, the State challenged the enforceability of the Reimbursement Agreement. In January 2017, following years of litigation, a California Appellate Court determined that the Reimbursement Agreement was not an "enforceable obligation" under ABx1 26 and required that SB 481 Receipts, which has been temporarily escrowed pending the outcome of the litigation must be returned to the local taxing entities. As a result, in fiscal year 2017-18, the \$39.7 million in escrow was distributed to the local taxing entities, with the City receiving approximately \$8.4 million.

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Investment Status.

As of June 30, 2018, FPRS' investment assets were allocated as follows:

**TABLE A-9**  
**CITY OF PASADENA**  
**FIRE AND POLICE RETIREMENT SYSTEM**  
**PORTFOLIO INFORMATION**  
**as of June 30, 2018 (audited)**

| <u>Description of Assets</u>        | <u>Market Value</u>  | <u>Percentage of Portfolio</u> |
|-------------------------------------|----------------------|--------------------------------|
| Cash and cash equivalents           | \$ 4,218,042         | 3.44%                          |
| Interest                            | 132,169              | 0.11                           |
| Government and agencies             | 15,223,407           | 12.43                          |
| Fixed income mutual funds           | 16,354,631           | 13.35                          |
| Domestic corporate obligations      | 27,507,533           | 22.46                          |
| International corporate obligations | 169,806              | 0.14                           |
| Real estate                         | 13,408,597           | 10.95                          |
| Domestic corporate stocks           | 23,261,000           | 18.99                          |
| International corporate stocks      | 22,190,575           | 18.12                          |
| TOTAL                               | <u>\$122,465,761</u> | <u>100.00%</u>                 |

Source: City of Pasadena, Department of Finance.

FPRS has a number of investment objectives. The primary goals are to provide participants with scheduled retirement benefits and meet or exceed the rate of inflation in its investments, as measured against the consumer price index. In addition, its objective is to achieve a higher rate of return over a three to five year period with less than average volatility, with enhanced return over a longer period, such as five years, being more important than the preservation of capital during a one-year period of time.

Under its investment guidelines, FPRS must maintain sufficient liquidity to meet FPRS' cash needs. It may invest in equity securities, U.S. government bonds, corporate bonds and dollar denominated foreign bonds, certain kinds of mortgage backed securities, money market funds, and American Depository Receipts of foreign securities. Fixed income securities must be rated Baa/BBB or better by nationally recognized rating agencies. The assets of FPRS may not be invested in options, commodities or futures, nor may securities be sold short or purchased on margin.

The City is responsible for paying benefits to FPRS, as described above. A variety of factors will affect the extent of the City's liability to FPRS, including actual investment performance of FPRS' assets, actual changes in the consumer price index, FPRS' actual mortality and benefit payment experience, all as compared with the assumptions, and changes in actuarial assumptions and methods, including the assumed rate of investment return. Further continued market volatility and the possibility of a "double dip" recession may require substantial additional contributions to FPRS over time.

## *California Public Employees' Retirement System.*

### General.

Almost all permanent City employees, except police and fire CalPERS personnel employed prior to July 1, 1977, are members of CalPERS for purposes of pension benefits. CalPERS is an agent multiple employer public employee retirement system which acts as a common investment and administrative agent for participating public employers within the State of California. The plan provides retirement and disability benefits, annual cost-of-living adjustments and death benefits to plan members and their beneficiaries. CalPERS issues a separate publicly available financial report that includes financial statements and required supplemental information of participating public entities within the State of California. The most recent annual report issued by CalPERS to the City was in July 2018 (the "July 2018 CalPERS Report"). The July 2018 CalPERS Report includes information based on the June 30, 2017 actuarial valuation of assets included therein (the "2017 Actuarial Valuation"). Copies of the CalPERS' annual financial report may be obtained from the CalPERS Executive Office, Lincoln Plaza Complex, 400 Q Street, Sacramento, CA 95811 or at [www.calPERS.ca.gov](http://www.calPERS.ca.gov). The July 2018 CalPERS Report to the City can also be found on the City's website at <http://cityofpasadena.net/Finance/PERS-Actuarial-Reports>. Additional information about the CalPERS Plans can also be found in Note 18 to the City's Audited Financial Statements attached as Appendix B to this Official Statement.

CalPERS is a contributory plan deriving funds from employer and employee contributions as well as earnings from investments. Participants are required to contribute a percentage of their annual covered salary. As of June 30, 2016, the contribution rates were 8% for miscellaneous employees and 9% for safety employees. In some cases, the City makes the contributions required of City employees on their behalf and for their account, but is wholly or partially reimbursed by employees. Different employee bargaining groups have different reimbursement rates ranging from the 8% to 12%. The City is also required to contribute at an actuarially determined rate. Benefit provisions and all other requirements are established by state statute or collective bargaining agreements with employee bargaining groups. See "Employee Relations" above.

### Recent Actuarial Changes and Related Developments.

In recent years, the CalPERS Board of Administration (the "CalPERS Board") has taken several steps, as described below, intended to reduce the amount of the unfunded accrued actuarial liability of its managed plans. Many of the assumptions and policies implemented by the CalPERS Board have increased and are likely to continue to increase both the required contributions and the unfunded liabilities of its member employers, including the City.

On March 14, 2012, the CalPERS Board voted to lower the CalPERS' rate of expected price inflation and its investment rate of return (net of administrative expenses) (the "CalPERS Discount Rate") from 7.75% to 7.5%. On February 18, 2014, the CalPERS Board voted to keep the CalPERS Discount Rate unchanged at 7.5%. On November 17, 2015, the CalPERS Board approved a new funding risk mitigation policy to incrementally lower the CalPERS Discount Rate by establishing a mechanism whereby such rate is reduced by a minimum of 0.05% to a maximum of 0.25% in years when investment returns outperform the existing CalPERS Discount Rate by at least four percentage points. On December 21, 2016, the CalPERS Board voted to lower the CalPERS Discount Rate to 7.0% over a three year phase-in period in accordance with the following schedule: 7.375% in fiscal year 2017-18, 7.25% in fiscal year 2018-19 and 7.00% in fiscal year 2019-20. The new discount rate went into effect July 1, 2018 for the City and other member employers. Lowering the CalPERS Discount Rate means member employers like the City will see increases in their normal costs and unfunded actuarial liabilities. Active members hired after January 1, 2013, under the PEPPRA (defined below) will also see their contribution rates rise.



On January 1, 2013, the Public Employees' Pension Reform Act of 2013 ("PEPRA") took effect. The impact of the PEPRA is described below.

In April 2013, CalPERS Board approved revised actuarial policies that are aimed at returning the CalPERS system to fully-funded status within 30 years. These new policies include a rate-smoothing method with a 30-year fixed amortization period for gains and losses (rather than the current 30-year rolling amortization method). CalPERS delayed the implementation of the new policy until fiscal year 2015-16, and as described below further revised these policies in subsequent year.

Also, on February 20, 2014, the CalPERS Board approved new demographic assumptions reflecting (i) expected longer life spans of public agency employees and related increases in costs for the CalPERS system and (ii) trends of higher rates of retirement for certain public agency employee classes, including police officers and firefighters. The increase in liability due to the new assumptions will be amortized over 20 years with increases phased in over five years, beginning with the contribution requirement for fiscal year 2016-17.

The CalPERS Board is required to undertake an experience study every four years under its Actuarial Assumptions Policy and State law. As a result of the most recent experience study, on December 20, 2017, the CalPERS Board approved new actuarial assumptions, including (i) lowering the inflation rate to 2.625% for the June 30, 2017 actuarial valuation and to 2.50% for the June 30, 2018 actuarial valuation, (ii) lowering the payroll growth rate to 2.875% for the June 30, 2017 actuarial valuation and 2.75% for the June 30, 2018 actuarial valuation, and (iii) certain changes to demographic assumptions relating to the salary scale for most constituent groups, and modifications to the morality, retirement, and disability retirement rates.

On February 14, 2018, the CalPERS Board approved a new actuarial amortization policy with an effective date for actuarial valuations beginning on or after June 30, 2019, which includes (i) shortening the period over which actuarial gains and losses are amortized from 30 years to 20 years, (ii) requiring that amortization payments for all unfunded accrued liability bases established after the effective date be computed to remain a level dollar amount throughout the amortization period, (iii) removing the 5-year ramp-up and ramp-down on unfunded accrued liability bases attributable to assumptions changes and noninvestment gains/losses established on or after the effective date and (iv) removing the 5-year ramp-down on investment gains/losses established after the effective date. While CalPERS expects that reducing the amortization period for certain sources of unfunded liability will increase future average funding ratios, provide faster recovery of funded status following market downturns, decrease expected cumulative contributions, and mitigate concerns over intergenerational equity, such changes may result in increases in future employer contribution rates.

There can be no assurances that CalPERS will not make additional changes to its actuarial assumptions and policies in the future impacting upon the City's required funding contributions and its unfunded accrued liability.

#### California Public Employees' Pension Reform Act (PEPRA).

On September 12, 2012, the Governor signed Assembly Bills 340 and 197, which enacted the California Public Employees' Pension Reform Act or PEPRA. Among other things, PEPRA created a new benefit tier for public employees hired on or after January 1, 2013, who are defined as "new members." PEPRA plans adopted by the City were 2% at 62 for the general member benefit formula and 2.7% at 57 benefit formula for safety and probation members. PEPRA requires all new members to have an initial contribution rate of at least 50% of the normal cost rate or the current contribution rate of similarly situated employees, whichever is greater. The normal contribution rate, as calculated by the

CalPERS' actuary covers the cost of a current year of service. PEPRAs prohibits employers from paying any of PEPRAs members' contribution on the employees' behalf, with certain exceptions. PEPRAs also limits the types of compensation that can be used and caps the total amount of compensation that can be used to calculate a pension. The City believes that the provisions of PEPRAs will help control its pension benefit liabilities in the future.

#### GASB Statement Nos. 67 and 68.

On June 25, 2012, GASB approved Statements Nos. 67 and 68 ("Statements") with respect to pension accounting and financial reporting standards for state and local governments and pension plans. The new Statements, No. 67 and No. 68, replace GASB Statement No. 27 and most of Statements No. 25 and No. 50. The changes impact the accounting treatment of pension plans in which state and local governments participate. Major changes include: (1) the inclusion of unfunded pension liabilities on the government's balance sheet (previously, such unfunded liabilities were typically included as notes to the government's financial statements); (2) more components of full pension costs being shown as expenses regardless of actual contribution levels; (3) lower actuarial discount rates being required to be used for underfunded plans in certain cases for purposes of the financial statements; (4) closed amortization periods for unfunded liabilities being required to be used for certain purposes of the financial statements; and (5) the difference between expected and actual investment returns being recognized over a closed five-year smoothing period. The reporting requirements for government employers, including the City, took effect for the fiscal year beginning July 1, 2014, and affect reporting by the City for both the CalPERS plans and FPRS.

#### Annual Payments and Contribution Rates

Under GASB 27, an employer reports an annual pension cost ("APC") equal to the annual required contribution ("ARC") plus an adjustment for the cumulative difference between the APC and the employer's actual plan contributions for the year. The cumulative difference is called the net pension obligation. In order to calculate the dollar value of the ARC for inclusion in the financial statements, the applicable contribution rate is multiplied by the payroll of the covered employees that were paid during the relevant period.

Effective for financial statements beginning after July 1, 2014, GASB 68 replaces GASB 27. Hence, the annual report issued by CalPERS in 2015 will reflect GASB 68. GASB 68 will require additional reporting that CalPERS is intending to provide upon request by its members.

Set forth below is a history of the City's contributions to the CalPERS, including projected payments from fiscal year 2007-08 through fiscal year 2024-25. The City contributed 100% of its APC in each completed year shown. The City estimates that approximately 65% of the payments to these plans is made from the City's General Fund. The City's contributions shown below do not include the employee pick up in prior years. See "Employee Relations."

Also set forth below are the historic and projected contribution rates to the CalPERS plans. The projected contribution rates for fiscal year 2019-20 through 2024-25 are provided by CalPERS in its July 2018 report. The CalPERS projections assumed that all actuarial assumptions (including among other assumptions, a 7.25% return in fiscal year 2019-20 and a 7% return for the remaining year projection period) will be realized and that no future changes to assumptions, contributions, benefits or funding will occur during the projection period. The July 2018 CalPERS Report states that due to the adopted changes in the CalPERS Discount Rate effective for the next valuation in combination with the five year phase-in ramp (as discussed above), the increase in the required contributions are expected to continue for six

years from fiscal year 2019-20 through fiscal year 2024-25. A complete explanation of the CalPERS assumptions can be found in the 2017 Actuarial Valuation.

In July 2018, CalPERS reported a preliminary 8.6% net return on investments for the fiscal year ended June 30, 2018. In the two prior fiscal years ended June 30, 2017 and 2016, the reported return was 11.2% and 0.6%, respectively. CalPERS weighted average investment returns for the past five, ten and twenty years ending June 30, 2017 are 8.8%, 4.4% and 6.6%, respectively. As discussed above, the CalPERS Board voted in December 2016 to phase in an assumed 7% rate of return by fiscal year 2019-20. CalPERS has publicly indicated that it expects actual investment returns in the next ten years to be less than the 7% assumed rate of return. Actual investment returns lower than the actuarially assumed level (in and of itself) will result in decreased funding status and increased required contribution by the City.

**TABLE A-10**  
**ANNUAL PAYMENTS TO RETIREMENT PLANS BY CITY**  
**(\$ in Thousands)**

| <u>Fiscal Year<br/>Ended June 30</u> | <u>CalPERS—<br/>Misc Employees<br/>Total Contribution</u> | <u>CalPERS-<br/>General Fund<br/>Contribution<br/>Misc<br/>Employees<sup>(2)</sup></u> | <u>CalPERS—<br/>Safety<br/>Employees Total<br/>Contribution</u> | <u>CalPERS-<br/>General Fund<br/>Contribution<br/>Safety<br/>Employees</u> |
|--------------------------------------|---|--|---|--|
| 2006                                 | \$ 7,402  | \$2,887  | \$7,402   | \$6,728  |
| 2007                                 | 10,056  | 3,295  | 10,056  | 8,498  |
| 2008                                 | 12,228  | 3,435  | 9,283   | 9,097  |
| 2009                                 | 12,580  | 3,768  | 9,916   | 9,718  |
| 2010                                 | 12,566  | 3,765  | 10,459  | 10,250   |
| 2011                                 | 12,518  | 4,381  | 10,346  | 10,139   |
| 2012                                 | 16,744  | 5,860  | 11,370  | 11,143   |
| 2013                                 | 17,439  | 5,929  | 10,993  | 10,773   |
| 2014                                 | 17,909  | 6,089  | 11,176  | 10,952   |
| 2015                                 | 18,552  | 6,308  | 10,533  | 10,322   |
| 2016                                 | 20,751  | 7,055  | 11,641  | 11,409   |
| 2017                                 | 25,894  | 8,804  | 15,724  | 15,410   |
| 2018                                 | 27,999  | 9,520  | 16,783  | 16,446   |
| 2019 <sup>(1)</sup>                  | 31,777  | 10,486   | 19,125  | 18,551   |
| 2020 <sup>(1)</sup>                  | 36,040  | 11,893   | 21,856  | 21,200   |
| 2021 <sup>(1)</sup>                  | 39,370  | 12,992   | 24,193  | 23,467   |
| 2022 <sup>(1)</sup>                  | 42,468  | 14,014   | 26,306  | 25,517   |
| 2023 <sup>(1)</sup>                  | 45,238  | 14,969   | 27,779  | 26,946   |
| 2024 <sup>(1)</sup>                  | 47,019  | 15,516   | 29,089  | 28,213   |
| 2025 <sup>(1)</sup>                  | 49,044  | 16,184   | 25,905  | 25,128   |

(1) Projected annual payment to retirement plan based on projected contribution rates on CalPERS plus unfunded Accrual Liability in July 2018 CalPERS Report.

(2) Historic Payment are net of City "pick-up". See "Employee Relations" herein.

Source: City of Pasadena, Department of Finance.

**TABLE A-11  
ANNUAL CONTRIBUTION RATES  
TO CALPERS RETIREMENT PLANS BY CITY**

| Fiscal Year<br>Ended June 30 | CalPERS Misc.<br>Employees | CalPERS Misc.<br>UAL\$      | CalPERS Safety<br>Employees | CalPers Safety<br>UAL \$   |
|------------------------------|----------------------------|-----------------------------|-----------------------------|----------------------------|
| 2011                         | 11.4%                      | -                           | 23.6%                       | -                          |
| 2012                         | 15.5                       | -                           | 26.6                        | -                          |
| 2013                         | 16.2                       | -                           | 25.6                        | -                          |
| 2014                         | 17.4                       | -                           | 27.2                        | -                          |
| 2015                         | 19.2                       | -                           | 29.3                        | -                          |
| 2016                         | 21.1                       | -                           | 31.8                        | -                          |
| 2017                         | 22.8                       | -                           | 35.1                        | -                          |
| 2018 <sup>(1)</sup>          | 7.9 <sup>(3)</sup>         | \$18,895,540 <sup>(4)</sup> | 17.1 <sup>(5)</sup>         | \$9,230,863 <sup>(6)</sup> |
| 2019 <sup>(2)</sup>          | 8.3 <sup>(3)</sup>         | 21,920,840 <sup>(4)</sup>   | 17.9 <sup>(5)</sup>         | 10,953,259 <sup>(6)</sup>  |
| 2020 <sup>(2)</sup>          | 9.2 <sup>(3)</sup>         | 25,084,564 <sup>(4)</sup>   | 18.9 <sup>(5)</sup>         | 12,900,362 <sup>(6)</sup>  |
| 2021 <sup>(2)</sup>          | 10.0 <sup>(3)</sup>        | 27,224,000 <sup>(4)</sup>   | 20.2 <sup>(5)</sup>         | 14,386,000 <sup>(6)</sup>  |
| 2022 <sup>(2)</sup>          | 10.0 <sup>(3)</sup>        | 29,988,000 <sup>(4)</sup>   | 20.2 <sup>(5)</sup>         | 16,229,000 <sup>(6)</sup>  |
| 2023 <sup>(2)</sup>          | 10.0 <sup>(3)</sup>        | 32,415,000 <sup>(4)</sup>   | 20.2 <sup>(5)</sup>         | 17,425,000 <sup>(6)</sup>  |

- (1) Projected annual payment to retirement plan based on projected contribution rates on CalPERS actuarial report dated July 2017. Does not include City "Pick Up". See "Employee Relations" herein.
- (2) Projected annual payment to retirement plan based on projected contribution rates on CalPERS plus Unfunded Accrued Liability (UAL) actuarial report dated July 2018 Report
- (3) Projected Normal Contribution Rate for Miscellaneous
- (4) Amount of the Amortized Unfunded Actuarial Liability for Miscellaneous
- (5) Project Normal Contribution Rate for Safety
- (6) Amount of the Amortized Unfunded Actuarial Liability for Safety
- Source: City of Pasadena, Department of Finance.

**Funding Status of Plans.** Based on the 2017 Actuarial Valuation (which is the most recent actuarial valuation available), CalPERS reported an unfunded liability, as of June 30, 2017, of \$294.4 million for the City's miscellaneous employees as compared to an underfunding of \$306.9 million the previous year and an unfunded liability of \$165.7 million for safety employees as compared to \$163.4 million the previous year. Based upon this report, the City reported that its CalPERS obligation had a funded ratio of 72.6% based upon the market value of plan assets with respect to the City's miscellaneous employees and a funded ratio of 72.6% based upon the market value of plan assets for safety employees. As noted above, CalPERS has changed its discount rate assumptions. The funding status as of June 30, 2017 was calculated using a CalPERS Discount Rate of 7.25%. Also, as noted above CalPERS has changed its amortization and smoothing policies in 2013. Beginning with the June 30, 2015 Actuarial Valuations (that set fiscal year 2015-16 CalPERS contribution rates), CalPERS no longer uses an actuarial value of assets and instead employs an amortization and rate smoothing policy that will account for all gains and losses over a fixed 30-year period with the increases and decreases in the rate phased over a 5-year period. Also as noted above, CalPERS has changed smoothing policies (shortening the period from 30 to 20-years) for valuations on and after June 30, 2019.

The City provides pension benefits for employees not covered by CalPERS or FPRS through the Public Agency Retirement System ("PARS"), a defined contribution plan. In a defined contribution plan, benefits depend solely on amounts contributed to the plan plus investment earnings. Employees are

eligible to participate from the date of employment. As of December 31, 2012, the covered employees are required to contribute the full 7.5% of their earnings. Prior to such date, the City contributed an amount equal to 4.0% of the employee's earnings and the covered employee contributed 3.5%. The City's payroll for employees covered by PARS for fiscal year 2017-18 was \$4,413,374. The covered employees made the total required 7.5% contributions of \$331,003.

The tables below summarize the funded status of the City's retirement plans as of the most recent actuarial valuation dates. Additional information regarding the City's employee retirement plans, annual pension costs, the funding status thereof and significant accounting policies related thereto is set forth in Note 18 to the City's Comprehensive Annual Financial Report for the year ended June 30, 2018, and in the CalPERS reports to the City, which can be accessed at [www.cityofpasadena.net/Finance/Comprehensive\\_Annual\\_Financial\\_Report](http://www.cityofpasadena.net/Finance/Comprehensive_Annual_Financial_Report).

**TABLE A-12  
CITY OF PASADENA  
RETIREMENT PLAN TREND INFORMATION  
(\$ in thousands)**

**CALPERS - MISCELLANEOUS EMPLOYEES**

| Valuation Date<br>(June 30) | Actuarial<br>Accrued<br>Liability<br>(AAL) –<br>Entry Age | Actuarial<br>Asset Value* | (Overfunded)<br>Unfunded<br>AAL | Funded Ratio* |                 | Annual<br>Covered<br>Payroll | (Overfunded)<br>Unfunded<br>AAL as a %<br>of Covered<br>Payroll |
|-----------------------------|---|---------------------------|---------------------------------|---------------|-----------------|------------------------------|---|
|                             |   |                           |                                 | AVA           | Market<br>Value |                              |   |
| 2007                        | \$585,908   | \$539,717                 | \$46,191                        | 92.1%         | 106.8%          | \$102,135                    | 45.2%   |
| 2008                        | 638,095   | 579,068                   | 59,027                          | 90.7          | 92.6            | 111,186                      | 53.1  |
| 2009                        | 732,713   | 607,710                   | 125,003                         | 82.9          | 60.6            | 116,952                      | 106.9   |
| 2010                        | 773,303   | 635,455                   | 137,847                         | 82.2          | 64.4            | 115,289                      | 119.6   |
| 2011                        | 819,327   | 666,290                   | 153,037                         | 81.3          | 72.3            | 110,571                      | 138.4   |
| 2012                        | 852,217   | 695,108                   | 157,109                         | 81.6          | 68.0            | 105,201                      | 149.3   |
| 2013                        | 882,572   | 641,333                   | 241,239                         | 72.7*         | 72.7*           | 104,378                      | 231.1   |
| 2014                        | 956,142   | 737,836                   | 218,306                         | 77.2          | 77.2            | 103,617                      | 210.7   |
| 2015                        | 982,774   | 734,946                   | 247,827                         | 74.8          | 74.8            | 104,325                      | 237.5   |
| 2016                        | 1,026,336   | 719,443                   | 306,892                         | 70.1          | 70.1            | 107,587                      | 285.2   |
| 2017                        | 1,074,696   | 780,285                   | 294,410                         | 72.6          | 72.6            | 108,837                      | 270.5   |

(\*) Beginning with the June 30, 2013 actuarial valuation, the actuarial value of assets equals the market value of assets pursuant to CalPERS' Direct Rate Smoothing Policy.

Source: CalPERS actuarial valuations on the reporting date for each fiscal period

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**TABLE A-13**  
**CALPERS - SAFETY EMPLOYEES**

| Valuation Date<br>(June 30) | Actuarial<br>Accrued<br>Liability<br>(AAL) –<br>Entry Age | Actuarial<br>Asset Value | (Overfunded)<br>Unfunded<br>AAL | Funded Ratio |                 | Annual<br>Covered<br>Payroll | (Overfunded)<br>Unfunded<br>AAL as a % of<br>Covered<br>Payroll |
|-----------------------------|---|--------------------------|---------------------------------|--------------|-----------------|------------------------------|---|
|                             |   |                          |                                 | AVA          | Market<br>Value |                              |   |
| 2007                        | \$285,822   | \$238,041                | \$47,781                        | 83.3%        | 95.4%           | 40,138                       | 119.0%  |
| 2008                        | 317,140   | 262,817                  | 54,323                          | 82.9         | 83.5            | 42,996                       | 126.3   |
| 2009                        | 352,610   | 283,880                  | 68,730                          | 80.5         | 58.7            | 45,516                       | 151.0   |
| 2010                        | 373,670   | 307,056                  | 66,614                          | 82.2         | 64.7            | 45,643                       | 145.9   |
| 2011                        | 403,626   | 331,603                  | 72,023                          | 82.2         | 73.6            | 44,058                       | 163.5   |
| 2012                        | 429,718   | 355,015                  | 74,703                          | 82.6         | 69.5            | 42,612                       | 175.3   |
| 2013                        | 457,271   | 338,082                  | 119,189                         | 73.9*        | 73.9*           | 41,383                       | 288.0   |
| 2014                        | 501,785   | 395,729                  | 106,057                         | 78.9         | 78.9            | 41,014                       | 258.6   |
| 2015                        | 530,414   | 400,797                  | 129,617                         | 75.6         | 75.6            | 40,318                       | 321.5   |
| 2016                        | 561,743   | 398,312                  | 163,432                         | 70.9         | 70.9            | 41,688                       | 392.0   |
| 2017                        | 604,467   | 438,683                  | 165,784                         | 72.6         | 72.6            | 43,504                       | 381.1   |

(\*) Beginning with the June 30, 2013 actuarial valuation, the actuarial value of assets equals the market value of assets pursuant to CalPERS' Direct Rate Smoothing Policy.

Source: CalPERS actuarial valuations on the reporting date for each fiscal period

**TABLE A-14**  
**FPRS**

| Valuation Date<br>(June 30) | Actuarial<br>Accrued<br>Liability<br>(AAL) –<br>Entry Age | Actuarial<br>Asset Value | (Overfunded)<br>Unfunded<br>AAL | Funded<br>Ratio | Annual<br>Covered<br>Payroll | (Overfunded)<br>Unfunded<br>AAL as a % of<br>Covered<br>Payroll |
|-----------------------------|---|--------------------------|---------------------------------|-----------------|------------------------------|---|
|                             |   |                          |                                 |                 |                              |   |
| 2008                        | 178,748   | 131,321                  | 47,427                          | 73.5            | 179                          | 26.5  |
| 2009                        | 177,803   | 119,551                  | 58,252                          | 67.2            | -                            | N/A   |
| 2010                        | 166,096   | 109,740                  | 56,356                          | 66.1            | -                            | N/A   |
| 2011                        | 179,284   | 105,811                  | 73,473                          | 59.0            | -                            | N/A   |
| 2012                        | 174,249   | 136,272                  | 39,977                          | 78.2            | -                            | N/A   |
| 2013                        | 168,781   | 127,985                  | 40,796                          | 75.8            | -                            | N/A   |
| 2014                        | 159,516   | 130,183                  | 29,333                          | 81.6            | -                            | N/A   |
| 2015                        | 162,154   | 129,984                  | 32,170                          | 80.2            | -                            | N/A   |
| 2016                        | 155,824   | 125,479                  | 30,345                          | 80.5            | -                            | N/A   |
| 2017                        | 148,454   | 122,433                  | 26,021                          | 82.5            | -                            | N/A   |

Source: FPRS actuarial valuations through June 30, 2017.

**Post-Retirement Medical Benefits (OPEB)**

The City of Pasadena provides a subsidy to retirees of the City who are members of CalPERS or FPRS. Two different levels of subsidy toward the purchase of medical insurance from CalPERS under the Public Employees' Medical and Hospital Care Act (PEMHCA) are offered. Benefit provisions are established and amended through negotiations between the City and the respective unions.

The City's current contribution requirements have been established at the individual retiree levels of \$133.00 or \$79.80 per month depending on bargaining unit membership and policy enacted by CalPERS pursuant to State law. These minimum requirements are established by CalPERS and adjusted annually. The prior contribution requirements were \$128.00 or \$70.40 per month depending on the bargaining unit or the unrepresented group of which the employee was a member. The City has historically funded these post-retirement health care benefits on a "pay-as-you-go" basis. For fiscal year 2017-18, the City's benefit payments totaled \$2,391,366.

Commencing in fiscal year 2018-19, the City's OPEB liability is calculated based on an amount actuarially determined in accordance with the parameters of GASB Statement 75. Based upon the actuarial valuation report as of June 30, 2018, the actuary has projected a required "Actuarially Determined Contribution" of \$6,882,451, which represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and to amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed twenty years. Under GASB 75, unfunded or partially funded OPEB plans must use a discount rate assumption tied to the index for 20-year, tax exempt general obligation bonds.

The actuarial valuation uses, among other assumptions, a 3.50% discount rate and an inflation rate of 2.75%. The City's liability will also be affected by health care costs. The actuarial valuation assumes that medical costs will rise in 2020 by 6.5% (for the PPO plan) and 6.0% (for the HMO plan), declining to 5.0% for both plans after 2023. For fiscal year 2018-19, the actuary has assumed that the City will make the same level of benefit payments as in fiscal 2017-18 (\$2,391,366), representing 34.7% of the Actuarially Determined Contribution for fiscal year 2018-19. From July 1, 2017 through June 30, 2018, the City's total OPEB liability grew from \$70,015,403 to \$72,261,944.

Other than the pension benefits from the applicable retirement system and as described in this section, the City does not provide medical or other post-retirement benefits to its employees

## **Insurance**

The City funds a self-insured and self-administered program for workers' compensation claims exposures and general liability claims. Liability claims, losses and expenses paid averaged about \$1,488,281 per year for the past 10 years and, when existing "reserves" are added, averaged around \$1,789,991 in liability exposure per year over the past 10 years. The City anticipates these expenses annually and includes funding for them in its operating budget. The City carries excess liability coverage, with limits of \$25 million, with a self-insured retention of \$3 million dollars. The amount of self-insured liability claim expenditures and remaining reserves with respect to claims made in each of fiscal years 2008-09 through 2017-18 are reflected in the following table:

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**TABLE A-15**  
**CITY OF PASADENA**  
**LIABILITY CLAIM EXPENDITURES AND REMAINING RESERVES**  
**Fiscal Years 2008-09 through 2017-18**

| <b>Fiscal Year<sup>(1)</sup><br/>Ended June 30,</b> | <b>Loss Paid</b> | <b>Expense Paid</b> | <b>Total Paid</b> | <b>Remaining<br/>Reserves for<br/>Unpaid Claims<sup>(1)</sup></b> |
|---|------------------|---------------------|-------------------|---|
| 2009  | 3,097,197        | 471,126             | 3,568,323         | 1,025,000   |
| 2010  | 639,876          | 24,824              | 664,670           | 2,565,000   |
| 2011  | 897,721          | 10,283              | 908,004           | 2,111,700   |
| 2012  | 2,003,021        | 366,982             | 2,370,004         | 5,295,579   |
| 2013  | 166,779          | 0                   | 166,779           | 968,501   |
| 2014  | 338,387          | 40,795              | 379,182           | 3,922,732   |
| 2015  | 32,610           | 0                   | 32,610            | 1,184,613   |
| 2016  | 97,036           | 0                   | 97,036            | 281,494   |
| 2017  | 56,666           | 55,435              | 111,041           | 264,281   |
| 2018  | 1,626,665        | 141,460             | 1,768,126         | 1,570,320   |

<sup>(1)</sup> Reserves reflect fiscal year in which claim occurred. Payments reflect money spent on all claims during a fiscal year.

Source: City of Pasadena, Department of Finance.

The City maintains commercial property insurance on all City-owned buildings of an insurable nature (unless lease agreements require the occupant to carry such insurance) with current basic limits of \$250,000,000, subject to various application sub-limits and deductible. Policy coverage excludes earth movement, including earthquake, nuclear hazard and military action. The City does not currently maintain separate earthquake coverage under another insurance policy. The City maintains boiler & machinery, and equipment breakdown insurance, on specified types of equipment/property, with limits of \$100,000,000 for each policy, subject to variety of applicable sub-limits and deductibles. In addition, the City purchases Property Terrorism/NCBR, Chemical, Biological and Radiological Terrorism & Sabotage coverage, along with pollution, storage tank, and cyber liability coverage, with limits of \$1,000,000 for the pollution, storage tank and cyber liability policies, subject to variety of applicable sub-limits and deductibles.

No assurances can be given that the City's security and operational control measures will ensure against any and all cybersecurity threats and attacks. A cybersecurity incident or breach could damage the City's Information Technology systems and cause disruption to City services and operations. The cost of any such disruption or remedying damage caused by future attacks could be substantial. The City will continue to assess cyber threats and protect its data and systems.

### **Stormwater Improvements**

The Clean Water Act ("CWA") regulates the discharges of pollutants into the waters of the United States by establishing quality standards. The CWA requires states to identify "impaired" water bodies and to develop a Total Maximum Daily Load ("TMDL") for each pollutant contributing to impairment. The CWA makes it unlawful to discharge any pollutant into waters protected by the CWA, unless a permit is first obtained. The U.S. Environmental Protection Agency's ("EPA's") National Pollutant Discharge Elimination System ("NPDES") permit program controls these discharges. With



respect to the City, the EPA has delegated permitting and direct enforcement under its NPDES program to the Los Angeles Regional Water Quality Control Board (“LARWQCB”).

On November 8, 2012, the LARWQCB adopted the National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Permit (“MS4 permit”) Order No. R4-2012-0175, which became effective on December 28, 2012. The MS4 permit establishes the TMDL of pollutants that can be discharged into water while still meeting water quality standards and objectives. The MS4 covers 84 of the 88 public agencies in the Los Angeles County area, including the City, the Los Angeles County Flood Control District and the County, that are responsible for compliance with the MS4 permit. The City is currently subject to four TMDLs in the Los Angeles River and Los Angeles/Long Beach Harbors. The City is likely to receive more TMDLs in the coming years. The TMDL compliance deadlines spread out through 2037.

The MS4 permit allows for the option to work together to develop and implement an Enhanced Watershed Management Program (“EWMP”) to address permit and TMDL requirements. The MS4 permit has safe harbor provisions, whereby the City was deemed in compliance with the TMDLs during the development of the EWMP, provided that all requirements and deadlines related to the EWMP development were met. As the EWMP crosses multiple local jurisdictions, the City collaborated with other participating agencies on the development of the EWMP. In June 2015, the EWMP was submitted in accordance with the required schedule, and it was approved by the LARWQCB on April 20, 2016.

Non-compliance with the MS4 permit and applicable TMDLs could result in enforcement action by the LARWQCB, civil penalties and fines, and potentially third-party lawsuits. For example, the LARWQCB may levy administrative fines of up to \$10,000 per pollutant per day of violation. In addition, the State can impose mandatory minimum penalties of \$3,000 per pollutant per day of violation and seek civil liabilities of up to \$25,000 per pollutant per day. Additionally, private citizens or EPA can pursue penalties if the LARWQCB does not enforce on a violation. The City is responsible for its own fines, penalties and costs incurred as a result of non-compliance.

The City is currently in substantial compliance with the MS4 permit, but requires significant funding for capital, and operation and maintenance costs to implement the EWMPs to meet the TMDL compliance deadlines contained in the MS4 permit. The City has partially funded the monitoring and reporting programs required by the MS4 permit. The City’s share of the costs of the approved EWMP projects required to meet the TMDLs over the next 20 years is preliminarily estimated by the LARWQCB to be approximately \$220 million. Estimating project costs over such a long time period is inherently difficult, and no assurance can be provided by the City that LARWQCB’s approved projections are accurate. Without other revenue sources, these costs would be obligations of the City’s General Fund and could have a material adverse impact on the General Fund.

The Fiscal Year 2018-19 Adopted Budget contains \$750,000 for stormwater expenditures.

However, at the time of budget preparation some implementation costs were unavailable. Therefore, if a mid-year adjustment to funding were needed, it would be addressed through the City’s clean-up report process.

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**APPENDIX B**

**AUDITED FINANCIAL STATEMENTS OF PASADENA  
WATER AND POWER ENTERPRISE FUNDS  
FOR THE FISCAL YEAR ENDED JUNE 30, 2018**

## APPENDIX C

### BOOK-ENTRY SYSTEM

The description that follows of the procedures and recordkeeping with respect to beneficial ownership interests in the 2019A Bonds, payment of principal of and interest on the 2019A Bonds to Participants or Beneficial Owners, confirmation and transfer of beneficial ownership interests in the 2019A Bonds, and other 2019A Bonds-related transactions by and between DTC, Participants and Beneficial Owners, is based on information furnished by DTC which the City believes to be reliable, but the City takes no responsibility for the completeness or accuracy thereof.

The Depository Trust Company (“DTC”), New York, New York, will act as securities depository for the 2019A Bonds (the “2019A Bonds”). The 2019A Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC’s partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered security bond will be issued for each maturity of the 2019A Bonds, each in the aggregate principal amount of such maturity, and will be deposited with DTC.

DTC, the world’s largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a “banking organization” within the meaning of the New York Banking Law, a member of the Federal Reserve System, a “clearing corporation” within the meaning of the New York Uniform Commercial Code, and a “clearing agency” registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC’s participants (“Direct Participants”) deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants’ accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (“DTCC”). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (“Indirect Participants”). DTC has a Standard & Poor’s rating of AA+. The DTC Rules applicable to DTC’s Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com). The information on such website is not incorporated herein by reference.

Purchases of the 2019A Bonds under the DTC book-entry system must be made by or through Direct Participants, which will receive a credit for the 2019A Bonds on DTC’s records. The ownership interest of each actual purchaser of each 2019A Bond (“Beneficial Owner”) is in turn to be recorded on the Direct and Indirect Participants’ records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the 2019A Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the 2019A Bonds, except in the event that use of the book-entry system for the 2019A Bonds is discontinued.

To facilitate subsequent transfers, all 2019A Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of 2019A Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the 2019A Bonds. DTC's records reflect only the identity of the Direct Participants to whose accounts such 2019A Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of the 2019A Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the 2019A Bonds, such as redemptions, defaults and proposed amendments to the Fiscal Agent Agreement. For example, Beneficial Owners of 2019A Bonds may wish to ascertain that the nominee holding the 2019A Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the Bond Registrar and request that copies of notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the 2019A Bonds of a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor such other DTC nominee) will consent or vote with respect to 2019A Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the City as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts 2019A Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal, redemption price and interest payments on the 2019A Bonds will be made to Cede & Co. or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the City or the Fiscal Agent, on each payment date in accordance with their respective holdings shown on DTC's records. Payments by Direct and Indirect Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Fiscal Agent or the City, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal, redemption price and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the City or the Fiscal Agent, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to Beneficial Owners is the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as security depository with respect to the 2019A Bonds at any time by giving reasonable notice to the City or the Fiscal Agent. Under such circumstances, in the event that a successor depository is not obtained, the 2019A Bonds are required to be printed and delivered.

The City may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, definitive 2019A Bonds will be printed and delivered.

## APPENDIX D

### SUMMARY OF CERTAIN PROVISIONS OF THE FISCAL AGENT AGREEMENT

*Certain provisions of the Fiscal Agent Agreement are summarized below. The summary does not purport to be complete or definitive and is qualified in its entirety by reference to the full terms of the Fiscal Agent Agreement.*

#### **Definitions**

**“Accreted Value”** means, with respect to any Capital Appreciation Indebtedness or any Convertible Capital Appreciation Indebtedness, the amount representing principal and interest on (i) such Capital Appreciation Indebtedness at or prior to the maturity date thereof or (ii) such Convertible Capital Appreciation Indebtedness at and prior to the expiration of the Accretion Period thereof, being, in either case, as of any date of computation an amount equal to the principal amount of such Capital Appreciation Indebtedness or Convertible Capital Appreciation Indebtedness at its initial offering plus the interest accrued thereon from the date of delivery thereof to the dates specified in the Supplemental Fiscal Agent Agreement or other document providing for such Capital Appreciation Indebtedness or Convertible Capital Appreciation Bond, such interest to accrue at the rate per annum established as provided in a Supplemental Fiscal Agent Agreement or other document providing for such Capital Appreciation Indebtedness or Convertible Capital Appreciation Indebtedness, compounded periodically, plus, with respect to matters relating to the payment upon redemption of such Capital Appreciation Indebtedness or Convertible Capital Appreciation Indebtedness, if such date of computation shall not be one of such specified dates, the ratable portion of the difference between the Accreted Value as of the immediately preceding such specified date (or the date of delivery thereof if the date of computation is prior to the first such specified date succeeding the date of delivery) and the Accreted Value as of the immediately succeeding such specified date, calculated based on the assumption that the Accreted Value accrues during any period in equal daily amounts on the basis of a year of twelve 30-day months.

**“Accretion Period”** means, with respect to any particular Convertible Capital Appreciation Indebtedness, the period from the date of delivery thereof through the date specified in the Supplemental Fiscal Agent Agreement or other document providing for such Convertible Capital Appreciation Indebtedness (which date must be prior to the maturity date thereof), after which interest accruing on such Convertible Capital Appreciation Indebtedness will be payable semiannually, with the first such payment date being the applicable interest payment date immediately succeeding the expiration of the Accretion Period.

**“Annual Debt Service”** means for any Fiscal Year the aggregate amount of principal and interest on all Bonds and Parity Obligations becoming due and payable during such Fiscal Year calculated using the principles and assumptions set forth under the definition of Debt Service.

**“Assumed Debt Service”** means for any Fiscal Year the aggregate amount of principal and interest which would be payable on all Bonds and Parity Obligations if each Excluded Principal Payment were amortized for a period specified by the City (but no longer than thirty (30) years from the date of the issuance of the Bonds or Parity Obligations to which such Excluded Principal Payment relates) on a substantially level debt service basis, calculated based on a fixed interest rate equal to the rate at which the City could borrow for such period, as certified by a certificate of a financial advisor or investment banker delivered to the Fiscal Agent, who may rely conclusively on such certificate, within thirty (30) days of the date of calculation.

**“Authorized City Representative”** means any officer or agent of the City duly authorized to perform any function required of such person under the Fiscal Agent Agreement.

**“Average Annual Debt Service”** means, as of any date of calculation, an amount equal to (i) the Debt Service remaining to be paid on all Bonds and Parity Obligations on the date of calculation, divided by (ii) the number of Fiscal Years (or partial years) commencing with the Fiscal Year of the date of calculation to and including the Fiscal Year which includes the first date on which none of such Bonds or Parity Obligations remains Outstanding. Such interest and principal will be calculated on the assumption that no Bonds or Parity Obligations at the date of calculation will cease to be Outstanding except by reason of the payment when due of each principal installment (including mandatory sinking account payments).

**“Bond Obligation”** means, as of any given date of calculation, (1) with respect to any Outstanding Bond or Parity Obligation which is Current Interest Indebtedness or Convertible Capital Appreciation Indebtedness after the expiration of the Accretion Period thereof, the principal amount thereof, and (2) with respect to any Outstanding Bond or Parity Obligations which is Capital Appreciation Indebtedness or Convertible Capital Appreciation Indebtedness at and prior to the expiration of the Accretion Period thereof, the Accreted Value thereof.

**“Bonds”** means the City of Pasadena, California Electric Revenue Bonds, authorized by, and at any time Outstanding pursuant to, the Fiscal Agent Agreement and any Supplemental Fiscal Agent Agreement.

**“Business Day”** means any day other than (1) a Saturday, Sunday, or a day on which banking institutions in the State or the State of New York are authorized or obligated by law or executive order to be closed, and (2) for purposes of payments and other actions relating to Bonds secured by a letter of credit, a day upon which commercial banks in the city in which is located the office of the issuing bank at which demands for payment under the letter of credit are to be presented are authorized or obligated by law or executive order to be closed.

**“Capital Appreciation Indebtedness”** means Bonds and Parity Obligations on which interest is compounded and paid less frequently than annually (not constituting Convertible Capital Appreciation Indebtedness).

**“Certificate,” “Statement,” “Request,” “Requisition”** and **“Order”** of the City mean, respectively, a written certificate, statement, request, requisition or order signed in the name of the City by an Authorized City Representative or any other person authorized by an Authorized City Representative to execute such instruments.

**“Charter”** means the Charter of the City, as it may be amended from time to time.

**“Code”** means the Internal Revenue Code of 1986, and the regulations issued thereunder, as the same may be amended from time to time, and any, successor provisions of law. Reference to a particular section of the Code will be deemed to be a reference to any successor to any such section.

**“Continuing Disclosure Agreement”** means any Continuing Disclosure Agreement relating to any Series of Bonds.

**“Convertible Capital Appreciation Indebtedness”** means any Bonds and Parity Obligations as to which interest accruing is not paid prior to the expiration of the specified Accretion Period and, prior thereto, is compounded periodically on certain designated dates.

**“Costs of Issuance”** means, with respect to each Series of Bonds, all items of expense directly or indirectly payable by or reimbursable to the City and reasonably related to the authorization, issuance, sale and delivery of each Series of Bonds, including but not limited to advertising and printing costs, costs of preparation and reproduction of documents, legal fees and charges, fees and disbursements of consultants and professionals, rating agency fees, fees and charges for preparation, execution, transportation and safekeeping of each Series of Bonds and any other cost, charge or fee in connection with the original issuance of each Series of Bonds.

**“Current Interest Indebtedness”** means the Bonds and Parity Obligations on which interest is paid at least annually.

**“Debt Service”** means the amount of principal and interest becoming due and payable on all Bonds and Parity Obligations; provided, however, that for the purposes of computing Debt Service:

(a) Excluded Principal Payments will be excluded from such calculation and Assumed Debt Service will be included in such calculation;

(b) if the Bonds or Parity Obligations are Variable Rate Indebtedness, the interest rate thereon for periods when the actual interest rate cannot yet be determined will be assumed to be equal to the rate that is ninety percent (90%) of the average RBI during the twelve (12) calendar month period immediately preceding the date in which the calculation is made (the “assumed RBI-based rate”);

(c) principal and interest payments on Bonds and Parity Obligations will be excluded to the extent such payments are to be paid from amounts on deposit with the Fiscal Agent or another fiduciary in escrow specifically therefor and to the extent that such interest payments are to be paid from the proceeds of Bonds or Parity Obligations held by the Fiscal Agent or another fiduciary as capitalized interest;

(d) in determining the principal amount, payment will (unless a different provision of this definition applies for purposes of determining principal maturities or amortization) be assumed to be made in accordance with any amortization schedule established for such debt, including any mandatory sinking account payments or any scheduled redemption or payment of Bonds or Parity Obligations constituting Capital Appreciation Indebtedness or Convertible Capital Appreciation Indebtedness at or prior to the expiration of the Accretion Period on the basis of Accreted Value, and for such purpose, the redemption payment or payment of Accreted Value will be deemed a principal payment and interest that is compounded and paid as Accreted Value will be deemed due on the scheduled redemption or payment date of such Capital Appreciation Indebtedness or Convertible Capital Appreciation Indebtedness at or prior to the expiration of the Accretion Period;

(e) if any interest rate swap agreement is in effect with respect to, and is payable on a parity with, the Bonds or Parity Obligations to which it relates, no amounts payable under such interest rate swap agreement will be included in the calculation of Debt Service unless the sum of (1) interest payable on such Bonds or Parity Obligations, plus (2) amounts payable by the City under such interest rate swap agreement, less (3) amounts receivable by the City under such interest rate swap agreement are greater than the interest payable on the Bonds or Parity Obligations to which it relates, then, in such instance, the amount of such payments to be made that exceed the interest to be paid on the Bonds or Parity Obligations will be included in such calculation. For such purposes, the variable amount under any such interest rate swap agreement will be assumed to be equal to the assumed RBI-based rate; and

(f) if any Bonds or Parity Obligations include an option or an obligation to tender all or a portion of such Bonds or Parity Obligations to the City, the Fiscal Agent or another fiduciary or agent and require that such Bonds or Parity Obligations or portion thereof be purchased if properly presented, then for purposes of determining the amounts of principal and interest due, the options or obligations to tender will be treated as a principal maturity occurring on the first date on which holders or owners thereof may or are required to tender, except that any such option or obligation to tender will be ignored and not treated as a principal maturity, if (1) such Bonds or Parity Obligations are rated in one of the two highest long-term Rating Categories by Fitch and Standard Poor's or such Bonds or Parity Obligations are rated in the highest short-term, note or commercial paper Rating Categories by Fitch and Standard & Poor's and (2) funds for the purchase price are to be provided by a letter of credit or standby bond purchase agreement and the obligation of the City with respect to the provider of such letter of credit or standby bond purchase agreement, other than its obligations on such Bonds or Parity Obligations, will be subordinated to the obligation of the City on the Bonds and Parity Obligations.

**"Department"** means the Water and Power Department of the City.

**"Electric System"** means the entire system and facilities of the City for the development, transmission and distribution of electric energy and power for light, heat and power purposes as said system now exists and including all additions, extensions and improvements later constructed or acquired.

**"Excluded Principal Payments"** means each payment of principal (or the principal component of lease or installment purchase payments) of Bonds or Parity Obligations which the City determines on a date not later than the date of issuance thereof that the City intends to pay with moneys which are not Gross Revenues or Net Income but from the proceeds of future debt obligations of the City and the Fiscal Agent may rely conclusively on such determination of the City.

**"Federal Securities"** means (i) direct obligations of the United States of America (including obligations held or issued in book-entry form on the books of the Department of the Treasury of the United States of America and CATS and TIGRS) or (ii) obligations the timely payment of the principal of and interest on which are fully guaranteed by the United States of America.

**"Fiscal Agent"** means The Bank of New York Mellon Trust Company, N.A., acting as successor Fiscal Agent under the Fiscal Agent Agreement, or a future successor, as Fiscal Agent as provided in the Fiscal Agent Agreement.

**"Fiscal Agent Agreement"** means the Electric Revenue Bond Fiscal Agent Agreement, dated as of August 1, 1998, by and between the Fiscal Agent and the City, as originally executed or as it may from time to time be supplemented or amended by any Supplemental Fiscal Agent Agreement delivered pursuant to the provisions of the Fiscal Agent Agreement.

**"Fiscal Year"** means any twelve (12) consecutive calendar months commencing with the first day of July and ending on the last day of the following June or such other twelve-month period as the City Council may designate.

**"Fitch"** means Fitch IBAC, Inc., a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such a corporation will be dissolved or liquidated or will no longer perform the functions of a securities rating agency, then the term "Fitch" will be deemed to refer to any other nationally recognized securities rating agency selected by the City.



**“Gross Revenues”** means all revenues (as defined in Section 54315 of the Government Code, which include all charges received for and all other income and receipts derived by the Department from the operation of the Electric System or arising from the Electric System) received by the Department from the services, facilities, energy and distribution of electric energy by the Department, including (i) income from investments, and (ii) for the purposes of determining compliance with certain covenants in the Fiscal Agent Agreement only, the amounts on deposit in the Stranded Investment Reserve Fund or in any other unrestricted funds of the Electric System designated by the City Council by resolution (or by approval of a budget of the Light and Power Fund providing for such transfer) and available for the purpose of paying Maintenance and Operating Expenses and/or debt service on the Bonds and/or any Parity Obligations, but excepting therefrom (a) all reimbursement charges and deposits to secure service and (b) any charges collected by any person to amortize or otherwise relating to the payment of the uneconomic portion of costs associated with assets and obligations (“stranded costs”) of the Electric System or of any joint powers agency in which the City participates which the City has dedicated to the payment of obligations other than the Bonds or any Parity Obligations then outstanding, the payments of which obligations will be applied to or pledged to or otherwise set aside for the reduction or retirement of outstanding obligations of the City or any joint powers agency in which the City participates relating to such “stranded costs” of the City or of any such joint powers agency to the extent such “stranded costs” are attributable to, or the responsibility of, the City.

**“Information Services”** means Financial Information, Incorporated’s “Daily Called Bonds Service,” 30 Montgomery Street, 10<sup>th</sup> Floor, Jersey City, New Jersey 07302, Attention: Editor; Kenny Information Services, “Called Bond Service,” 55 Broad Street, 28<sup>th</sup> Floor, New York, New York 10004; Moody’s Investors Service’s “Municipal and Government,” 5250 77 Center Drive, Suite 150, Charlotte, NC 28217, Attention: Called Bonds Department; and Standard & Poor’s Corporation’s “Called Bond Record,” 25 Broadway, 3<sup>rd</sup> Floor, New York, New York 10004; or, in accordance with then current guidelines of the Securities and Exchange Commission, such other addresses and/or such other services providing information with respect to called bonds as the City may designate.

**“Investment Securities”** means (i) any permissible investments of funds of the City as stated in its current investment policy and to the extent then permitted by law; (ii) a repurchase agreement with a state or nationally chartered bank or trust company or a national banking association or government bond dealer reporting to, trading with, and recognized as a primary dealer by the Federal Reserve Bank of New York, provided that the following conditions are satisfied:

- (1) The agreement is secured by any direct obligations of the United States of America (including obligations issued or held in book entry form on the books of the United States Department of the Treasury) and obligations, the payment and principal of and interest on which are directly or indirectly guaranteed by the United States of America;
- (2) The underlying securities are required by the repurchase agreement to be held by a bank, trust company, or primary dealer having a combined capital and surplus of at least one hundred million dollars and which is independent of the issuer of the repurchase agreement; and
- (3) The underlying securities are maintained at a market value, as determined on a marked-to-market basis calculated at least weekly, of not less than 104 percent of the amount so invested; and

(iii) an investment agreement or guaranteed investment contract with, or guaranteed by, a financial institution the long-term unsecured obligations of which are rated in the top two rating categories by Moody’s and S&P at the time of initial investment.

**“Light and Power Fund”** means the fund derived from (i) the payment for electrical energy generated by the Power Division of the Department and any service rendered in connection therewith; (ii) the sale, lease or other disposition of any property acquired with funds or property of said utility; (iii) the proceeds of any bonds issued for the purpose of said utility; or (iv) any special taxes at any time authorized for the purpose of said utility.

**“Maintenance and Operating Expenses”** means the amount required to pay the reasonable expenses of management, repair and other costs, of the nature of costs which have historically and customarily been accounted for as such, necessary to operate, maintain and preserve the Electric System in good repair and working order, including but not limited to, the cost of supply and transmission of electric energy under long-term contracts or otherwise and the expenses of conducting the Power Division of the Department, but excluding depreciation. “Maintenance and Operating Expenses” will include all amounts required to be paid by the City under contract with a joint powers agency for purchase of capacity, energy, transmission capability or any other commodities or services in connection with the foregoing, which contract requires payments by the City to be made under the Fiscal Agent Agreement to be treated as Maintenance and Operating Expenses.

**“Moody’s”** means Moody’s Investors Service, a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, and its successors and assigns, except that if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term “Moody’s” shall be deemed to refer to any other nationally recognized securities rating agency selected by the City.

**“Net Income”** means the amount of the Gross Revenues less the Maintenance and Operating Expenses.

**“Opinion of Bond Counsel”** means a written opinion of counsel of recognized national standing in the field of law relating to municipal bonds, appointed and paid by the City and satisfactory to and approved by the Fiscal Agent (who will be under no liability by reason of such approval).

**“Outstanding,”** when used as of any particular time with reference to the Bonds means all the Bonds issued and delivered by the City under the Fiscal Agent Agreement except:

(a) Bonds cancelled or surrendered for cancellation;

(b) Bonds for the payment or redemption of which money or securities in the necessary amount shall have been deposited in trust (whether at or prior to the maturity or Redemption Date of such Bonds); provided that if such Bonds are to be redeemed prior to the maturity thereto, notice of such redemption shall have been given in the proper manner; and

(c) Bonds in lieu of, or in substitution for which, other Bonds shall have been issued and delivered by the City pursuant to the Fiscal Agent Agreement.

**“Owner”** or **“Bond Owner”** or **“Bondowner,”** whenever used in the Fiscal Agent Agreement with respect to a Bond, means the person in whose name such Bond is registered.

**“Parity Obligations”** means any revenue bonds, revenue notes or other similar evidences of indebtedness heretofore or hereafter issued, or any interest rate swap agreement incurred, for the acquisition, construction and financing or refinancing of additions to, and extensions and improvements

of, the Electric System, payable out of the revenues derived therefrom by the Department and which, pursuant to their terms and in accordance with the Fiscal Agent Agreement and any Supplemental Fiscal Agent Agreement, rank on a parity with the Bonds.

**“Rating Category”** means (i) with respect to any long-term rating category, all ratings designated by a particular letter or combination of letters, without regard to any numerical modifier, plus or minus sign or other modifier and (ii) with respect to any short-term or commercial paper rating category, all ratings designated by a particular letter or combination of letters and taking into account any numerical modifier, but not any plus or minus sign or other modifier.

**“RBI”** means the Bond Buyer Revenue Bond Index or comparable index of long-term municipal obligations chosen by the City, and, if no comparable index can be obtained, eighty percent (80%) of the interest rate on actively traded thirty (30) year United States Treasury obligations.

**“Redemption Price”** means, with respect to any Bond (or portion thereof) the Bond Obligation thereof (or portion thereof) plus the applicable premium, if any, payable upon redemption thereof pursuant to the provisions of such Bond and the Fiscal Agent Agreement.

**“Securities Depositories”** means The Depository Trust Company, 711 Stewart Avenue, Garden City, New York 11530, Fax-(516) 227-4039 or 4190; Midwest Securities Trust Company, Capital Structures-Call Notification, 440 South LaSalle Street, Chicago, Illinois 60605, Fax-(312) 663-2343; and Philadelphia Depository Trust Company, Reorganization Division, 1900 Market Street, Philadelphia, Pennsylvania 19103, Attention: Bond Department, Fax-(215) 496-5085; or, in accordance with then current guidelines of the Securities and Exchange Commission, such other securities depositories as the City may designate.

**“Series”** whenever used in the Fiscal Agent Agreement with respect to Bonds, means all of the Bonds designated as being of the same series, authenticated and delivered in a simultaneous transaction, regardless of variations in maturity, interest rate, redemption and other provisions, and any Bonds thereafter authenticated and delivered upon transfer or exchange or in lieu of or in substitution for (but not to refund) such Bonds as provided in the Fiscal Agent Agreement.

**“Standard & Poor’s”** means Standard & Poor’s, a corporation duly organized and existing under and by virtue of the laws of the State of New York, and its successors and assigns, except that if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, then the term “Standard & Poor’s” will be deemed to refer to any other nationally recognized securities rating agency selected by the City.

**“Stranded Investment Reserve Fund”** means the Reserve for Stranded Investment established by the City pursuant to Ordinance No. 6695 of the City Council adopted on November 25, 1996.

**“Supplemental Fiscal Agent Agreement”** means any fiscal agent agreement hereafter duly executed and delivered, supplementing, modifying or amending the Fiscal Agent Agreement, but only if and to the extent that such Supplemental Fiscal Agent Agreement is specifically authorized under the Fiscal Agent Agreement.

**“Tax Certificate”** means the Tax Certificate concerning certain matters pertaining to the use and investment of proceeds of a Series of Bonds executed and delivered by the City on the date of initial delivery of such Series of Bonds, including any and all exhibits attached thereto.

“**2010A Bonds**” means the City of Pasadena, California Electric Revenue Refunding Bonds, 2010A Series.

“**2012A Bonds**” means the City of Pasadena, California Electric Revenue Refunding Bonds, 2012A Series.

“**2013A Bonds**” means the City of Pasadena, California Electric Revenue/Refunding Bonds, 2013A Series.

“**2019A Bonds**” means the City of Pasadena, California Electric Revenue Refunding Bonds, 2019A Series.

“**Variable Rate Indebtedness**” means any indebtedness the interest rate on which is not fixed at the time of incurrence of such indebtedness, and has not at some subsequent date been fixed, at a single numerical rate for the entire remaining term of the indebtedness.

### **Pledge of Net Income; Light and Power Fund**

The Bonds will not constitute an indebtedness of the City, but will constitute obligations that will be payable as to both principal and interest, and any premium upon redemption thereof prior to maturity, exclusively from the Light and Power Fund and such other funds as provided in the Fiscal Agent Agreement or in any Supplemental Fiscal Agent Agreement; provided, however, that this will not preclude the payment thereof from the proceeds of bonds issued to refund the Bonds, nor preclude the use of any sum received as premium or accrued interest on the sale of the Bonds to pay principal and interest thereof, nor payment from certain other funds or moneys as provided in Subdivision 4 of Section 1414 of Article XIV of the Charter.

All Net Income is pledged to secure the payment of the principal of and redemption premium, if any, and interest on the Bonds and any Parity Obligations in accordance with their terms, subject only to the provisions of the Fiscal Agent Agreement permitting the application thereof for the purposes and on the terms and conditions set forth in the Fiscal Agent Agreement. Said pledge will constitute a first lien on the Net Income and will be valid and binding from and after delivery by the City of the Bonds or Parity Obligations, without any physical delivery thereof or further act.

Nothing in the Fiscal Agent Agreement will restrict the issuance of additional bonds under Article XIV of the City Charter, subject to the limitations set forth in the Fiscal Agent Agreement, payable from the Light and Power Fund and ranking on a parity with or subordinate to the Bonds.

### **Application of Net Income**

In order to carry out and effectuate the obligation of the City contained in the Fiscal Agent Agreement, the City agrees and covenants that all Gross Revenues received by it will be deposited when and as received in the Light and Power Fund pursuant to Section 1404 of the City Charter, and all money on deposit in the Light and Power Fund will be applied and used only as provided in the Fiscal Agent Agreement. The City will pay all Maintenance and Operating Expenses (including amounts reasonably required to be set aside in contingency reserves for Maintenance and Operating Expenses the payment of which is not then immediately required) from the Light and Power Fund as they become due and payable, and all remaining money on deposit in the Light and Power Fund will be set aside and deposited by the City at the following times in the following order of priority:

- (1) *Parity Obligation Payment Fund; Deposits.* On or before the third Business Day before each date on which interest or principal becomes due and payable (whether after maturity or prior redemption or otherwise) on the Bonds or any Parity Obligation, the City will, from the money in the Light and Power Fund, deposit in the City of Pasadena Electric System Parity Obligation Payment Fund (the "Parity Obligation Payment Fund"), which fund is established by the Fiscal Agent Agreement pursuant to Section 1413 of Article XIV of the Charter and which fund the City agrees and covenants to maintain separate and apart from other moneys of the City so long as any Bonds or Parity Obligations remain unpaid, a sum equal to the amount of interest and principal becoming due and payable under all Bonds and Parity Obligations on such due date, except that no such deposit need be made if the City then holds money in the Parity Obligation Payment Fund at least equal to the amount of interest and principal (including mandatory sinking account payments) becoming due and payable on all Bonds or Parity Obligations on the next succeeding date on which interest or principal becomes due and payable on the Bonds or any Parity Obligation. Moneys on deposit in the Parity Obligation Payment Fund will be transferred by the City to make and satisfy the payments due on the next applicable date on which interest or principal (including mandatory sinking account payments) becomes due and payable on the Bonds or any Parity Obligation at least one Business Day prior to such next applicable due date.
- (2) *Parity Reserve Fund; Deposits.* On or before the third Business Day before each date on which interest or principal becomes due and payable on the Bonds or any Parity Obligation, the City will, from the remaining money on deposit in the Light and Power Fund after deposits and transfers pursuant to paragraph (1) above, deposit in the Parity Reserve Fund, which fund is established by the Fiscal Agent Agreement pursuant to Section 1413 of Article XIV of the Charter and will be maintained by the City so long as any Bonds are Outstanding, that sum, if any, necessary to restore the Parity Reserve Fund to an amount equal to the Reserve Fund Requirement.

After making the deposits and transfers required to be made above, the City may apply any remaining moneys in the Light and Power Fund for any lawful purpose of the City, including for the payment of any subordinate obligations in accordance with the instruments authorizing such subordinate obligations, and on a basis subordinate thereto, for the transfer of such remaining moneys, if any, to the General Fund of the City pursuant to Article XIV of the Charter.

### **Parity Reserve Fund**

The City agrees and covenants to maintain the Parity Reserve Fund in an amount equal to the Reserve Fund Requirement so long as any Bonds or Parity Obligations to be secured by the Parity Reserve Fund remain outstanding under the Fiscal Agent Agreement. Amounts on deposit in the Parity Reserve Fund are pledged to the payment of the Bonds and any Parity Obligations secured by the Parity Reserve Fund and will be applied only for such purposes as permitted in the Fiscal Agent Agreement. Moneys on deposit in the Parity Reserve Fund will be transferred by the City to the Parity Obligation Payment Fund to pay principal of and interest on the Bonds and Parity Obligations secured by the Parity Reserve Fund in the event amounts on deposit therein are insufficient for such purposes. If and to the extent that the Parity Reserve Fund has been funded with a combination of cash and one or more surety bonds, insurance policies or letters of credit as permitted pursuant to the definition of "Reserve Fund Requirement," except as provided below, all cash shall be used (including any investments purchased with such cash, which shall be liquidated and the proceeds thereof applied as required under the Fiscal Agent Agreement) prior to any drawing under a surety bond, insurance policy or letter of credit, and repayment of any amounts owing to any provider of such surety bond, insurance policy or letter of credit

shall be made in accordance with the terms thereof prior to any replenishment of any such cash amounts. After first applying all cash and Investment Securities held in the Parity Reserve Fund to pay the principal of and interest on the Bonds and Parity Obligations secured by the Parity Reserve Fund when required by the Fiscal Agent Agreement, the City or the Fiscal Agent, as applicable, shall, on a *pro rata* basis with respect to the portion of the Parity Reserve Fund held in the form of surety bonds, insurance policies and letters of credit (calculated by reference to the maximum amounts of such surety bonds, insurance policies and letters of credit), draw under each surety bond, insurance policy or letter of credit issued with respect to the Parity Reserve Fund, in a timely manner and pursuant to the terms of such surety bonds, insurance policy or letter of credit to the extent necessary in order to obtain sufficient funds on or prior to the date such funds are needed to pay the Bonds and Parity Obligations secured by the Parity Reserve Fund when due. Notwithstanding anything to the contrary contained in the Fiscal Agent Agreement, in the event a surety bond, insurance policy, letter of credit or cash deposit has been provided with respect to a specified Series of Bonds only, the Fiscal Agent shall draw on such insurance policy, surety bond, letter of credit or cash deposit in any amount equal to the *pro rata* amount of deficiency in the Parity Obligation Payment Fund allocable to such Series of Bonds at the same time that the Fiscal Agent applies any cash or Investment Securities held in the Parity Reserve Fund to the payment of the principal of and interest on any Bonds or Parity Obligations not so secured by such insurance policy, surety bond or letter of credit or with respect to which such cash deposit was not made. All amounts due and owing any provider of any such surety bond, insurance policy or letter of credit shall be paid in accordance therewith prior to any discharge of the Fiscal Agent Agreement pursuant to the terms thereof. Amounts on deposit in the Parity Reserve Fund in excess of the Reserve Fund Requirement will be withdrawn from the Parity Reserve Fund and transferred to the Light and Power Fund.

#### **Investments of Moneys in Funds and Accounts**

All moneys in any of the funds and accounts held by the City and established pursuant to the Fiscal Agent Agreement will be invested solely in Investment Securities. Unless otherwise provided in the Fiscal Agent Agreement or in a Supplemental Fiscal Agent Agreement with respect to any fund or account created pursuant to that Supplemental Fiscal Agent Agreement, Investment Securities purchased as an investment of moneys in any fund or account created under the provisions of the Fiscal Agent Agreement will be deemed at all times to be a part of such fund, account or subaccount and any profit realized from the liquidation of such investment and any income or interest received on account of such investment will be credited to, and any loss resulting from the liquidation of such investment will be charged to, such account. Notwithstanding anything to the contrary contained in this paragraph, an amount of interest received with respect to any Investment Security equal to the amount of accrued interest, if any, paid as part of the purchase price of such Investment Security will be credited to the fund or account from which such accrued interest was paid.

In computing the amount in any account created under the provisions of the Fiscal Agent Agreement or a Supplemental Fiscal Agent Agreement for any purpose provided in the Fiscal Agent Agreement or a Supplemental Fiscal Agent Agreement, Investment Securities purchased as an investment of moneys therein will be valued no less frequently than annually at the amortized cost of such obligations (including accrued interest), except that Investment Securities purchased as an investment of moneys in the Parity Reserve Fund will be valued at the market value thereof. In addition, Investment Securities purchased as an investment of moneys in the Parity Reserve Fund may not have maturities extending beyond five (5) years. (See, however, "Springing Amendments to Fiscal Agent Agreement – Investment of Moneys in the Parity Reserve Fund" below.)

Except as otherwise provided in the Fiscal Agent Agreement or a Supplemental Fiscal Agent Agreement, the City will sell at the best price obtainable or present for prepayment or transfer as provided in the next sentence any obligation so purchased as an investment whenever it will be requested in writing

by an Authorized City Representative to do so or whenever it will be necessary in order to provide moneys to meet any payment or transfer from any account held by it. In lieu of such sale or presentment for prepayment, the City may, in making the payment or transfer from any account mentioned in the preceding sentence, transfer such investment obligations or interest appertaining thereto if such investment obligations will mature or be collectable at or prior to the time the proceeds thereof will be needed and such transfer of investment obligations may be made in book-entry form. The City will not be liable or responsible for making any such investment in the manner provided above or for any loss resulting from any such investment.

## **Covenants**

Pursuant to the Fiscal Agent Agreement, the City has covenanted as follows:

*Operation of Electric System; Insurance.* The City covenants and agrees to operate Electric System in an efficient and economical manner and to operate, maintain and preserve the Electric System in good repair and working order. Subject in each case to the condition that insurance is obtainable at rates deemed reasonable by the City and upon terms and conditions deemed reasonable by the City, the City will procure and maintain at all times: (i) insurance on the Electric System against such risks as and in such amounts as the City deems prudent taking into account insurance coverage for similar utilities, and (ii) public liability insurance, including self-insurance, as appropriate, in such amounts as the City deems prudent taking into account insurance coverage for similar utilities.

*Light and Power Fund.* All receipts by the City from the sale of electric energy or otherwise derived from the Electric System of the City or the Power Division of the Water and Power Department will be credited to the Light and Power Fund. Disbursements may be made from said fund for the payment of the Maintenance and Operating Expenses of conducting the Department prior to the payment of principal or interest (including premiums, if any, upon redemption) for any revenue bonds (including the Bonds and the Parity Obligations) issued under Article XIV of the Charter. After any transfer or transfers required to be made in any month for the payment of principal or interest (including premiums, if any, upon redemption and including transfers to the Parity Reserve Fund) of revenue bonds (including the Bonds and the Parity Obligations) payable from the Light and Power Fund and issued under said Article XIV of said Charter have been made, moneys in said Fund may be used for any purpose authorized under Article XIV of said Charter.

*Rates and Charges.* The rates to be charged for services furnished by the Electric System will be fixed so as to provide Gross Revenues at least sufficient to pay, as the same become due, the principal of and interest on the Bonds and Parity Obligations and all other obligations and indebtedness payable from the Light and Power Fund (including the payment of any amounts owing to any provider of any surety bond, insurance policy or letter of credit with respect to the Bonds or any Parity Obligations, which amounts are payable from the Light and Power Fund) or from any fund derived therefrom, and also the necessary Maintenance and Operating Expenses, and will be so fixed that the Net Income of the Electric System will be at least equal to 1.10 times the amount necessary to pay principal and interest (including mandatory sinking account redemption payments) as the same become due, on all Bonds and Parity Obligations.

The City will have in effect at all times rules and regulations requiring each consumer or customer located on any premises connected with the Electric System to pay the rates and charges applicable to the Electric System provided to such premises and providing for the billing thereof and for a due date and a delinquency date for each bill. The City will not permit any part of the Electric System or any facility thereof to be used or taken advantage of free of charge by any corporation, firm or person, or by any public agency (including the United States of America, the State of California and any city,

county, district, political subdivision, public corporation or agency of any thereof). Nothing in the Fiscal Agent Agreement will prevent the City, in its sole and exclusive discretion, from permitting other parties to sell electricity to retail customers within the service area of the Electric System; provided, however, that permitting such sales will not relieve the City of its obligations under the Fiscal Agent Agreement.

*Additional Bonds.* Except for bonds issued under Article XIV of the Charter, or otherwise, to refund Bonds or Parity Obligations, payable from the Light and Power Fund issued under Article XIV of the Charter which may be issued at any time without meeting the test set forth below, no additional indebtedness of the City payable out of the Light and Power Fund on a parity with the Bonds and any Parity Obligations (collectively referred to in this provision as “parity indebtedness”) will be created or incurred unless:

- (1) the Net Income during any twelve (12) consecutive calendar months out of the immediately preceding eighteen (18) calendar month period, plus, at the option of the City, any or all of the items designated as (a) and (b) below, shall have amounted to at least equal to one hundred ten percent (110%) of the aggregate of the (i) amount of interest to accrue and (ii) payments of principal required to be made in that one of the Fiscal Years ending thereafter in which such aggregate will be the greatest on all Bonds and such Parity Obligations to be Outstanding immediately subsequent to the incurring of such additional parity indebtedness, as certified by a Certificate of the City; or
- (2) the projected Net Income during the first complete Fiscal Year following issuance of such parity indebtedness when the improvements to the Electric System financed with the proceeds of the parity indebtedness shall be in operation, plus, at the option of the City, any or all of the items designated as (a) and (b) below, shall have amounted to at least one hundred ten percent (110%) of the aggregate of the (i) amount of interest to accrue and (ii) payments of principal required to be made in that one of the Fiscal Years ending thereafter in which such aggregate will be the greatest on all Bonds and such Parity Obligations to be Outstanding immediately subsequent to the incurring of such additional parity indebtedness, as certified by a Certificate of the City.

The items any or all of which may be added to such Net Income for the purpose of meeting either of the requirements set forth in paragraphs (1) or (2) above are the following:

(a) An allowance for any increase in Net Income (including, without limitation, a reduction in Maintenance and Operating Expenses) which may arise from any additions to and extensions and improvements of the Electric System to be made or acquired with the proceeds of such additional parity indebtedness or with the proceeds of bonds previously issued, and also for Net Income from any such additions, extensions or improvements which have been made or acquired with moneys from any source but which, during all or any part of such Fiscal Year or such twelve (12) consecutive calendar month period out of the immediately preceding eighteen (18) calendar month period, were not in service, all in an amount equal to the estimated additional average annual Net Income (or estimated average annual reduction in Maintenance and Operating Expenses) to be derived from such additions, extensions and improvements for the first thirty-six (36) month period in which each addition, extension or improvement is respectively to be in operation, all as shown by the Certificate of the City.

(b) An allowance for earnings arising from any increase in the charges made for the use of the Electric System which has become effective prior to the incurring of such addition parity indebtedness but which, during all or any part of such Fiscal Year or such twelve (12) consecutive calendar month period out of the immediately preceding eighteen (18) calendar



month period, was not in effect, in an amount equal to the amount by which the Net Income would have been increased if such increase in charges had been in effect during the whole of such Fiscal Year or such twelve (12) consecutive calendar month period out of the immediately preceding eighteen (18) calendar month period, as shown by the Certificate of the City.

Nothing in the Fiscal Agent Agreement will limit the ability of the City to issue or incur obligations that are junior and subordinate to the payment of the principal, premium, interest and reserve fund requirements for the Bonds and all Parity Obligations and which subordinated obligations are payable as to principal, premium, interest and reserve fund requirements, if any, only out of Net Income after the prior payment of all amounts then due and required to be paid or set aside under the Fiscal Agent Agreement from Net Income for principal, premium, interest and reserve fund requirements for the Bonds and all Parity Obligations, as the same become due and payable and at the times and in the manner as required in the Fiscal Agent Agreement or any documents providing for the issuance or incurrence of Parity Obligations.

*Against Encumbrances.* No bonds will be issued pursuant to Article XIV of the Charter, or under any other provisions of the Charter, or under any law of the State of California, having any priority in payment of principal or interest out of the revenues of the Power Division of the Department (that is, the revenues derived from the Electric System) over the Bonds authorized by the Fiscal Agent Agreement to be issued and payable out of said revenues. The City will not create any pledge, lien or charge upon any of the Net Income having priority over the lien of the Bonds; provided, however, that nothing in the Fiscal Agent Agreement will be construed to limit the ability of the City to issue or incur obligations secured by charges, not constituting Net Income, collected by any person to amortize or otherwise relating to the payment of the "stranded costs" of the Electric System or of any joint powers agency in which the City participates which the City has dedicated to the payment of obligations other than the Bonds, the payments of which charges will be applied to or pledged to or otherwise set aside for the reduction or retirement of outstanding obligations of the City or any joint powers agency in which the City participates relating to such "stranded costs" of the City or of any such joint powers agency to the extent such "stranded costs" are attributable to, or the responsibility of, the City.

The City covenants that in order to fully preserve and protect the priority and security of the Bonds the City will pay from the Light and Power Fund and discharge all lawful claims for labor, materials and supplies furnished for or in connection with the Electric System which, if unpaid, may become a lien or charge upon the revenues prior or superior to the lien of the Bonds and impair the security of the Bonds. The City will also pay from the Light and Power Fund all taxes and assessments or other governmental charges lawfully levied or assessed upon or in respect of the Electric System or upon any part thereof or upon any of the revenues therefrom.

*Sale of Electric System.* The Electric System will not be sold or leased or otherwise disposed of as a whole, or substantially as a whole, unless such sale, lease or other disposition be so arranged as to provide for a continuance of payments into the Light and Power Fund sufficient in amount to permit payment therefrom of the principal of and interest on, and premiums, if any, due upon the redemption of, all Bonds and Parity Obligations (including, if applicable, the imposition of any charges collected by any person to amortize or otherwise relating to the payment of "stranded costs" of the Electric System or of any joint powers agency in which the City participates which the City has dedicated to the payment of the Bonds the imposition of which will amortize the payment in full of such Outstanding Bonds through the maturity thereof) payable out of the Light and Power Fund, or to provide for such payments into some other fund charged with such payments. None of the works, plant, properties, facilities or other part of the Electric System or any real or personal property comprising a part of the Electric System will be sold, leased or otherwise disposed of if such sale, lease or disposition would cause the City to be unable to satisfy the requirements of the Fiscal Agent Agreement.

*Accounting Records.* The City will cause the books and accounts of the Power Division of the Department to be audited annually by an independent certified public accountant or firm of certified public accountants and will make available for inspection by the Owners, at the office of the City Clerk and at the Department of Finance of the City, a copy of the report of such accountants and will also furnish a copy thereof upon request to any Owner.

*Tax Covenants.* The City covenants with the Owners of the Bonds that, notwithstanding any other provisions of the Fiscal Agent Agreement, it will not take any action, or fail to take any action, if any such action or failure to take action would adversely affect the exclusion from gross income of interest on the Bonds under Section 103 of the Code. The City will not, directly or indirectly, use or permit the use of proceeds of the Bonds or any of the property financed or refinanced with proceeds of the Bonds, or any portion thereof, by any person other than a governmental unit (as such term is used in Section 141 of the Code), in such manner or to such extent as would result in the loss of exclusion from gross income for federal income tax purposes of interest on the Bonds.

The City will not take any action, or fail to take any action, if any such action or failure to take action would cause the Bonds to be “private activity bonds” within the meaning of Section 141 of the Code, and in furtherance thereof, will not make any use of the proceeds of the Bonds or any of the property financed or refinanced with proceeds of the Bonds, or any portion thereof, or any other funds of the City, that would cause the Bonds to be “private activity bonds” within the meaning of Section 141 of the Code. To that end, so long as any Bonds are Outstanding, the City, with respect to such proceeds and property and such other funds, will comply with applicable requirements of the Code and all regulations of the United States Department of the Treasury issued thereunder, to the extent such requirements are, at the time, applicable and in effect. The City will establish reasonable procedures necessary to ensure continued compliance with Section 141 of the Code and the continued qualification of the Bonds as “governmental bonds.”

The City will not, directly or indirectly, use or permit the use of any proceeds of any Bonds, or of any property financed or refinanced thereby, or other funds of the City, or take or omit to take any action, that would cause the Bonds to be “arbitrage bonds” within the meaning of Section 148 of the Code. To that end, the City will comply with all requirements of Section 148 of the Code and all regulations of the United States Department of the Treasury issued thereunder to the extent such requirements are, at the time, in effect and applicable to the Bonds.

The City will not make any use of the proceeds of the Bonds or any other funds of the City, or take or omit to take any other action, that would cause the Bonds to be “federally guaranteed” within the meaning of Section 149(b) of the Code.

In furtherance of the foregoing tax covenants, the City covenants that it will comply with the provisions of the Tax Certificate, which is incorporated in the Fiscal Agent Agreement as if fully set forth therein. These covenants will survive payment in full or defeasance of the Bonds.

*Further Assurances.* The City will make, execute and deliver any and all such instruments and assurances as may be reasonably necessary or proper to carry out the intention or to facilitate the performance of the Fiscal Agent Agreement and for the better assuring and confirming unto the Owners of the Bonds of the rights and benefits provided in the Fiscal Agent Agreement.

*Continuing Disclosure Agreement.* The City will comply with and carry out all of its obligations under any Continuing Disclosure Agreement executed in connection with a Series of Bonds. Upon the failure of the City to comply with the Continuing Disclosure Agreement relating to any Series of Bonds, the Fiscal Agent may (and, at the request of any Participating Underwriter (as defined in the respective

Continuing Disclosure Agreement) or the Owners of at least 25% in aggregate Bond Obligation of the related Series of Bonds, will) or any Owner or Beneficial Owner may take such actions as may be necessary and appropriate, including seeking mandate or specific performance by court order, to cause the City, to comply with its obligations under this covenant. For purposes of this covenant, "Beneficial Owner" will have the meaning prescribed thereto in the respective Continuing Disclosure Agreement relating to such Series of Bonds.

### **Events of Default and Remedies**

*Events of Default.* The following events will be Events of Default under the Fiscal Agent Agreement:

(a) Default by the City in the due and punctual payment of the principal of or premium, if any, on any Bond or Parity Obligation (whether at maturity, by acceleration, call for redemption or otherwise);

(b) Default by the City in the due and punctual payment of the interest on any Bond or Parity Obligation;

(c) Failure of the City to observe and perform any of its other covenants, conditions or agreements under the Fiscal Agent Agreement or in the Bonds for a period of 90 days after written notice from the Owners of 25% in aggregate Bond Obligation of Bonds then Outstanding, specifying such failure and requesting that it be remedied, or in the case of any such default that cannot with due diligence be cured within such 90 day period, failure of the City to proceed promptly to cure the same with due diligence;

(d) (1) Failure of the City generally to pay its debts as the same become due, (2) commencement by the City of a voluntary case under the Federal bankruptcy laws, as now or hereafter constituted, or any other applicable Federal or state bankruptcy, insolvency or other similar law, (3) consent by the City to the appointment of a receiver, liquidator, assignee, trustee, custodian, sequestrator or other similar official for the City, the Electric System or any substantial part of the City's property, or to the taking possession by any such official of the Electric System or any substantial part of the City's property, (4) making by the City of any assignment for the benefit of creditors, or (5) taking of corporate action by the City in furtherance of any of the foregoing;

(e) The entry of any (1) decree or order for relief by a court having jurisdiction over the City or its property in an involuntary case under the Federal bankruptcy laws, as now or hereafter constituted, or any other applicable Federal or state bankruptcy, insolvency or other similar law, (2) appointment of a receiver, liquidator, assignee, trustee, custodian, sequestrator or similar official for the City, the Electric System or any substantial part of the City's property, or (3) order for the termination or liquidation of the City of its affairs; or

(f) Failure of the City within 90 days after the commencement of any proceedings against it under the Federal bankruptcy laws or any other applicable Federal or state bankruptcy, insolvency or similar law, to have such proceedings dismissed or stayed.

The provisions of paragraph (c) above are subject to the limitation that if by reason of force majeure the City is unable in whole or in part to observe and perform any of its covenants, conditions or agreements under the Fiscal Agent Agreement, the City will not be deemed in default during the continuance of such disability. The term "force majeure" as used in the Fiscal Agent Agreement will

include without limitation acts of God; strikes, lockouts or other industrial disturbances; acts of public enemies; orders of any kind of the government of the United States of America or of the State of California or any of their departments, agencies, political subdivisions or officials, or any civil or military authority; insurrections; riots; epidemics; landslides; lightning; earthquakes; fires; hurricanes; storms; floods; washouts; droughts; arrests; restraint of government and people; civil disturbances; explosions; breakage or accident to machinery, transmission pipes or canals; partial or entire failure of utilities; or any other cause or event not reasonably within the control of the City. The City will, however, remedy with all reasonable dispatch the cause or causes preventing it from carrying out its agreements, provided that the settlement of strikes, lockouts and other industrial disturbances will be entirely within the discretion of the City, and the City will not be required to make settlement of strikes, lockouts and other industrial disturbances by acceding to the demands of the opposing party or parties when such course is in the judgment of the City unfavorable to it.

*Bond Owner's Committee.* If an Event of Default shall have occurred and be continuing, the Owners of 25% in aggregate Bond Obligation of Bonds then Outstanding may call a meeting of the Bond Owners for the purpose of electing a bondowners' committee (a "Bond Owners' Committee"). At such meeting the Owners of not less than a majority in aggregate Bond Obligation of Bonds then Outstanding must be present in person or by proxy in order to constitute a quorum for the transaction of business, less than a quorum, however, having power to adjourn from time to time without any other notice than the announcement thereof at the meeting. A quorum being present at such meeting, the Owners present in person or by proxy may, by a majority of the votes cast, elect one or more persons, who may or may not be Owners, to the Bond Owners' Committee. The Owners present in person or by proxy at such meeting, or at any adjourned meeting thereof (i) will prescribe the manner in which the successors of the persons elected to the Bond Owners' Committee will be elected or appointed, (ii) may prescribe rules and regulations governing the exercise by the Bond Owners' Committee of the power conferred upon it in the Fiscal Agent Agreement, and (iii) may provide for the termination of the existence of the Bond Owners' Committee. The Bond Owners' Committee is declared to be trustee for the Owners of all Bonds then Outstanding, and are empowered to exercise in the name of the Bond Owners' Committee as trustee all the rights and powers conferred in the Fiscal Agent Agreement on any Owners; provided, however, that whenever any provision of the Fiscal Agent Agreement requires the consent, approval or concurrence of the Owners of a specified percentage of Bond Obligation of Bonds, in order to exercise the right or power conferred in the Fiscal Agent Agreement on the Owners to which such percentage obtains, the Bond Owners' Committee either shall have been elected by or their election shall have been approved by or concurred in, and such committee will then represent, the Owners of such specified percentage of Bond Obligation of Bonds. A certificate of the election of the Bond Owners' Committee, including the names and addresses of its chairman and other members, will be filed with the City Clerk.

*Acceleration.* Upon the concurrence and continuation of an Event of Default specified in paragraphs (d), (e) or (f) above, the Bond Owners' Committee or, if there is none, the Owners of 25% in aggregate Bond Obligation of Bonds then Outstanding may, by written notice to the City, declare the entire unpaid principal of the Bonds due and payable and, thereupon, the entire unpaid principal of the Bonds will forthwith become due and payable. Upon any such declaration the City will forthwith pay to the Owners of the Bonds the entire unpaid principal of, premium, if any, and accrued interest on the Bonds, but only from Net Income and other moneys specifically pledged for such purpose. If at any time after such a declaration and before the entry of a final judgment or decree in any suit, action or proceeding instituted on account of such default or before the completion of the enforcement of any other remedy under the Fiscal Agent Agreement, the principal of all Bonds that have matured or been called for redemption pursuant to any sinking fund provision and all arrears of interest have been paid and any other Events of Default which may have occurred have been remedied, then the Bond Owners' Committee or, if there is none, the Owners of 25% in aggregate Bond Obligation of Bonds then Outstanding may, by

written notice to the City, rescind or annul such declaration and its consequences. No such rescission or annulment will extend to or affect any subsequent default or impair any right consequent thereon.

*Receiver.* Upon the occurrence and continuation of an Event of Default for a period of 90 days, the Bond Owners' Committee or, if there is none, the Owners of 25% in aggregate Bond Obligation of Bonds then Outstanding will be entitled to the appointment of a receiver upon application to any court of competent jurisdiction in the State of California. Any receiver so appointed may enter and take possession of the Electric System, operate, maintain and repair the same, to the extent permitted by law impose and prescribe rates, fees and other charges, and receive and apply all Net Income thereafter arising therefrom in the same manner as the City itself might do. No bond will be required of such receiver.

*Other Remedies; Rights of Bond Owners.* Upon the occurrence and continuation of an Event of Default the Owners may proceed to protect and enforce their rights by mandamus or other suit, action or proceeding at law or in equity, including an action for specific performance of any agreement contained in the Fiscal Agent Agreement.

No remedy conferred by the Fiscal Agent Agreement upon or reserved to the Owners is intended to be exclusive of any other remedy, but each such remedy will be cumulative and will be in addition to any other remedy given to the Bond Owners under the Fiscal Agent Agreement or now or hereafter existing at law or in equity or by statute.

No delay or omission to exercise any right or power accruing upon any default or Event of Default will impair any such right or power or will be construed to be a waiver of any such default or Event of Default or acquiescence therein, and every such right and power may be exercised from time to time and as often as may be deemed expedient.

No waiver of any default or Event of Default by the Owners will extend to or will affect any subsequent default or Event of Default or will impair any rights or remedies consequent thereon.

*Unconditional Right To Receive Principal, Accreted Value, Premium and Interest.* Nothing in the Fiscal Agent Agreement will, however, affect or impair the right of any Owner to enforce, by action at law, payment of the principal and Accreted Value of, premium, if any, or interest on any Bond at and after the maturity thereof, or on the date fixed for redemption or upon the same being declared due prior to maturity as provided in the Fiscal Agent Agreement, or the obligation of the City to pay the principal and Accreted Value of, premium, if any, and interest on each of the Bonds issued to the respective holders thereof at the time and place, from the source and in the manner expressed in the Fiscal Agent Agreement and in the Bond.

## **The Fiscal Agent**

*Appointment; Duties, Immunities and Liabilities of Fiscal Agent.* The Fiscal Agent is authorized and directed to mail interest payments to the Owners. The Fiscal Agent is authorized and directed to pay the principal of and, where applicable, premium on the Bonds when the same are duly presented to it for payment at maturity or on call and redemption, to provide for the registration of transfer and exchange of Bonds presented to it for such purposes, to provide for the cancellation of Bonds all as provided in the Fiscal Agent Agreement and any Supplemental Fiscal Agent Agreement, and to provide for the authentication of Bonds, and will perform all other duties assigned to or imposed on it as provided in the Fiscal Agent Agreement and any Supplemental Fiscal Agent Agreement. The Fiscal Agent will keep accurate records of all funds administered by it and all Bonds paid and discharged by it. The Fiscal Agent initially appointed and any successor thereof may be removed by the City and a successor or successors appointed; provided that each such successor will be a bank or a trust company doing business in and

having an office in the city where the predecessor did business and had an office. So long as any Bonds are Outstanding and unpaid, the Fiscal Agent or any successor thereof designated by the City will continue to be the Fiscal Agent of the City for all of said purposes until the designation of a successor as Fiscal Agent.

A Fiscal Agent appointed under the Fiscal Agent Agreement may resign at any time upon 90 days written notice and after appointment of a successor. Upon merger, consolidation, or reorganization of a Fiscal Agent, the City will appoint a new Fiscal Agent, which may be the corporation resulting from such reorganization.

*Liability of Fiscal Agent.* The recitals of fact and all promises, covenants and agreements contained in the Fiscal Agent Agreement and in the Bonds will be taken as statements, promises, covenants and agreements of the City, and the Fiscal Agent assumes no responsibility for the correctness of the same and makes no representations as to the validity or sufficiency of the Fiscal Agent Agreement or of the Bonds, and will incur no responsibility in respect thereof, other than in connection with its duties or obligations in the Fiscal Agent Agreement or in the Bonds or in the certificate of authentication assigned to or imposed upon the Fiscal Agent. The Fiscal Agent will be under no responsibility or duty with respect to the issuance of the Bonds for value. The Fiscal Agent will not be liable in connection with the performance of its duties under the Fiscal Agent Agreement, except for its own gross negligence or default.

#### **Modification or Amendment of the Fiscal Agent Agreement**

*Amendments Permitted.* The Fiscal Agent Agreement and the rights and obligations of the City, the Owners of the Bonds and the Fiscal Agent may be modified or amended from time to time and at any time by a Supplemental Fiscal Agent Agreement, which the City and the Fiscal Agent may enter into when the written consent of the Owners of a majority in aggregate amount of Bond Obligation of the Bonds (or, if such Supplemental Fiscal Agent Agreement is only applicable to a Series of Bonds, such Series of Bonds) then Outstanding has been filed with the Fiscal Agent; provided that if such modification or amendment will, by its terms, not take effect so long as any Bonds of any particular maturity remain Outstanding, the consent of the Owners of such Bonds will not be required and such Bonds will not be deemed to be Outstanding for the purpose of any calculation of Bonds Outstanding under the Fiscal Agent Agreement.

In lieu of satisfying certain requirements of the Fiscal Agent Agreement, the Fiscal Agent Agreement and the rights and obligations of the City and of the Owners of the Bonds and of the Fiscal Agent may also be modified or amended at any time by a Supplemental Fiscal Agent Agreement entered into by the City and the Fiscal Agent which will become binding when the written consents of each provider of a letter of credit or a policy of bond insurance for the Bonds have been filed with the Fiscal Agent, provided that at such time the payment of all the principal of and interest on all Outstanding Bonds shall be insured by a policy or policies of municipal bond insurance or payable under a letter of credit the provider of which is not in default under any such policy of municipal bond insurance or letter of credit. A copy of each such Supplemental Fiscal Agent Agreement will be sent by the City to Fitch and Standard & Poor's.

No such modification or amendment will (a) extend the fixed maturity of any Bond, or reduce the amount of principal thereof, or extend the time of payment or reduce the amount of any mandatory sinking account payment provided for the payment of any Bond, or reduce the rate of interest thereon, or extend the time of payment of interest thereon, or reduce any premium payable upon the redemption thereof, without the consent of the Owner of each Bond so affected, or (b) reduce the aforesaid percentage of Bond Obligation the consent of the Owners of which is required to effect any such modification or

amendment, or permit the creation of any lien on the Net Income prior to or on a parity with the lien created by the Fiscal Agent Agreement, or deprive the Owners of the Bonds of the lien created by the Fiscal Agent Agreement on such Net Income (in each case, except as expressly provided in the Fiscal Agent Agreement), without the consent of the Owners of all of the Bonds then Outstanding. It will not be necessary for the consent of the Bond Owners to approve the particular form of any Supplemental Fiscal Agent Agreement, but it will be sufficient if such consent shall approve the substance thereof. Promptly after the execution and delivery by the Fiscal Agent and the City of any Supplemental Fiscal Agent Agreement pursuant to these provisions, the Fiscal Agent will mail a notice, setting forth in general terms the substance of such Supplemental Fiscal Agent Agreement to the Owners of the Bonds at the addresses shown on the registration books of the Fiscal Agent. Any failure to give such notice, or any defect therein, will not, however, in any way impair or affect the validity of any such Supplemental Fiscal Agent Agreement.

The Fiscal Agent Agreement and the rights and obligations of the City, of the Fiscal Agent and of the Owners of the Bonds may also be modified or amended from time to time and at any time by a Supplemental Fiscal Agent Agreement, which the City and the Fiscal Agent may enter into without the consent of any Bond Owners or any providers of any letter of credit or policy of municipal bond insurance for the Bonds but only to the extent permitted by law and only for any one or more of the following purposes:

- (1) to add to the covenants and agreements of the City contained in the Fiscal Agent Agreement other covenants and agreements thereafter to be observed, to pledge or assign additional security for the Bonds (or any portion thereof), or to surrender any right or power reserved in the Fiscal Agent Agreement to or conferred upon the City;
- (2) to make such provisions for the purpose of curing any ambiguity, inconsistency or omission, or of curing or correcting any defective provision, contained in the Fiscal Agent Agreement, or in regard to matters or questions arising under the Fiscal Agent Agreement, as the City may deem necessary or desirable, and that will not materially and adversely affect the interests of the Owners of the Bonds;
- (3) to modify, amend or supplement the Fiscal Agent Agreement in such manner as to permit its qualification under the Trust Fiscal Agent Agreement Act of 1939, as amended, or any similar federal statute hereafter in effect, and to add such other terms, conditions and provisions as may be permitted by said act or similar federal statute, and that will not materially and adversely affect the interests of the Owners of the Bonds;
- (4) to make modifications or adjustments necessary, appropriate or desirable to provide for the issuance of Variable Rate Indebtedness, Capital Appreciation Indebtedness, Convertible Capital Appreciation Indebtedness or Parity Obligations with such interest rate, payment, maturity and other terms as the City may deem desirable that does not adversely affect the interests of the Owners of any Series of Bonds then Outstanding;
- (5) to provide for the issuance of Bonds in book-entry form or bearer form, provided that no such provision will materially and adversely affect the interests of the Owners of the Bonds;
- (6) to maintain the exclusion of interest on a Series of Bonds from gross income for purposes of federal income taxation and to make such provisions as are necessary or appropriate to ensure such exclusion;

- (7) to provide for the issuance of an additional Series of Bonds; and
- (8) for any other purpose that does not materially and adversely affect the interests of the Owners of the Bonds.

### **Defeasance**

*Discharge of Fiscal Agent Agreement.* The Bonds may be paid by the City in any of the following ways:

- (a) by paying or causing to be paid the Bond Obligations of and interest on such Outstanding Bonds, as and when the same become due and payable;
- (b) by depositing with the Fiscal Agent, an escrow agent or other fiduciary, in trust, at or before maturity, money or securities in the necessary amount (as provided in the Fiscal Agent Agreement) to pay or redeem such Outstanding Bonds; or
- (c) by delivering to the Fiscal Agent, for cancellation by it, such Outstanding Bonds.

If the City shall pay all Series for which any Bonds are Outstanding and also pay or cause to be paid all other sums payable under the Fiscal Agent Agreement by the City, then and in that case, at the election of the City (evidenced by a Certificate of the City, filed with the Fiscal Agent, signifying the intention of the City to discharge all such indebtedness and the Fiscal Agent Agreement), and notwithstanding that any Bonds shall not have been surrendered for payment, the Fiscal Agent Agreement and the pledge of Net Income made under the Fiscal Agent Agreement and all covenants, agreements and other obligations of the City under the Fiscal Agent Agreement will cease, terminate, become void and be completely discharged and satisfied. In such event, upon Request of the City, the Fiscal Agent will cause an accounting for such period or periods as may be determined by the City to be prepared and filed with the City and will execute and deliver to the City all such instruments as may be necessary or desirable to evidence such discharge and satisfaction, as evidenced by a verification report, are not required for the payment or redemption of Bonds not theretofore surrendered for such payment or redemption.

*Discharge of Liability on Bonds.* Upon the deposit with the Fiscal Agent, escrow agent or other fiduciary, in trust, at or before maturity, of money or securities in the necessary amount (as provided in the Fiscal Agent Agreement) to pay or redeem any Outstanding Bond (whether upon or prior to its maturity or the redemption date of such Bond), provided that, if such Bond is to be redeemed prior to maturity, notice of such redemption shall have been given as provided in the Fiscal Agent Agreement or provision shall have been made for the giving of such notice, then all liability of the City in respect of such Bond will cease, terminate and be completely discharged, provided that the Owner thereof will thereafter be entitled to the payment of the principal of and premium, if any, and interest on the Bonds, and the City will remain liable for such payment, but only out of such money or securities deposited with the Fiscal Agent as aforesaid for their payment, subject, however, to the continuing duties of the Fiscal Agent under the Fiscal Agent Agreement.

The City may at any time surrender to the Fiscal Agent for cancellation by it any Bonds previously issued and delivered, which the City may have acquired in any manner whatsoever, and such Bonds, upon such surrender and cancellation, will be deemed to be paid and retired.

*Deposit of Money or Securities with Fiscal Agent.* Whenever in the Fiscal Agent Agreement it is provided or permitted that there be deposited with or held in trust by the Fiscal Agent, an escrow agent or other fiduciary in trust, money or securities in the necessary amount to pay or redeem any Bonds, the



money or securities so to be deposited or held may include money or securities held by the Fiscal Agent, an escrow agent or other fiduciary in trust, will be:

(a) lawful money of the United States of America in an amount equal to the Bond Obligation of such Bonds and all unpaid interest thereon to maturity, except that, in the case of Bonds which are to be redeemed prior to maturity and in respect of which notice of such redemption shall have been given as provided in the Fiscal Agent Agreement or provision satisfactory to the Fiscal Agent shall have been made for the giving of such notice, the amount to be deposited or held will be the Bond Obligation or Redemption Price of such Bonds and all unpaid interest thereon to the Redemption Date; or

(b) Federal Securities, the principal of and interest on which when due will, in the opinion of an independent certified public accountant delivered to the Fiscal Agent (upon which opinion the Fiscal Agent may conclusively rely), provide money sufficient to pay the Bond Obligation or Redemption Price of and all unpaid interest to maturity, or to the redemption date, as the case may be, on the Bonds to be paid or redeemed, as such Bond Obligation or Redemption Price and interest become due, provided that, in the case of Bonds which are to be redeemed prior to the maturity thereof, notice of such redemption shall have been given as in provided in the Fiscal Agent Agreement or provision satisfactory to the Fiscal Agent shall have been made for the giving of such notice;

provided, in each case, that the Fiscal Agent shall have been irrevocably instructed (by the terms of the Fiscal Agent Agreement or by Request of the City) to apply such money to the payment of such Bond Obligation or Redemption Price and interest with respect to such Bonds.

### **Special Insurance Provisions**

So long as the payment of principal of and interest on any Bond is insured by a municipal bond insurance policy issued simultaneously with the delivery of that Series of Bonds, notwithstanding anything in the Fiscal Agent Agreement to the contrary, the bond insurer may be deemed to be the sole Owner of the Bonds it insures for the purpose of exercising any remedies or any voting right or privilege or giving any consent or direction or taking any other action that the Owner of a Bond may be entitled to take pursuant to the Fiscal Agent Agreement.

### **Springing Amendments to Fiscal Agent Agreement**

*Terms of Amendments.* The amendments described below in “Reserve Fund Requirement” and “Investment of Moneys in the Parity Reserve Fund” will become effective upon the earlier to occur of: (i) the first date upon which the City has filed with the Fiscal Agent the written consent of a majority of the aggregate principal amount of Bond Obligations of the Bonds Outstanding as of the effective date of the Eighth Supplement to the Fiscal Agent Agreement (but excluding the 2013A Bonds for the purposes of such calculation), or any consent in lieu thereof in accordance with the Fiscal Agent Agreement has been obtained, or (ii) the first date upon which all of the Outstanding 2010A Bonds and 2012A Bonds have been defeased, paid or discharged in accordance with their terms and shall no longer be Outstanding for purposes of the Fiscal Agent Agreement.

*Reserve Fund Requirement.* The definition of “Reserve Fund Requirement” set forth in the Fiscal Agent Agreement is amended and restated in its entirety as follows:

“Reserve Fund Requirement” means, as of any date of determination and excluding therefrom any Parity Obligations for which no reserve fund is to be maintained or for which a separate reserve fund

is to be maintained, the least of (a) ten percent (10%) of the initial offering price to the public of each Series of Bonds and Parity Obligations to be secured by the Parity Reserve Fund as determined under the Code, or (b) the maximum Annual Debt Service on all Bonds and Parity Obligations to be secured by the Parity Reserve Fund, or (c) one hundred twenty-five percent (125%) of the Average Annual Debt Service on all Bonds and Parity Obligations to be secured by the Parity Reserve Fund, all as computed and determined by the City; provided, that such requirement (or any portion thereof) may be provided by the City delivering to the Fiscal Agent for credit to the Parity Reserve Fund one or more policies of municipal bond insurance or surety bonds issued by a municipal bond insurer if the obligations insured by such insurer have ratings at the time of issuance of such policy is in one of the two highest rating categories of Moody's, Standard & Poor's or Fitch or by a letter or credit issued by a bank or other institution if the obligations issued by such bank or other institution have ratings at the time of issuance of such letter of credit in one of the two highest rating categories of Moody's, Standard & Poor's or Fitch.

*Investment of Moneys in the Parity Reserve Fund.* The last sentence of the second paragraph of the Section herein entitled "Investment of Moneys in Funds and Accounts" is amended and restated in its entirety as follows:

"Investment Securities purchased as an investment of moneys in the Parity Reserve Fund may not have maturities extending beyond ten (10) years."

**APPENDIX E**

**FORM OF CONTINUING DISCLOSURE AGREEMENT**

## APPENDIX F

### PROPOSED FORM OF OPINION OF BOND COUNSEL

Upon issuance of the 2019A Bonds, Nixon Peabody LLP, Los Angeles, California, Bond Counsel, proposes to render its final opinion with respect to the 2019A Bonds in substantially the following form:

\_\_\_\_\_, 2019

City of Pasadena  
Pasadena, California

\$ \_\_\_\_\_  
**City of Pasadena, California**  
**Electric Revenue Refunding Bonds, 2019A Series**

Ladies and Gentlemen:

We have acted as bond counsel to the City of Pasadena, California (the “City”) in connection with the issuance of the City’s Electric Revenue Refunding Bonds, 2019A Series (the “2019A Bonds”) in the aggregate principal amount of \$ \_\_\_\_\_. The 2019A Bonds are being issued pursuant to the Charter of the City, as amended (the “Charter”), including Article XIV thereof, Ordinance No. \_\_\_\_\_ (the “Ordinance”), adopted by the City Council of the City (the “Council”) on June 17, 2019, and an Electric Revenue Bond Fiscal Agent Agreement, dated as of August 1, 1998, by and between the City and The Bank of New York Mellon Trust Company, N.A. (successor to BNY Western Trust Company), as fiscal agent (the “Fiscal Agent”), as amended and supplemented, including as amended and supplemented by a Tenth Supplement to Electric Revenue Bond Fiscal Agent Agreement, dated as of August 1, 2019, each by and between the City and the Fiscal Agent (collectively, the “Fiscal Agent Agreement”).

In our capacity as bond counsel, we have reviewed the Charter, the Ordinance, resolutions adopted by the City Council, the Fiscal Agent Agreement, certifications of the City, the Fiscal Agent and others, opinions of counsel to the City and the Fiscal Agent, and such other documents, opinions and instruments as we deemed necessary to render the opinions set forth herein. Capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Fiscal Agent Agreement.

We have assumed the genuineness of all documents and signatures presented to us. We have not undertaken to verify independently, and have assumed, the accuracy of the factual matters represented, warranted or certified in such documents. Furthermore, we have assumed compliance with all covenants and agreements contained in the Fiscal Agent Agreement, including (without limitation) covenants and agreements compliance with which is necessary to assure that future actions, omissions or events will not cause interest on the 2019A Bonds to be included in gross income for federal income tax purposes.

Based on and subject to the foregoing, and in reliance thereon, as of the date hereof, we are of the following opinions:

1. The City is authorized and empowered by law, including the Charter, to adopt the Ordinance, to execute and deliver the Fiscal Agent Agreement, to issue the 2019A Bonds, to use

the proceeds from the sale thereof for the purposes stated in the Ordinance and the Fiscal Agent Agreement and to pledge the Net Income of the Electric System to the payment of the 2016A Bonds.

2. The Fiscal Agent Agreement has been, pursuant to law, including the Charter and the Ordinance, duly authorized, executed and delivered by, and constitutes the valid and binding obligation of, the City. The Fiscal Agent Agreement creates a valid pledge, to secure the payment of the principal of and interest on the 2016A Bonds, of the Net Income as and to the extent set forth in the Fiscal Agent Agreement and subject to the provisions of the Fiscal Agent Agreement permitting the application thereof for the purposes and on the terms and conditions set forth therein.

3. The 2019A Bonds are valid and binding special obligations of the City and are payable exclusively from the Light and Power Fund of the City's Water and Power Department and certain other funds as provided in the Fiscal Agent Agreement, and are secured by a pledge of and lien upon Net Income of the Electric System on a parity with other obligations of the Electric System payable from Net Income of the Electric System and issued from time to time pursuant to the Fiscal Agent Agreement. The general fund of the City is not liable for the payment of any 2019A Bonds, any premium thereon upon redemption prior to maturity or their interest, nor is the credit or taxing power of the City pledged for the payment of any 2019A Bonds, any premium thereon upon redemption prior to maturity or their interest. The Owner of any 2019A Bond may not compel the exercise of the taxing power by the City or the forfeiture of any of its property. The principal of and interest on any 2019A Bonds and any premiums upon the redemption of any thereof prior to maturity are not a debt of the City nor a legal or equitable pledge, charge, lien or encumbrance upon any of its property or upon any of its income, receipts or revenues, except the Net Income and other funds, security or assets which are pledged to the payment of the 2019A Bonds, interest thereon and any premiums upon redemption.

4. The Internal Revenue Code of 1986 (the "Code") sets forth certain requirements which must be met subsequent to the issuance and delivery of the 2019A Bonds for interest thereon to be and remain excluded from gross income for federal income tax purposes. Noncompliance with such requirements could cause the interest on the 2019A Bonds to be included in gross income for federal income tax purposes retroactive to the date of issue of the 2019A Bonds. Pursuant to the Fiscal Agent Agreement and the Tax Certificate, the City has covenanted to comply with the applicable requirements of the Code in order to maintain the exclusion of the interest on the 2019A Bonds from gross income for federal income tax purposes pursuant to Section 103 of the Code. In addition, the City has made certain representations and certifications in the Fiscal Agent Agreement and the Tax Certificate. We have not independently verified the accuracy of those certifications and representations.

Under existing law, assuming compliance with the tax covenants described herein and the accuracy of the aforementioned representations and certifications, interest on the Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Code. We are also of the opinion that such interest is not treated as a preference item in calculating the alternative minimum tax imposed under the Code.

Interest on the Bonds is exempt from personal income taxes of the State of California under present state law.

The opinions expressed in paragraphs 2 and 3 above are qualified to the extent that the enforceability of the 2019A Bonds and the Fiscal Agent Agreement may be limited by applicable

bankruptcy, insolvency, debt adjustment, reorganization, moratorium or similar laws or equitable principles relating to or limiting creditors' rights generally or as to the availability of any particular remedy. The enforceability of the 2019A Bonds and the Fiscal Agent Agreement is subject to the effect of general principles of equity, including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing, to the possible unavailability of specific performance or injunctive relief, regardless of whether considered in a proceeding in equity or at law, and to the limitations on legal remedies against governmental entities in California (including, but not limited to, rights of indemnification).

In rendering the opinions set forth in paragraph 4 above, we are relying upon representations and covenants of the City in the Tax Certificate concerning the investment and use of 2019A Bond proceeds, the rebate to the federal government of certain earnings thereon, and the use of the property and facilities financed with the proceeds of the 2019A Bonds. In addition, we have assumed that all such representations are true and correct and that the City will comply with such covenants. We express no opinion with respect to the exclusion of the interest on the 2019A Bonds from gross income under Section 103(a) of the Code in the event that any of such representations are untrue or the City fails to comply with such covenants, unless such failure to comply is based on our advice or opinion.

Except as stated in paragraph 4 above, we express no opinion as to any other federal, state or local tax consequences of the ownership or disposition of the 2019A Bonds. Furthermore, we express no opinion as to any federal, state or local tax law consequences with respect to the 2019A Bonds, or the interest thereon, if any action is taken with respect to the 2019A Bonds or the proceeds thereof upon the advice or approval of other counsel.

Our opinions are based on existing law, which is subject to change. Such opinions are further based on our knowledge of facts as of the date hereof. We assume no duty to update or supplement our opinions to reflect any facts or circumstances that may hereafter come to our attention or to reflect any changes in any law that may hereafter occur or become effective. Moreover, our opinions are not a guarantee of result and are not binding on the Internal Revenue Service; rather, such opinions represent our legal judgment based upon our review of existing law that we deem relevant to such opinions and in reliance upon the representations and covenants referenced above.

No opinion is expressed herein on the accuracy, completeness or sufficiency of the Official Statement or other offering material relating to the 2019A Bonds.

Very truly yours,