

NEW ISSUE—Book-Entry Only

Ratings:
S&P: “___”
Fitch: “___”

(see “RATINGS”)

In the opinion of Orrick, Herrington & Sutcliffe LLP, San Francisco, California, and Curls Bartling P.C., Oakland, California, Co-Bond Counsel to the SFPUC, based upon an analysis of existing laws, regulations, rulings and court decisions, and assuming, among other matters, the accuracy of certain representations and compliance with certain covenants, interest on the 2015 Series A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986 and is exempt from the State of California personal income taxes. In the further opinion of Co-Bond Counsel, interest on the 2015 Series A Bonds is not a specific preference item for purposes of the federal individual or corporate alternative minimum taxes, although Co-Bond Counsel observe that such interest is included in adjusted current earnings when calculating corporate alternative minimum taxable income. Co-Bond Counsel express no opinion regarding any other tax consequences related to the ownership or disposition of, or the amount, accrual or receipt of interest on, the 2015 Series A Bonds. See TAX MATTERS.



\$45,000,000*
Public Utilities Commission
of the City and County of San Francisco
Power Revenue Bonds,
2015 Series A (Green Bonds)

Dated: Date of Delivery

Due: As shown on inside front cover

The Public Utilities Commission of the City and County of San Francisco (the “SFPUC”) is issuing its Public Utilities Commission of the City and County of San Francisco Power Revenue Bonds, 2015 Series A (Green Bonds) (the “2015 Series A Bonds”), pursuant to authority granted by Sections 9.107(6) and 9.107(8) of the Charter of the City and County of San Francisco (the “City”) and a First Supplemental Trust Indenture, dated as of March 1, 2015, by and between the SFPUC and _____, as trustee (the “Trustee”), which supplements a Trust Indenture, dated as of March 1, 2015 (collectively, the “Indenture”), by and between the SFPUC and the Trustee.

The 2015 Series A Bonds are being issued to finance reconstruction or replacement of existing facilities of the SFPUC’s Hetch Hetchy Project and energy conservation projects, to fund capitalized interest on the 2015 Series A Bonds, to fund a debt service reserve account for the 2015 Series A Bonds and to pay costs of issuance of the 2015 Series A Bonds.

The 2015 Series A Bonds will be available in denominations of \$5,000 or any integral multiple thereof and will mature in the years and amounts and accrue interest from their date of delivery at the rates set forth on the inside cover page of this Official Statement. Interest on the 2015 Series A Bonds is payable semiannually on ____ 1 and ____ 1 of each year, commencing ____ 1, 2015.

The 2015 Series A Bonds will be issued as fully registered bonds, registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York (“DTC”), and will be available to ultimate purchasers (the “Beneficial Owners”) under the book-entry system maintained by DTC. Beneficial Owners will not receive physical certificates representing their interests in the 2015 Series A Bonds. The principal of, premium, if any, and interest on the 2015 Series A Bonds are payable to DTC by the Trustee, and, so long as DTC is acting as securities depository for the 2015 Series A Bonds, disbursements of such payments to DTC Participants is the responsibility of DTC and disbursements of such payments to the Beneficial Owners is the responsibility of DTC Participants.

The 2015 Series A Bonds are subject to optional and mandatory redemption prior to maturity as described in this Official Statement.

Under the Indenture, the SFPUC has irrevocably pledged the Revenues of its Power Enterprise, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits, to the punctual payment of principal of, premium, if any, and interest on the Bonds, which consist of all outstanding parity revenue bonds issued under the Indenture, including the 2015 Series A Bonds, and outstanding parity obligations permitted by the Indenture.

The 2015 Series A Bonds are special limited obligations of the SFPUC. The SFPUC is not obligated to pay the principal of, premium, if any, or interest on the 2015 Series A Bonds from any source of funds other than Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits. Neither the general funds of the SFPUC nor the funds of any SFPUC enterprise (other than the Revenues and the funds pledged therefor under the Indenture) shall be liable for the payment on the 2015 Series A Bonds. The SFPUC has no taxing power. The General Fund of the City is not liable for the payment of the principal of, premium, if any, or interest on the 2015 Series A Bonds, and neither the credit nor the taxing power of the City is pledged to the payment of the principal of, premium, if any, or interest on the 2015 Series A Bonds. The 2015 Series A Bonds are not secured by a legal or equitable pledge of, or charge, lien, or encumbrance upon, any of the property of the City or of the SFPUC or any of its income or receipts, except Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits.

MATURITY SCHEDULE

(See inside cover)

This cover page contains information for general reference only. It is not intended to be a summary of this issue. Potential purchasers are advised to read the entire Official Statement to obtain information essential to making an informed investment decision.

The 2015 Series A Bonds are offered when, as and if issued by the SFPUC and received by the Underwriter, subject to the approval of validity by Orrick, Herrington & Sutcliffe LLP, San Francisco, California, and Curls Bartling P.C., Oakland, California, Co-Bond Counsel, and to certain other conditions. Certain matters will be passed upon for the SFPUC and the City by the City Attorney of the City and County of San Francisco and for the Underwriter by Nossaman LLP. Orrick, Herrington & Sutcliffe LLP, San Francisco, California, is also acting as Disclosure Counsel. Public Financial Management, Inc., San Francisco, California, and Kitahata & Company, San Francisco, California, Co-Financial Advisors to the SFPUC, assisted in the structuring of this financing. It is expected that the 2015 Series A Bonds in fully registered form will be available for delivery in book-entry form in New York, New York, on or about _____, 2015.

Wells Fargo Securities

March __, 2015

* Preliminary, subject to change.

MATURITY SCHEDULE

2015 Series A Bonds

(Base CUSIP* Number: _____)

\$_____ **Serial Bonds**

<u>Maturity</u>	<u>Principal Amount</u>	<u>Interest Rate</u>	<u>Yield</u>	<u>CUSIP*</u>
-----------------	-------------------------	----------------------	--------------	---------------

\$ _____ % Term Bonds Due _____ 1, _____ Price – _____ % CUSIP* _____

\$ _____ % Term Bonds Due _____ 1, _____ Price – _____ % CUSIP* _____

* Copyright 2015, American Bankers Association. CUSIP data provided herein by Standard and Poor's, CUSIP Global Services, managed for the American Bankers Association by Standard & Poor's Financial Services LLC. This data is not intended to create or maintain a database of CUSIP descriptions or numbers and is not intended to create and does not serve in any way as a substitute for the CUSIP Service. CUSIP numbers are provided only for the convenience of the reader. Neither the SFPUC nor the Underwriter take any responsibility for the accuracy of such CUSIP numbers.

Power Enterprise Generating Capacity and Transmission Infrastructure

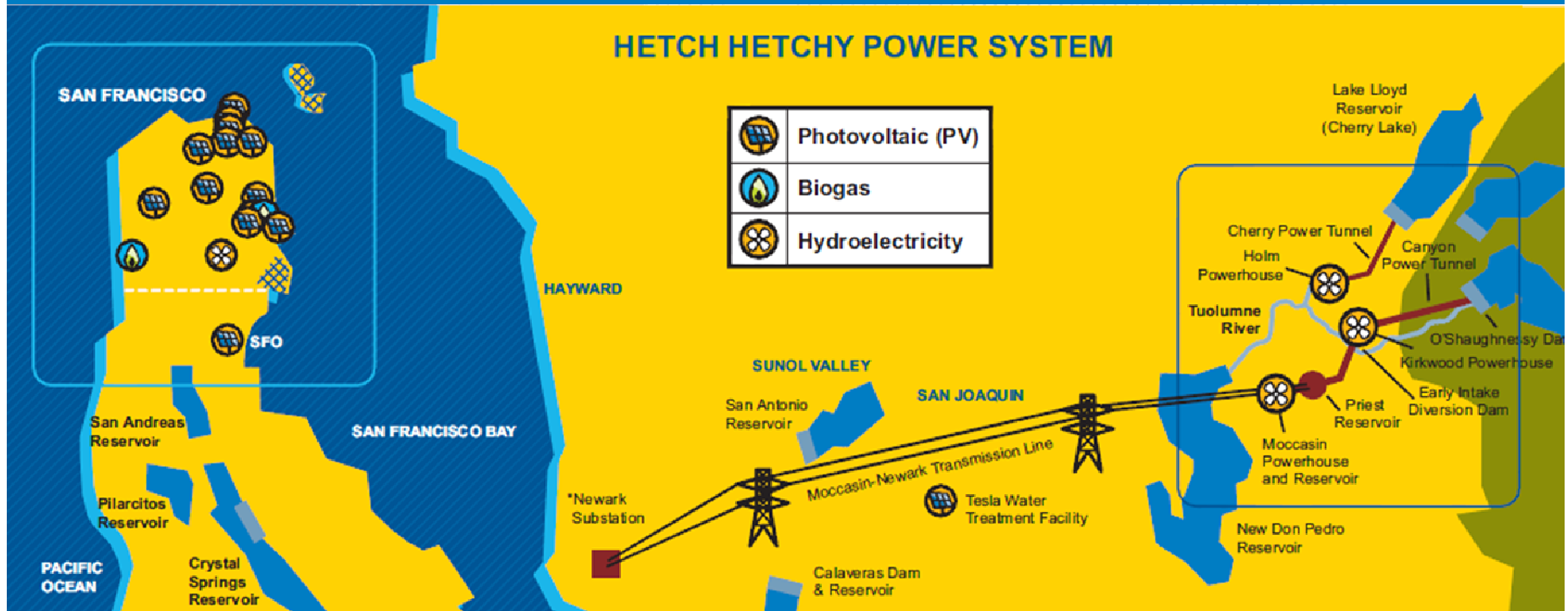


Figure 1-1 – SFPUC Power System (Not to Scale)

The 2015 Series A Bonds are not secured by a legal or equitable pledge of, or charge, lien or encumbrance upon, any of the property of the SFPUC or of its income or receipts, except Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits. See **SECURITY FOR THE BONDS**.

GENERAL STATEMENT

No dealer, broker, salesperson or other person has been authorized by the SFPUC to give any information or to make any representation other than those contained herein and, if given or made, such other information or representation must not be relied upon as having been authorized by the SFPUC.

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 2015 Series A Bonds, by any person in any jurisdiction in which it is unlawful for such person to make such an offer, solicitation or sale. This Official Statement is not to be construed as a contract with the initial purchasers of the 2015 Series A Bonds. Any statement made in this Official Statement involving any forecast or matter of estimates or opinion, whether or not expressly so stated, is intended solely as such and not as a representation of fact. The information set forth herein other than that provided by the SFPUC, although obtained from sources which are believed to be reliable, is not guaranteed as to accuracy or completeness. The information and expressions of opinion 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 SFPUC or the City since the date hereof.

The City maintains a website at <http://www.sfgov.org> and the SFPUC maintains a website at <http://www.sfwater.org>. The information contained in such websites is not incorporated by reference and should not be relied upon in making an investment in the 2015 Series A Bonds.

The issuance and sale of the 2015 Series A Bonds have not been registered under the Securities Act of 1933 in reliance upon the exemption provided thereunder by Section 3(a)(2) for the potential issuance and sale of municipal securities.

IN CONNECTION WITH THE OFFERING OF THE 2015 SERIES A BONDS, THE UNDERWRITER MAY OVERALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF THE 2015 SERIES A BONDS AT LEVELS ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

This Official Statement is delivered for use in connection with the issuance, sale and delivery of the 2015 Series A Bonds and may not be reproduced or used, in whole or in part, for any other purpose.

The Underwriter has provided the following for inclusion in the Official Statement in connection with the offering of the 2015 Series A Bonds: The Underwriter has reviewed the information in this Official Statement in accordance with, and as part of, their respective responsibilities to investors under the federal securities laws, as applied to the facts and circumstances of this transaction, but the Underwriter does not guarantee the accuracy or completeness of such information.

FORWARD LOOKING STATEMENTS

CERTAIN STATEMENTS CONTAINED IN THIS OFFICIAL STATEMENT REFLECT NOT HISTORICAL FACTS BUT FORECASTS AND "FORWARD-LOOKING STATEMENTS." ALL FORWARD-LOOKING STATEMENTS ARE PREDICTIONS AND ARE SUBJECT TO KNOWN AND UNKNOWN RISKS AND UNCERTAINTIES. NO ASSURANCE CAN BE GIVEN THAT THE FUTURE RESULTS DISCUSSED HEREIN WILL BE ACHIEVED, AND ACTUAL RESULTS MAY DIFFER MATERIALLY FROM THE FORECASTS DESCRIBED HEREIN. IN THIS RESPECT, THE WORDS "ESTIMATE", "PROJECT", "ANTICIPATE", "EXPECT", "INTEND", "BELIEVE" AND SIMILAR EXPRESSIONS ARE INTENDED TO IDENTIFY FORWARD-LOOKING STATEMENTS. ALL PROJECTIONS, FORECASTS, ASSUMPTIONS, EXPRESSIONS OF OPINIONS, ESTIMATES AND OTHER FORWARD-LOOKING STATEMENTS ARE EXPRESSLY QUALIFIED IN THEIR ENTIRETY BY THE CAUTIONARY STATEMENTS SET FORTH IN THIS OFFICIAL STATEMENT. GIVEN THEIR UNCERTAINTY, INVESTORS ARE CAUTIONED NOT TO PLACE UNDUE RELIANCE ON SUCH STATEMENTS.

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

Ann Moller Caen, President
Francesca Vietor, Vice President
Vince Courtney, Commissioner
Anson Moran, Commissioner

PUBLIC UTILITIES COMMISSION OFFICIALS

Harlan L. Kelly, Jr., General Manager
Michael Carlin, Deputy General Manager and Chief Operating Officer
_____, [Acting] Assistant General Manager, Business Services and Chief Financial Officer
Barbara Hale, Assistant General Manager, Power Enterprise
Tommy T. Moala, Assistant General Manager, Wastewater Enterprise
Steven R. Ritchie, Assistant General Manager, Water Enterprise
Juliet Ellis, Assistant General Manager, External Affairs
Emilio Cruz, Assistant General Manager, Infrastructure Division

CITY AND COUNTY OF SAN FRANCISCO

MAYOR
Edwin M. Lee

BOARD OF SUPERVISORS

_____, Board President, District __

John Avalos, District 11
David Campos, District 9
Katy Tang, District 4
Malia Cohen, District 10
Norman Yee, District 7

Mark Farrell, District 2
Jane Kim, District 6
Eric Mar, District 1
London Breed, District 5
Scott Wiener, District 8

_____, District 3

CITY ATTORNEY

Dennis J. Herrera

CITY TREASURER

José Cisneros

OTHER CITY AND COUNTY OFFICIALS

Benjamin Rosenfield, Controller
Naomi Kelly, City Administrator

SPECIAL SERVICES

Co-Bond Counsel

Orrick, Herrington & Sutcliffe LLP
San Francisco, California

Curls Bartling P.C.
Oakland, California

Disclosure Counsel

Orrick, Herrington & Sutcliffe LLP
San Francisco, California

Co-Financial Advisors

Public Financial Management, Inc.
San Francisco, California

Kitahata & Company
San Francisco, California

Trustee

U.S. Bank National Association
San Francisco, California

TABLE OF CONTENTS

	<u>Page</u>		<u>Page</u>
GENERAL STATEMENT	1	Organization, Purposes and Powers.....	19
FORWARD LOOKING STATEMENTS	1	Commission Members	20
INTRODUCTION	1	Management	20
General	1	Employee Relations	22
Authority for Issuance	1	Local Hiring.....	23
The San Francisco Public Utilities		THE HETCH HETCHY PROJECT	23
Commission and the Power Enterprise	1	General	23
Purposes.....	2	History	23
Security for the Bonds	2	Hydroelectric Generation.....	24
Outstanding and Future Parity Obligations	3	Transmission and Distribution.....	25
Certain Risk Factors	3	Physical Condition of Facilities.....	26
Continuing Disclosure	3	Hetch Hetchy Project Operations	27
Other Matters.....	3	Licensing and Regulation	28
PLAN OF FINANCE	4	FERC Proceeding Regarding Relicensing of	
ESTIMATED SOURCES AND USES OF		the Don Pedro Project.....	29
FUNDS	4	Wildfire Considerations; 2013 Rim Fire	30
GREEN BONDS DESIGNATION	4	Safety and Security	31
THE 2015 SERIES A BONDS.....	4	Variability of Hydroelectric Generation	31
General	4	Potential Impact of Climate Change.....	32
Securities Depository and Book-Entry		Proposals to Restore Hetch Hetchy Valley	33
System	5	THE POWER ENTERPRISE.....	34
Redemption.....	5	General	34
Defeasance.....	6	Power Service in San Francisco	35
SECURITY FOR THE BONDS.....	6	Power Supply Resources	36
Pledge of Revenues	6	Wholesale Electricity Sales	39
Limited Obligations	7	Load and Electricity Supply Resource	
Flow of Funds.....	8	Management; Wholesale Electricity Trading	39
Rate Covenant; Rates and Charges	8	Transmission and Distribution.....	40
Reserve Fund.....	9	Operational Control	42
Reconstruction and Replacement Fund	10	Power Enterprise Customers.....	42
Other Parity Obligations	11	Security and Reliability	47
Additional Series of Bonds	11	Municipalization Proposals	47
Certain Obligations Payable as Operations		FUTURE POWER SUPPLY AND DEMAND	48
and Maintenance Expenses.....	13	Projected Power Demand and Adequacy of	
Subordinate Obligations; Obligations Not		Power Supply.....	48
Payable from Revenues	13	POWER ENTERPRISE CAPITAL	
Authorized Investments.....	13	PROGRAM	50
OBLIGATIONS PAYABLE FROM		Capital Planning Process	50
REVENUES	14	Ten-Year Capital Plan	50
Authority for Issuance of Revenue Bonds		Environmental Considerations.....	52
and Other Obligations Payable from		FINANCIAL OPERATIONS	53
Revenues.....	14	General	53
Revenue Bond Oversight Committee	14	Basis of Accounting.....	53
Outstanding Parity Obligations.....	15	City Budget Process.....	53
Subordinate Obligations	15	Rate-Setting Process; Rates	53
State Loan	15	Operation and Maintenance Expenses.....	58
Contingent Payment Obligations.....	16	Employee Benefit Plans.....	58
Power Purchase Agreements	16	Allocation of Costs	61
Other Obligations Payable from Revenues.....	16	Payments to/from the City	61
Debt Service Requirements	17	Debt Management and Fund Balance	
THE CITY AND COUNTY OF SAN		Reserve Policies.....	62
FRANCISCO.....	17	Investment of SFPUC Funds	62
THE PUBLIC UTILITIES COMMISSION	19	Risk Management and Insurance.....	62
General	19	HISTORICAL OPERATING RESULTS.....	64

TABLE OF CONTENTS
(Continued)

	<u>Page</u>		<u>Page</u>
CERTAIN RISK FACTORS	66	DEVELOPMENTS IN THE ELECTRICITY	
General	66	MARKETS AND REGULATION	75
Limited Obligations	66	Structure of the Energy Market Today	75
Unavailability of Generation or		The Power Enterprise’s Relationship to the	
Transmission.....	66	CAISO	76
Seismic Considerations.....	69	Federal Law and Regulation.....	77
Construction Related Risks.....	69	California State Law and Regulation.....	79
Limitations on Rate-Setting.....	70	Renewable Portfolio Standard	80
Raker Act Requirements.....	70	Resource Adequacy Requirements	80
Customer Concentration	70	Energy Loading Order	81
Economic, Political, Social and		Community Choice Aggregation Service	81
Environmental Conditions	70	California Solar Initiative	81
Increased Operation and Maintenance		Energy Storage	82
Expenses	71	State Law Requirements Affecting Investor-	
Changes in Energy Prices	71	Owned Utilities.....	82
Uncertainties of the Electric Utility Industry.....	71	Future Regulation and Other Factors.....	82
Constitutional, Statutory and Charter		CONSTITUTIONAL, STATUTORY AND	
Limitations.....	71	CHARTER LIMITATIONS	83
Initiative, Referendum, Charter		Proposition 218 and Proposition 26.....	83
Amendments and Future Legislation and		Charter Limitations.....	83
Regulations	71	Initiative Measures and Charter	
Bankruptcy	72	Amendments.....	84
Limitations on Remedies	73	LITIGATION	84
Loss of Tax Exemption/Risk of Tax Audit		TAX MATTERS	84
of Municipal Issuers	73	CERTAIN LEGAL MATTERS	86
Change in Tax Law.....	74	RATINGS	86
Failure to Maintain Credit Ratings	74	UNDERWRITING	87
Secondary Market.....	74	FINANCIAL STATEMENTS.....	87
Uncertainties of Projections, Forecasts and		CONTINUING DISCLOSURE.....	87
Assumptions	74	FINANCIAL ADVISORS.....	88
Other Risks	74	MISCELLANEOUS.....	88
		APPROVAL AND EXECUTION.....	88
APPENDIX A - SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE			
APPENDIX B - SFPUC POWER ENTERPRISE FINANCIAL STATEMENTS			
APPENDIX C - PROPOSED FORM OF OPINION OF CO-BOND COUNSEL			
APPENDIX D - FORM OF CONTINUING DISCLOSURE CERTIFICATE			
APPENDIX E - SECURITIES DEPOSITORY AND BOOK-ENTRY SYSTEM			

OFFICIAL STATEMENT

\$45,000,000*

PUBLIC UTILITIES COMMISSION OF THE CITY AND COUNTY OF SAN FRANCISCO POWER REVENUE BONDS, 2015 SERIES A (GREEN BONDS)

INTRODUCTION

This Introduction is qualified in its entirety by reference to the more detailed information included and referred to elsewhere in this Official Statement. The offering of the 2015 Series A Bonds to potential investors is made only by means of the entire Official Statement. Terms used in this Introduction and not otherwise defined have the respective meanings assigned to them elsewhere in this Official Statement, including APPENDIX A – SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE.

General

This Official Statement, including the cover page and Appendices hereto, is provided to furnish certain information in connection with the offering by the Public Utilities Commission of the City and County of San Francisco (the “SFPUC”) of the power revenue bonds captioned above (the “2015 Series A Bonds”).

Authority for Issuance

The SFPUC is issuing the 2015 Series A Bonds pursuant to authority granted by Sections 9.107(6) and 9.107(8) of the Charter (the “Charter”) of the City and County of San Francisco (the “City”), Ordinance No. ____ passed by the Board of Supervisors of the City (the “Board of Supervisors”) on _____, 2015 (“Ordinance No. _____”), and a First Supplemental Trust Indenture, dated as of March 1, 2015 (the “First Supplemental Indenture”), by and between the SFPUC and U.S. Bank National Association as trustee (the “Trustee”), which supplements a Trust Indenture, dated as of March 1, 2015 (the “Master Indenture”), by and between the SFPUC and the Trustee. The Master Indenture and the First Supplemental Indenture are referred to herein collectively as the “Indenture.”

The 2015 Series A Bonds are being issued under a resolution adopted by the SFPUC governing body (the “Commission”) on December __, 2014, and Ordinance No. _____.

The San Francisco Public Utilities Commission and the Power Enterprise

The SFPUC is a department of the City responsible for the maintenance, operation and development of three utility enterprises: the Water Enterprise, the Wastewater Enterprise and the Hetch Hetchy Water and Power Enterprise (“Hetch Hetchy Water and Power”). The Water Enterprise provides drinking water to retail customers in the City, to certain retail customers outside of the City and to wholesale customers in three other Bay Area (defined below) counties. The Wastewater Enterprise provides sanitary waste and stormwater collection, treatment and disposal services to residential, commercial and industrial customers in the City and three municipal sewer service providers serving residents and businesses in northern San Mateo County. Hetch Hetchy Water and Power operates and maintains the Hetch Hetchy Water and Power Project, including the O’Shaughnessy Dam, the Hetch Hetchy Reservoir, the Canyon and Mountain Tunnels, the Kirkwood, Moccasin and Holms Powerhouses, Cherry Lake and its dam, Lake Eleanor and its dam, the related water storage and transportation and hydroelectric generating facilities down to and including the Moccasin Powerhouse, all located in Yosemite National Park, Stanislaus National Forest and Tuolumne County, the rights to which were granted to the City by the Raker Act of 1913 (the “Raker Act”), related transmission facilities down to the City of Newark, California (“Newark”), and the related water storage and transportation facilities from Hetch Hetchy Valley to a connection with the facilities of the Water Enterprise (collectively, the “Hetch Hetchy Project”). The Power Enterprise (defined below) provides hydroelectric, solar and other power, serving City municipal customers, the Modesto Irrigation District (“MID”) and the Turlock

*Preliminary, subject to change

Irrigation District (“TID” and, collectively, the “Districts”), and other public agencies and retail customers, and provides pedestrian and streetlight services. The Power Enterprise also operates and maintains the natural gas and electric utilities systems on Treasure Island/Yerba Buena Island pursuant to an agreement with Treasure Island Development Authority (“TIDA”). See **THE PUBLIC UTILITIES COMMISSION, THE HETCHY HETCHY PROJECT** and **THE POWER ENTERPRISE**.

For financial purposes, Hetch Hetchy Water and Power is comprised of two component funds: Hetchy Hetchy Water and Hetchy Hetchy Power (known as and referred to in this Official Statement as the “Power Enterprise”). All power sales revenues are allocated to the Power Enterprise. Operating and capital costs of Hetch Hetchy Water and Power benefitting solely the Power Enterprise, and 55% of combined operating and capital costs that benefit both Hetch Hetchy Water and the Power Enterprise, are allocated to the Power Enterprise. See **THE POWER ENTERPRISE**. Operating and capital costs benefitting solely Hetch Hetchy Water, and 45% of combined operating capital costs benefitting both Hetch Hetchy Water and the Power Enterprise are allocated to the SFPUC’s Water Enterprise.

The 2015 Series A Bonds are secured by a pledge of Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits (each defined below). The 2015 Series A Bonds are not secured by or payable from the revenues of the Water Enterprise, the revenues of the Wastewater Enterprise, the revenues allocated to Hetch Hetchy Water or the revenues of the Power Enterprise that do not constitute “Revenues” (as defined in the Indenture).

Purposes

The 2015 Series A Bonds are being issued to finance the reconstruction or replacement of existing facilities of the Hetch Hetchy Project and to finance energy conservation projects. See **POWER ENTERPRISE CAPITAL PROGRAM**.

Proceeds of the 2015 Series A Bonds will also be applied to (a) fund capitalized interest with respect to the 2015 Series A Bonds, (b) to fund a debt service reserve account for the 2015 Series A Bonds and (c) pay the costs of issuance of the 2015 Series A Bonds.

See **PLAN OF FINANCE**.

Security for the Bonds

Under the Indenture, the SFPUC has irrevocably pledged the Revenues of its Power Enterprise, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits, to the payment of principal of, premium, if any, and interest on the 2015 Series A Bonds, any parity revenue bonds issued under the Indenture (collectively, “Bonds”) and any other parity obligations permitted by the Indenture. The 2015 Series A Bonds and all other Bonds are secured by a parity lien on Revenues after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits. See **SECURITY FOR THE BONDS**.

The 2015 Series A Bonds are special limited obligations of the SFPUC. The SFPUC is not obligated to pay the principal of, premium, if any, or interest on the 2015 Series A Bonds from any source of funds other than Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits. The SFPUC has no taxing power. Neither the general funds of the SFPUC nor the funds of any SFPUC enterprise (other than the Revenues and the funds pledged therefor under the Indenture) shall be liable for payment of the 2015 Series A Bonds. The General Fund of the City is not liable for the payment of the principal of, premium, if any, or interest on the 2015 Series A Bonds, and neither the credit nor the taxing power of the City is pledged to the payment of the principal of, premium, if any, or interest on the 2015 Series A Bonds. The 2015 Series A Bonds are not secured by a legal or equitable pledge of, or charge, lien or encumbrance upon, any of the property of the City or of the SFPUC or any of its income or receipts, except Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits.

Outstanding and Future Parity Obligations

The 2015 Series A Bonds are the first Series of Bonds to be issued under the Master Indenture and there are currently no other obligations of the SFPUC payable from Revenues on a parity with the 2015 Series A Bonds. The SFPUC may issue additional Series of Bonds under the Indenture and may incur additional obligations payable from Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits, on a parity with the payment of the 2015 Series A Bonds. See **SECURITY FOR THE BONDS – Additional Series of Bonds and – Other Parity Obligations**.

Certain Risk Factors

Investment in the 2015 Series A Bonds is subject to material risks. For a general overview of certain risk factors which should be considered, in addition to other matters set forth in this Official Statement, in evaluating an investment in the 2015 Series A Bonds, see **CERTAIN RISK FACTORS**.

Continuing Disclosure

The SFPUC will covenant in a Continuing Disclosure Certificate, to be executed and delivered by the SFPUC concurrently with the issuance of the 2015 Series A Bonds, to provide certain financial information and operating data relating to the Power Enterprise and notices of certain enumerated events, and in certain cases only if material. Such information and notices will be filed by the SFPUC with the Municipal Securities Rulemaking Board (“MSRB”) through its Electronic Municipal Market Access system (“EMMA”). For more information concerning the SFPUC’s continuing disclosure commitment and the form of the Continuing Disclosure Certificate, see **CONTINUING DISCLOSURE** and **APPENDIX D – FORM OF CONTINUING DISCLOSURE CERTIFICATE**.

This Official Statement speaks only as of its date, and the information contained herein is subject to change. Except as required by the Continuing Disclosure Certificate, the SFPUC has no obligation to update the information in this Official Statement. See **CONTINUING DISCLOSURE**.

Other Matters

Brief descriptions of the 2015 Series A Bonds, the security and sources of payment for the 2015 Series A Bonds, the SFPUC, and the Power Enterprise are provided herein. Such descriptions do not purport to be comprehensive or definitive. Definitions of certain capitalized terms used herein may be found in **APPENDIX A – SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE**. All references made to various documents herein are qualified in their entirety by reference to the forms thereof, all of which are available for inspection at the office of the SFPUC at:

San Francisco Public Utilities Commission
525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102
Attention: Assistant General Manager, Business Services and Chief Financial Officer
(415) 554-3155

PLAN OF FINANCE

The 2015 Series A Bonds are being issued to finance reconstruction or replacement of existing facilities of the Hetch Hetchy Project. The SFPUC expects to spend the proceeds of the 2015 Series A Bonds to finance a rewind of hydro-generating units at Moccasin Powerhouse, reconstruction and replacement of other Hetch Hetchy Project generation facilities and rehabilitation of Hetch Hetchy Project transmission and distribution lines. See **ESTIMATED SOURCES AND USES OF FUNDS** and **POWER ENTERPRISE CAPITAL PROGRAM**.

ESTIMATED SOURCES AND USES OF FUNDS

Proceeds of the 2015 Series A Bonds are expected to be applied approximately as set forth below:

<i>Sources</i>	
Bond Principal	\$
Original Issue [Premium] [Discount]	
<i>Total Sources of Funds</i>	\$
 <i>Uses</i>	
Deposit to 2015 Series A Project Fund	\$
Deposit to 2015 Series A Capitalized Interest Account ⁽¹⁾	
Deposit to Common Reserve Account	
Costs of Issuance ⁽²⁾	
Underwriter's Discount	
<i>Total Uses of Funds</i>	\$

⁽¹⁾ To pay interest of the 2015 Series A Bonds through _____ 1, ____.

⁽²⁾ Including amounts for rating agency fees, fees for legal services, fees for financial advisors, Trustee's fees and expenses, printing costs, and other costs relating to the issuance of the 2015 Series A Bonds.

GREEN BONDS DESIGNATION

The 2015 Series A Bonds are being designated by the SFPUC as "Green Bonds." The purpose of labeling the offered bonds as "Green Bonds" is to allow investors to invest directly in bonds which finance environmentally beneficial projects. The projects to be funded by the 2015 Series A Bonds are all for the hydroelectric facilities (including transmission facilities) of the Hetch Hetchy Project, which produces greenhouse gas ("GHG") free electricity. See **PLAN OF FINANCE** and **POWER ENTERPRISE CAPITAL PROGRAM**. Future issuances of Green Bonds could finance more hydroelectric improvements and other renewable energy projects such as biomass and biowaste, solar and wind, and energy conservation projects such as energy-efficient streetlights. The Indenture does not, however, so restrict the use of proceeds of future issuances of Bonds and in the future the SFPUC may issue Bonds and other parity obligations permitted by the Indenture which are not classified as Green Bonds. See **PLAN OF FINANCE**, **SECURITY FOR THE BONDS**, and **POWER ENTERPRISE CAPITAL PROGRAM**. The 2015 Series A Bonds will not constitute "exempt facility bonds" issued to finance "qualified green building and sustainable design projects" within the meaning of Section 142(1) of the Code.

The repayment obligations of the Power Enterprise with respect to the 2015 Series A Bonds are not conditioned on the completion of any particular project or the satisfaction of any certification relating to the status of the 2015 Series A Bonds as Green Bonds. See **SECURITY FOR THE BONDS**.

THE 2015 SERIES A BONDS

General

The 2015 Series A Bonds will be dated as of their date of delivery and will accrue interest from the date of delivery at the rates per annum set forth on the inside cover page of this Official Statement. Interest on the 2015 Series A Bonds is payable on _____ 1 and _____ 1 of each year, beginning _____ 1, 2015.

Interest on the 2015 Series A Bonds will be calculated on the basis of a 360-day year composed of twelve 30-day months.

The 2015 Series A Bonds will mature on the dates and in the principal amounts set forth on the inside cover page of this Official Statement. The 2015 Series A Bonds will be issued in fully registered form in denominations of \$5,000 or any integral multiple of \$5,000.

Securities Depository and Book-Entry System

The 2015 Series A Bonds will be issued in fully registered form, registered in the name of Cede & Co., as nominee for The Depository Trust Company (“DTC”), New York, New York, as the Owner of the 2015 Series A Bonds.

So long as DTC, or its nominee, Cede & Co., is the Owner of the 2015 Series A Bonds, all payments on the 2015 Series A Bonds will be made directly to DTC. Disbursement of such payments to the DTC Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners of the 2015 Series A Bonds will be the responsibility of the DTC Participants. See **APPENDIX E—SECURITIES DEPOSITORY AND THE BOOK-ENTRY SYSTEM.**

Redemption

Optional Redemption. The 2015 Series A Bonds are subject to redemption prior to their stated maturity, at the option of the SFPUC, from any source of available funds, as a whole or in part, on any date on or after _____ 1, ____, and if in part by lot within such maturity, at a redemption price equal to 100% of the principal amount of the 2015 Series A Bonds to be redeemed, plus accrued interest thereon to the date fixed for redemption, without premium.

Mandatory Sinking Fund Redemption. The 2015 Series A Bonds maturing on _____ 1, ____, and _____ 1, ____, are further subject to redemption prior to their stated maturity, from the 2015 Series A Bond Retirement Account, on any _____ 1, ____ on or after _____ 1, ____, and _____ 1, ____, respectively, by lot within any such maturity if less than all of the 2015 Series A Bonds of such maturity and tenor be redeemed, upon payment of the principal amount thereof and accrued interest thereon to the date fixed for redemption, without premium.

The 2015 Series A Term Bonds maturing on _____ 1, ____, shall be redeemed from Mandatory Sinking Fund Payments in the following principal amounts on the dates indicated below.

Redemption Date (_____ 1)	Principal Amount
------------------------------	---------------------

†

† Maturity

The 2015 Series A Term Bonds maturing on _____ 1, ____, shall be redeemed from Mandatory Sinking Fund Payment in the following respective principal amounts on the dates indicated below.

Redemption Date (_____1)	Principal Amount
-----------------------------	---------------------

†

† Maturity

Defeasance

The obligations of the SFPUC and the pledge, lien, covenants and agreements of the SFPUC made or provided for in the Indenture will be fully discharged and satisfied as to any 2015 Series A Bond and such Bond will no longer be deemed outstanding thereunder if certain conditions set forth in the Indenture are satisfied. See **APPENDIX A – SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE – Defeasance.**

SECURITY FOR THE BONDS

Pledge of Revenues

General. Under the Indenture, the SFPUC has pledged and placed a lien and charge upon the Revenues of the Power Enterprise, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits, to the payment of the Bonds, which consist of any parity revenue bonds issued under the Indenture, including the 2015 Series A Bonds, and any additional Series of Bonds. This pledge is subject to the flow of funds contained in the Indenture, as described below. See **Flow of Funds.**

The facilities of the Power Enterprise have not been pledged or mortgaged and do not otherwise secure payment of the Bonds.

Pursuant to Section 5451 of the California Government Code, the pledge of, lien on and security interest in Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits, granted by the Indenture is valid and binding in accordance with the terms thereof from the time of issuance of the 2015 Series A Bonds; such Revenues will be immediately subject to such pledge; and such pledge will constitute a lien and security interest which will immediately attach to such Revenues and will be effective, binding and enforceable against the SFPUC, its successors, creditors, and all others asserting rights therein to the extent set forth and in accordance with the terms of the Indenture irrespective of whether those parties have notice of such pledge and without the need for any physical delivery, recordation, filing or other further act. Such pledge, lien and security interest are not subject to the provisions of Article 9 of the California Uniform Commercial Code.

For definitions of capitalized terms used herein and not otherwise defined, see **APPENDIX A – SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE – Definitions.**

Power Enterprise. The Indenture defines “Power Enterprise” as the SFPUC’s Power Enterprise, existing as of the date of the Master Indenture to provide electric power and related services to the City and its departments, agencies and commissions as well as other customers both in and outside of the City, including that portion of the Hetch Hetchy Project allocable to power generation, all other power generation, transmission and distribution facilities and related facilities, streetlights, property and rights constituting a part of the Power Enterprise, and any and all additions, improvements, betterments, renewals, replacements and repairs thereto and extensions thereof, but shall not include: (a) the Water Enterprise, (b) the Wastewater Enterprise, or (c) any Separate System.

The Indenture defines the “Hetch Hetchy Project” as the Hetch Hetchy Water and Power Project , including the O’Shaughnessy Dam, the Hetch Hetchy Reservoir, the Canyon and Mountain Tunnels, the Kirkwood, Moccasin and Holms Powerhouses, Cherry Lake and its dam, Lake Eleanor and its dam, the related water storage and transportation and hydroelectric generating facilities down to and including the Moccasin Powerhouse, all located in Yosemite National Park, Stanislaus National Forest and Tuolumne County, the rights to which were granted to the City by the Raker Act, and the related transmission facilities down to Newark.

The Indenture defines a “Separate System” as any electric power or energy generation, transmission, distribution or other facilities, property and rights that may be, after the date of the Master Indenture, purchased, constructed or otherwise acquired by the SFPUC where the revenues derived from the ownership and operation of which shall be pledged to the payment of bonds or other obligations for borrowed money issued or incurred to purchase, construct or otherwise acquire such facilities, property and rights and shall not be included in Revenues and the operation and maintenance expenses with respect to which shall not be included in Operation and Maintenance Expenses.

Net Revenues. The Indenture defines “Net Revenues” as all of the Revenues, less all Operation and Maintenance Expense and Priority R&R Fund Deposits, if any.

For purposes of the Indenture, “Revenues” means all revenues, rates and charges received and accrued by the SFPUC for electric power and energy and other services, facilities and commodities sold, furnished or supplied by the Power Enterprise, together with income, earnings and profits therefrom (including interest earnings on the proceeds of any Bonds pending application thereof), as determined in accordance with GAAP. Revenues shall include payments to the Power Enterprise on or with respect to loans from any Separate System maintained by the SFPUC. Revenues shall not include (a) proceeds from the issuance of any obligations for borrowed money, (b) amounts loaned to the Power Enterprise, (c) Swap Agreement Receipts, (d) proceeds from taxes, (e) customer deposits while retained as such, (f) contributions in aid of construction, (g) gifts, (h) grants, (i) insurance or condemnation proceeds that are properly allocable to a capital account, (j) non-cash revenues or gains that may be required or permitted under GAAP, including mark-to-market gains and deferred revenues, (k) money received by the SFPUC as the proceeds of the sale of any portion of the properties of the Power Enterprise, (l) amounts by their terms not available for the payment of Operation and Maintenance Expenses or principal and interest on the Bonds, (m) revenues of any Separate System, (n) Water Enterprise revenues and (o) Wastewater Enterprise revenues.

For purposes of the Indenture, “Operation and Maintenance Expenses” means the costs of the proper operation, maintenance and repair of the Power Enterprise and taxes, assessments or other governmental charges lawfully imposed on the Power Enterprise or the Revenues, or payments in lieu thereof, as determined in accordance with GAAP. Operation and Maintenance Expenses shall include the payment of pension charges and proportionate payments to such compensation and other insurance or outside reserve funds as the SFPUC may establish or the Board of Supervisors may require with respect to employees of the Power Enterprise, as provided in Section 16.103(a) of the Charter. Operation and Maintenance Expenses shall also include repairs and maintenance costs that constitute operating expenses in accordance with GAAP. Operation and Maintenance Expenses shall not include (a) any allowance for amortization, depreciation or obsolescence, (b) operation and maintenance expenses of the Water Enterprise, (c) operation and maintenance expenses of the Wastewater Enterprise, (d) operation and maintenance expenses of any Separate System, (e) losses from any sale or other disposition of Power Enterprise assets, and (f) non-cash losses and costs that may be required or permitted under GAAP, including deferred expenses and unrealized mark-to-market losses.

For purposes of the Indenture, “Priority R&R Fund Deposits” means the amount, if any, required by the Charter to be deposited into the Reconstruction and Replacement Fund from Revenues prior to deposits into the Bond Fund. Because proceeds of the 2015 Series A Bonds will be used to finance the reconstruction and replacement of existing facilities, the SFPUC has determined that no Priority R&R Fund Deposits are presently required.

The Indenture defines “Swap Agreement Payments” as the regularly scheduled net amounts required to be paid by the SFPUC to the Qualified Counterparty pursuant to a Swap Agreement and “Swap Agreement Receipts” as the regularly scheduled net amounts required to be paid by a Qualified Counterparty to the SFPUC pursuant to a Swap Agreement. As of November 1, 2014, the SFPUC has not entered into any Swap Agreements payable from Revenues. See **Other Parity Obligations**.

Limited Obligations

The SFPUC is not obligated to pay the principal of, premium, if any, or interest on the 2015 Series A Bonds from any source of funds other than Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits. The SFPUC has no taxing power. Neither the general funds of the SFPUC nor the funds of any SFPUC enterprise (other than the Revenues and the funds pledged therefor

under the Indenture) shall be liable for the payment on the 2015 Series A Bonds. The General Fund of the City is not liable for the payment of the principal of, premium, if any, or interest on the 2015 Series A Bonds, and neither the credit nor the taxing power of the City is pledged to the payment of the principal of, premium, if any, or interest on the 2015 Series A Bonds. The 2015 Series A Bonds are not secured by a legal or equitable pledge of, or charge, lien or encumbrance upon, any of the property of the City or of the SFPUC or any of its income or receipts, except Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits.

Flow of Funds

In the Indenture, the SFPUC covenants and agrees that it will pay into the Revenue Fund as received all Revenues and further covenants and agrees that all Revenues shall be trust funds in the hands of the SFPUC and shall be used and applied as provided by the Indenture, solely for the purposes of operating and maintaining the Power Enterprise and paying all costs, charges and expenses in connection therewith and for the purpose of making repairs, renewals and replacements to the Power Enterprise and constructing additions, betterments and extensions thereto, and for the purpose of paying the Bonds, the Swap Agreement Payments and all other charges or obligations against the Revenues of whatever nature now or hereafter imposed thereon by law or contract.

The Indenture provides that Revenues deposited in the Revenue Fund shall be disbursed in the following order of priority:

First, for the payment of Operation and Maintenance Expenses;

Second, for any Priority R&R Fund Deposits;

Third, for deposit in the Interest Account of each Bond Fund;

Fourth, for deposit in the Bond Retirement Account of each Bond Fund;

Fifth, for deposit in the Reserve Fund;

Sixth, (i) for the payment of principal and premium, if any, and interest on any Subordinate Obligations; (ii) for deposit into a reserve fund securing any Subordinate Obligations; (iii) for Swap Agreement Payments pursuant to Swap Agreements entered into by the SFPUC with respect to any Subordinate Obligations; and (iv) for payment to any financial institution or insurance company providing any letter of credit, line of credit, or other credit or liquidity facility, including municipal bond insurance and guarantees, that secures the payment of principal of or interest on any Subordinate Obligations; in each case in any order of priority within this paragraph which may be hereafter established by the SFPUC by resolution;

Seventh, for any Additional R&R Fund Deposits into the Reconstruction and Replacement Fund;

Eighth, for any necessary or desirable capital additions or improvements to the Power Enterprise;

Ninth, for any payment under a Take-or-Pay Power Purchase Agreement that does not constitute an Operation and Maintenance Expense;

Tenth, for any payment under a Swap Agreement that does not constitute a Swap Agreement Payment; and

Eleventh, for any other lawful purpose of the SFPUC.

Rate Covenant; Rates and Charges

In the Indenture, the SFPUC has covenanted to fix, establish, maintain and collect rates and charges for electric power and energy and other services, facilities and commodities sold, furnished or supplied through the Power Enterprise, which shall be fair and nondiscriminatory and adequate, together with other revenues of the Power Enterprise, to provide the SFPUC with Revenues sufficient to satisfy the covenants described in the next paragraph. The SFPUC will not be required to impose rates and charges in violation of (i) applicable provisions of the Raker Act or any successor statute; (ii) any other applicable federal or state statutes or regulations; or (iii) any

current or future contract or agreement between any City enterprise department, agency or commission, and its customers, tenants or other parties thereto. See **CERTAIN RISK FACTORS – Limitations on Rate-Setting and – Raker Act Requirements**.

In the Indenture, the SFPUC has covenanted that the Revenues in each Fiscal Year will be sufficient:

(i) To pay, to the extent not paid from other available moneys, (A) the Operation and Maintenance Expenses during such Fiscal Year, (B) Annual Debt Service on the Bonds due and payable in such Fiscal Year, (C) the amounts, if any, required to be deposited into the Reserve Fund during such Fiscal Year and (D) any and all other amounts the SFPUC is obligated to pay or set aside from the Revenues by law or contract in such Fiscal Year;

(ii) To maintain a Bond Coverage Ratio of at least 1.00 to 1.00; and

(iii) Together with Available Funds, to maintain a Bond Coverage Ratio of at least 1.25 to 1.00.

The failure of the SFPUC to maintain the Bond Coverage Ratio in any Fiscal Year will not constitute a default in the observance of the covenants described above if, within 60 days after the SFPUC first determines that the Bond Coverage Ratio was not met or 60 days after the SFPUC's receipt of audited financial statements showing that the Bond Coverage Ratio was not met (whichever is earlier), the SFPUC engages a Consulting Engineer to deliver a report to the SFPUC within 60 days after such engagement and if (i) within 120 days after receipt of the Consulting Engineer's report the SFPUC implements the recommendations set forth in such report, or (ii) the report states that the Power Enterprise cannot generate Revenues or reduce Operation and Maintenance Expenses sufficiently to enable the SFPUC to maintain the Bond Coverage Ratios while satisfying the other covenants set forth in the Indenture and the SFPUC increases its Revenues or reduces its Operation and Maintenance Expenses to the extent otherwise recommended in such report, or (iii) the SFPUC is prevented from taking any such action by order of any court of competent jurisdiction. Notwithstanding the foregoing, failure for two consecutive Fiscal Years to maintain the Bond Coverage Ratios shall in all events constitute an Event of Default.

For purposes of the Indenture, "Bond Coverage Ratio" for any Fiscal Year means the ratio of (a) (i) Net Revenues in such Fiscal Year, plus (ii) Available Funds in such Fiscal Year, to (b) Annual Debt Service on the Outstanding Bonds in such Fiscal Year; "Annual Debt Service" means, as of any date of calculation, for any Fiscal Year (or other designated twelve-month period) the amount of Principal and interest becoming due and payable on all Outstanding Bonds in such Fiscal Year (or other designated twelve-month period) computed as provided in the Indenture; and "Available Funds" means any unencumbered amounts, including unappropriated fund balances and reserves, and cash and the book value of investments held by the Treasurer for the Power Enterprise, that the SFPUC reasonably expects would be available, as of any date of calculation, to pay Principal of and interest on Bonds when due. See **APPENDIX A – SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE**.

Reserve Fund

The Indenture creates a special fund of the SFPUC to be known as the "Power Revenue Bonds Reserve Fund" (the "Reserve Fund"). The Reserve Fund and the Reserve Accounts therein shall be held and administered by the Trustee, and shall be used solely for the purpose of paying the Bonds and the Swap Agreement Payments secured by the Reserve Accounts in the manner provided in the Indenture. The Trustee shall establish the Common Reserve Account and may establish one or more additional accounts in the Reserve Fund (each, a "Reserve Account"), each of which may secure one or more Series of Bonds pursuant to the Indenture or the Supplemental Indenture authorizing the issuance thereof. The Trustee shall deposit in each Reserve Account proceeds of sale of each Series of Bonds or portion thereof to be secured thereby or other available money, Authorized Investments or a Reserve Account Credit Facility or Facilities, or any combination of the foregoing, in an amount equal to the Reserve Requirement for such Series of Bonds or portion thereof.

Each Reserve Account may be drawn upon for the sole purpose of paying the Principal, Mandatory Sinking Fund Payments and Redemption Price of and interest on the Bonds and the Swap Agreement Payments relating to the Bonds secured by such Reserve Account, provided, that excess amounts in any Reserve Account may be withdrawn therefrom upon a written request to the Trustee by the SFPUC and applied to any lawful purposes of the

Power Enterprise. Money set aside from time to time with the Trustee for the payment of such Principal, Mandatory Sinking Fund Payments, Redemption Price, interest and Swap Agreement Payments shall be held in trust equally and ratably for the Owners or Qualified Counterparties in respect of which the same shall have been so set aside.

Each Reserve Account is required to be maintained at all times at the aggregate Reserve Requirements of the Bonds secured by such Reserve Account by additional deposits into such Reserve Account from the Revenue Fund after payment of Operation and Maintenance Expenses and required deposits into the Bond Funds, until such time as the Principal or Redemption Price of the Bonds secured by such Reserve Account, together with interest thereon to the date of retirement or redemption, can be paid from amounts in the Bond Fund or Funds established for such Bonds, together with amounts in such Reserve Account. Each Reserve Account shall be replenished in the following priority: first, to make all payments required under all reimbursement agreements with the providers of Reserve Account Credit Facilities credited to such Reserve Account (and if there is not sufficient money on deposit in such Reserve Account to make all such payments, then on a pro rata basis to each provider); and second, after all such payments are made in full, the amount necessary to make the money, Authorized Investments, and Reserve Account Credit Facility or Facilities or any combination of the foregoing deposited in or credited to such Reserve Account equal to the aggregate Reserve Requirements of the Bonds secured by such Reserve Account. If at any time there is not sufficient money to make all of the foregoing payments, such payments shall be made to the extent of available money into each Reserve Account in the same ratio as the Principal amount of the Outstanding Bonds secured thereby bears to the aggregate Principal amount of all Outstanding Bonds secured by the Reserve Fund. In the event of a deficiency in the Bond Fund for Bonds secured by a Reserve Account, the Trustee shall make up such deficiency from such Reserve Account in the following priority: first, by the withdrawal of cash held therein; second, by the sale or redemption of Authorized Investments held therein; and third, from draws upon the Reserve Account Credit Facility or Facilities credited thereto, if any, on a pro rata basis, in sufficient amounts to make up such deficiency. Such draws shall be made at such times and under such conditions as provided in such Reserve Account Credit Facility or Facilities.

Upon the issuance of each Series of Bonds the SFPUC must either designate such Series as a Common Reserve Series to be secured by the Common Reserve Account or establish the Reserve Requirement for such Series. The Reserve Requirement means, with respect to the Common Reserve Series, the least of (a) 10% of the stated Principal amount of the Common Reserve Series, (b) the maximum Annual Debt Service on the Common Reserve Series, and (c) 125% of the average Annual Debt Service on the Common Reserve Series and, with respect to any other Series of Bonds, the amount, if any, as shall be specified in the Supplemental Trust Indenture authorizing the issuance of such Series of Bonds.

The 2015 Series A Bonds will be a Common Reserve Series.

Reserve Account Credit Facility. At the option of the SFPUC, amounts on deposit in a Reserve Account may be substituted at any time, in whole or in part, by the deposit with the Trustee of a Reserve Account Credit Facility or Facilities in a stated amount equal to the amounts so substituted. Any amounts released from a Reserve Account as a result of such substitution shall be applied for any lawful purpose of the Power Enterprise.

The Indenture defines “Reserve Account Credit Facility” as a letter of credit, insurance policy, surety bond, or other credit facility provided to the Trustee by a bank, insurance company or other financial institution whose senior unsecured debt obligations are, or whose claims-paying ability is, rated in the two highest rating categories by each of at least two Rating Agencies at the time of delivery thereof, which provides for payment when due, in accordance with the terms thereof, of the Principal or Redemption Price of and/or interest on one or more Series of Bonds.

Reconstruction and Replacement Fund

The Indenture creates a special fund of the SFPUC known as the “Power Enterprise Reconstruction and Replacement Fund,” to be held by the Treasurer and administered by the SFPUC. The SFPUC covenants and agrees to deposit and maintain in the Reconstruction and Replacement Fund an amount at least equal to the amount, if any, required to be on deposit therein pursuant to the Charter. Amounts in the Reconstruction and Replacement Fund shall be applied to pay costs for reconstruction and replacements of the properties constituting a part of the Power Enterprise due to physical and functional depreciation.

Other Parity Obligations

The Indenture prohibits the SFPUC from issuing or incurring any obligations or creating additional indebtedness payable from Revenues on a parity with the 2015 Series A Bonds other than Bonds and Swap Agreements. The Indenture defines “Swap Agreement” as any financial instrument that (a) is entered into by the SFPUC with a party that is a Qualified Counterparty at the time the instrument is entered into; (b) is entered into with respect to all or a portion of a Series of Bonds; (c) is for a term not extending beyond the final maturity of the Series of Bonds or portion thereof to which it relates; (d) provides that the SFPUC shall pay to such Qualified Counterparty an amount accruing at either a fixed rate or a variable rate, as the case may be, on a notional amount equal to or less than the principle amount of the Series of Bonds or portion thereof to which it relates, and that such Qualified Counterparty shall pay to the SFPUC an amount accruing at either a variable rate or fixed rate, as appropriate, on such notional amount; (e) provides that one party shall pay to the other party any net amounts due under such instrument; and (f) which has been designated to the Trustee in the Supplemental Trust Indenture authorizing the issuance of the related Series of Bonds or portion thereof or in a Certificate of the SFPUC as a Swap Agreement with respect to such Bonds. As of November 1, 2014, the SFPUC has not entered into any Swap Agreements.

Additional Series of Bonds

The Charter and the Indenture authorize the issuance of additional Series of Bonds payable from Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits, on a parity with the 2015 Series A Bonds upon satisfaction of the conditions set forth therein.

The SFPUC expects to issue additional Series of Bonds to finance the costs of additional improvements to the facilities of the Power Enterprise (the “Power Facilities”). See **POWER ENTERPRISE CAPITAL PROGRAM**.

Charter Requirements. Under the Charter, the SFPUC may issue revenue bonds (including additional Series of Bonds) relating to the Power Enterprise upon satisfaction of the requirements described under **OBLIGATIONS PAYABLE FROM REVENUES – Authority for Issuance of Revenue Bonds and Other Obligations Payable from Revenues**.

Indenture Requirements. The Indenture provides that additional Series of Bonds secured on a parity with the Bonds may be issued for any lawful purpose if prior to the issuance of such additional Series of Bonds, the SFPUC has filed with the Trustee, among other documents, the following:

(a) A written opinion of Bond Counsel to the effect that (i) such Series of Bonds are valid and binding limited obligations of the SFPUC enforceable against the SFPUC in accordance with their terms and (ii) the Indenture, including the Supplemental Trust Indenture authorizing the issuance of such Series of Bonds, is a valid and binding obligation of the SFPUC enforceable in accordance with its terms; provided, that such opinions may be qualified to the extent that the enforceability of the Bonds and the Indenture, including the Supplemental Trust Indenture authorizing the issuance of such Series of Bonds, may be limited by bankruptcy, insolvency, reorganization or similar laws affecting the enforcement of creditors’ rights generally and by general equitable principles;

(b) A Certificate of the SFPUC stating that (i) no Event of Default, nor any event or condition which with notice and/or the passage of time would constitute an Event of Default, has occurred and is continuing under the Indenture as of the date of issuance of such Series of Bonds and (ii) the issuance of such Series of Bonds, in and of itself, will not cause an Event of Default under the Indenture;

(c) Evidence acceptable to the Trustee (which may be a Certificate of the SFPUC so stating) that provision has been made for the immediate deposit into the Reserve Account for such Series of Bonds of money, Authorized Investments, Reserve Account Credit Facility or Facilities or any combination of the foregoing in an aggregate amount equal to the Reserve Requirement, if any, for such Series of Bonds; and

(d) Either,

(i) A Certificate of the SFPUC stating that, in each of the first three full Fiscal Years after the sale of such Series of Bonds, projected Net Revenues:

A. *Plus* Available Funds, are at least 1.25 times Annual Debt Service on the Outstanding Bonds, after giving effect to the issuance of such Series of Bonds, and

B. Are at least 1.0 times Annual Debt Service on the Outstanding Bonds, plus required deposits into the Reserve Fund, after giving effect to the issuance of such Series of Bonds; or

(ii) A Certificate of the SFPUC stating that Net Revenues from any twelve consecutive months of the prior twenty-four months:

A. *Plus* Available Funds, are at least 1.25 times the Annual Debt Service on the Bonds Outstanding, after giving effect to the issuance of such Series of Bonds, and

B. Are at least 1.0 times Annual Debt Service on the Bonds Outstanding, plus required deposits into the Reserve Fund, after giving effect to the issuance of such Series of Bonds.

For purposes of paragraph (ii) the following adjustments may be made to Net Revenues for such period, if so stated in the Certificate of the SFPUC:

(I) An allowance for additional Revenues anticipated from any additions, extensions and improvements to the Power Enterprise to be acquired or constructed from proceeds of such or a prior Series of Bonds and for any changes in Operation and Maintenance Expenses resulting therefrom, that are not reflected in Net Revenues for such Fiscal Year, but only if such additional Revenues and changes in Operation and Maintenance Expenses represent a full twelve months' change in Net Revenues attributable to such additions, extensions and improvements; and

(II) An allowance for additional Revenues attributable to any increase in the rates and charges imposed by the SFPUC that (A) was in effect prior to the issuance of such Series of Bonds but which, during all or part of such Fiscal Year, was not in effect, or (B) was adopted by the SFPUC prior to the issuance of such Series of Bonds and will be in effect within 90 days after such issuance, but in either case only if such additional Revenues represent a full twelve (12) months' change in Net Revenues attributable to such increase in rates and charges.

Refunding Bonds may be issued by the SFPUC to provide funds sufficient for the payment of any or all of the following:

(i) The Principal, Purchase Price or Redemption Price of the Bonds or Original Bonds (as defined in the Indenture) to be refunded;

(ii) All expenses incident to the purchase, call, redemption, retirement or payment of the Bonds or Original Bonds to be refunded;

(iii) The costs of issuance of such Series of Refunding Bonds;

(iv) Interest on the Bonds or Original Bonds to be refunded to the date such Bonds or Original Bonds will be purchase, redeemed, retired or paid;

(v) Interest on such Series of Refunding Bonds from the date thereof to the date of purchase, redemption, retirement or payment of the Bonds or Original Bonds to be refunded; and

- (vi) Any other lawful payment obligations, costs or expenses in connection with the issuance of the Refunding Bonds and the purchase, redemption, retirement or payment of the Bonds or Original Bonds to be refunded.

Refunding Bonds may be issued by the SFPUC only upon receipt by the Trustee of, among other things, the following:

- (a) The documents specified in paragraphs (a) and (c) above; and
- (b) Either (A) the document specified in paragraph (d) above, or (B) a Certificate of the SFPUC stating that the issuance of such Series of Refunding Bonds will not result in any aggregate increase in Annual Debt Service for the Bonds greater than \$100,000 in any Fiscal Year that such Series of Refunding Bonds is scheduled to be Outstanding; and
- (c) An opinion of Bond Counsel that (A) all liability of the SFPUC in respect of the Bonds to be refunded has ceased, terminated and been discharged, pursuant to the terms of the Master Indenture and the Supplemental Trust Indenture pursuant to which such Bonds were issued, and the Owners of such Bonds are entitled to payment of the Principal, Purchase Price or Redemption Price of and interest on such Bonds only out of the money or securities deposited with the Trustee for the payment of such Bonds or (B) all liability of the SFPUC in respect of the Original Bonds to be refunded has ceased, terminated and been discharged, pursuant to the terms of the resolution or resolutions pursuant to which such Original Bonds were issued, and the owners of such Original Bonds are entitled to payment of the principal, purchase price or redemption price of and interest on such Original Bonds only out of the money or securities deposited with the trustee for the owners of such Original Bonds for the payment of such Original Bonds.

Certain Obligations Payable as Operations and Maintenance Expenses

The Indenture prohibits the SFPUC from entering into any Take-or-Pay Power Purchase Agreement payable from Revenues as an Operation and Maintenance Expense unless the SFPUC shall first deliver to the Trustee a Certificate of the SFPUC demonstrating compliance with the requirements set forth in paragraph (d) under **–Additional Series of Bonds – Indenture Requirements** for the first three full Fiscal Years following the Fiscal Year in which such Take-or-Pay Power Purchase Agreement will become effective.

The Indenture defines a “Take-or-Pay Power Purchase Agreement” as a contract (a) with a term of more than five years, (b) pursuant to which the SFPUC is obligated (i) to purchase capacity or energy from a generating facility, and (ii) to pay for such capacity or energy as an Operation and Maintenance Expense regardless of whether or not such capacity or energy is taken by or made available or delivered to the SFPUC, and (c) the payments pursuant to which are directly pledged and applied to pay and secure debt obligations issued to finance such generating facility.

Subordinate Obligations; Obligations Not Payable from Revenues

The Indenture permits the SFPUC to authorize and issue or incur, without limitation, bonds, notes, warrants, certificates or other obligations or evidences of indebtedness, the principal of or interest on which would be payable either (i) from Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits and after and subordinate to the payment from Revenues of the principal of and interest on the Bonds, or (ii) from moneys which are not Revenues. See **OBLIGATIONS PAYABLE FROM REVENUES – Subordinate Obligations**.

Authorized Investments

The Indenture provides that moneys in all funds and accounts held by the Trustee under the Indenture shall be invested upon receipt in Authorized Investments as directed by the SFPUC. “Authorized Investments” means any obligations on investments in which the Treasurer may legally invest the SFPUC’s funds. For information

regarding the investment of moneys held in the various funds and accounts of the SFPUC, see **FINANCIAL OPERATIONS – Investment of SFPUC Funds**.

OBLIGATIONS PAYABLE FROM REVENUES

Authority for Issuance of Revenue Bonds and Other Obligations Payable from Revenues

The Charter authorizes the SFPUC to issue revenue bonds and commercial paper notes and other obligations payable from and secured by a pledge of Revenues. Ordinance No. _____ (“Ordinance ___”), passed by the Board of Supervisors of the City (the “Board”) on _____, 2015, enacted the Public Utilities Commission Power Enterprise Revenue Bond Law. Ordinance ___ establishes procedures for the issuance of Power Enterprise revenue bonds and provides that “the City, including without limitation the [SFPUC], shall fix, establish, maintain, approve and collect rates and charges for electric power and energy and other services, facilities and commodities sold, furnished or supplied through the Power Enterprise, including on, for and from the City and its departments, agencies and commissions, to provide [Power Enterprise revenues] sufficient (a) to pay all costs and expenses of the Power Enterprise, including without limitation debt service on [Power Enterprise revenue bonds], (b) to provide appropriate reserves therefor, and (c) to satisfy the debt service coverage and other requirements under each [indenture providing for the issuance of Power Enterprise revenue bonds].” Ordinance _____ is expected to become effective on _____, 2015.

The Charter generally requires voter approval of revenue bonds issued by the SFPUC. The Charter, however, contains several exceptions to the general requirements:

- Section 9.107(6) of the Charter provides that no voter approval is required for bonds issued for the purpose of the reconstruction or replacement of existing water facilities or electric power facilities or combinations of water and electric power facilities under the jurisdiction of the SFPUC when authorized by resolution adopted by a three-fourths affirmative vote of all members of the Board.
- Section 9.107(8) of the Charter provides that no voter approval is required for bonds issued to finance or refinance the acquisition, construction, installation, equipping, improvement or rehabilitation of equipment or facilities for renewable energy and energy conservation.
- Section 8B.124 of the Charter authorizes the SFPUC to issue revenue bonds, when authorized by ordinance approval by two-thirds vote of the Board, for purposes of reconstructing, replacing, expanding, repairing or improving water facilities or clean water facilities or combinations of water and clean water facilities under the jurisdiction of the SFPUC.
- Section 9.109 of the Charter authorizes the Board to provide for the issuance of bonds for the purpose of refunding revenue bonds without voter approval if the issuance and sale of such refunding bonds are expected to result in net debt service savings on a present value basis, calculated as provided by ordinance.

The 2015 Series A Bonds are being issued pursuant to the authority granted by Section 9.107(6) and 9.107(8) of the Charter and Ordinance No. _____.

Revenue Bond Oversight Committee

On November 5, 2002, the voters of the City adopted Proposition P, an ordinance that established the Public Utilities Revenue Bond Oversight Committee (“RBOC”) to report publicly to the Mayor, the SFPUC and the Board of Supervisors regarding the expenditure of revenue bond proceeds on the repair, replacement, upgrading and expansion of the Wastewater Enterprise, the Water Enterprise and the Power Enterprise (each as defined herein).

The RBOC has seven members appointed as follows: two by the Mayor, two by the Board of Supervisors, one by the City Controller, one by the Bay Area Water Users Association under the auspices of the Bay Area Water Supply and Conservation Agency. The seventh member is the City’s Budget Analyst or his or her representative.

The work of the RBOC is funded by 1/20th of 1% of the gross bond proceeds of revenue bond issuances or sales to the extent permitted by law.

The current terms of the members of the RBOC expire on January 1, 2016.

The RBOC may, by majority vote of all its members, prohibit the issuance or sale of authorized SFPUC revenue bonds which have yet to be issued or sold if, after reviewing materials provided by the SFPUC and conducting its own independent audit, and after consultation with the City Attorney, the RBOC determines that revenue bond proceeds have been or are being spent on purposes not authorized by the authorizing bond resolution or otherwise in a manner amounting to an illegal expenditure or illegal waste of such revenue bond proceeds. The SFPUC may appeal such a decision to the Board of Supervisors within thirty days. The Board of Supervisors may overturn such a decision by the RBOC by a two-thirds vote of all members of the Board of Supervisors with evidence from the SFPUC of corrective measures satisfactory to the Board of Supervisors or may remand the decision to the RBOC for further consideration.

Outstanding Parity Obligations

The 2015 Series A Bonds are the first Series of Bonds to be issued under the Master Indenture and there are currently no other obligations of the SFPUC payable from Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits, on a parity with the 2015 Series A Bonds.

Subordinate Obligations

The Power Enterprise has previously issued, and the Indenture permits the Power Enterprise in the future to issue, bonds, notes or other obligations of the Power Enterprise secured by a pledge of and lien and charge on Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits, junior and inferior to those securing repayment of the Bonds (the "Subordinate Obligations").

In November 2008, the SFPUC issued \$6,325,000 aggregate principal amount of clean renewable energy bonds ("CREBs") to finance the installation of solar energy equipment on various City-owned facilities. The CREBs mature in Fiscal Year 2023 and the average annual debt service relating to the CREBs is \$421,667.

In October 2011, the SFPUC issued \$8,291,000 aggregate principal amount of taxable qualified energy conservation bonds ("QECBs"). The QECBs were issued to fund certain qualified components for the SFPUC's 525 Golden Gate Headquarters project. The QECBs mature in Fiscal Year 2027-28 and the annual debt service relating to the QECBs, net of anticipated federal subsidy payments to the SFPUC, is \$591,198.

In April 2012, the SFPUC issued \$6,600,000 aggregate principal amount of taxable new clean renewable energy bonds ("NCREBs"). The NCREBs were issued to fund certain qualified facilities that will provide clean, renewable energy at Davies Symphony Hall, City Hall, and University Mount Reservoir. The NCREBs mature in Fiscal Year 2027-28 and the annual debt service relating to the NCREBs, net of anticipated federal subsidy payments to the SFPUC, is \$480,690.

The CREBs, QECBs and the NCREBs will constitute Subordinate Obligations under the Indenture.

Shortly after the issuance of the 2015 Series A Bonds, the SFPUC intends to establish a commercial paper program ("CP Program") for the Power Enterprise. The CP Program will provide the Power Enterprise with an interim funding source for capital spending until long-term financing is obtained. Commercial paper notes issued pursuant to the CP Program will be Subordinate Obligations. The SFPUC has similar commercial paper programs for the Water Enterprise and Wastewater Enterprise.

State Loan

The SFPUC was awarded a \$3 million loan from the California Energy Commission to fund a portion of the LED streetlight conversion project, but has yet to receive any loan proceeds. The loan has an interest rate of 3% and a repayment period of 15 years and will constitute a Subordinate Obligation under the Indenture. Loan amounts will be disbursed after costs are incurred, and the SFPUC anticipates receiving loan proceeds in early 2015.

Contingent Payment Obligations

The Power Enterprise has no interest rate swaps, caps or hedges or other contingent payment obligations payable from Revenues. The Power Enterprise may in the future, however, incur contingent payment obligations payable from Revenues. Such contingent payment obligations may be payable on a parity with the Bonds if the conditions for the issuance of parity debt under the Indenture are met. See **SECURITY FOR THE BONDS – Other Parity Obligations**.

Power Purchase Agreements

In June 2009, the Power Enterprise entered into a 25-year power purchase agreement with SFCity1, LP (“SFCity1”) to purchase electricity generated from a solar photovoltaic project located at Sunset Reservoir. In accordance with the terms and conditions thereof, commencing on the project’s commercial operation date, SFCity1 will sell and deliver, and the Power Enterprise shall purchase and accept, all of the output of the project. The facility achieved commercial operation in November 2010.

Payments made by the Power Enterprise under its agreement with SFCity1 constitute Operation and Maintenance Expenses under the Indenture. See **SECURITY FOR THE BONDS – Pledge of Revenues – Net Revenues**. In Fiscal Years 2012-13 and 2013-14, the Power Enterprise purchased approximately 6,902 megawatt-hours (“MWh”) of electricity for a total payment of \$1,761,000 and approximately 6,716 MWh of electricity for a total payment of \$1,758,000, respectively.

Other Obligations Payable from Revenues

The SFPUC purchased and cleared a parcel at 525 Golden Gate Avenue, one block north of City Hall, and completed the construction of a new, 13-story office building on the site to house the administrative offices of the SFPUC’s three utility enterprises. The SFPUC moved into the building in July 2012. Total project costs were approximately \$202 million and were financed with land sale proceeds, fund balances, grants and the proceeds of certificates of participation (the “2009 Certificates of Participation”), representing interests in a City General Fund lease, executed and delivered in two series (one of which constitutes Build America Bonds) on October 7, 2009 in the aggregate principal amount of \$167,670,000. Pursuant to a Memorandum of Understanding between the City and the SFPUC, the SFPUC will reimburse the City General Fund for all debt service in connection with this City financing (net of Refundable Credits received). The SFPUC allocates such payment obligations internally among its three utility enterprises based on percentage usage. The Power Enterprise is currently responsible for 9.72% of such obligations, payable from Revenues on a basis subordinate to the payment of principal of and interest on the Bonds.

Debt Service Requirements

Set forth below are the annual principal, interest and total debt service requirements for the 2015 Series A Bonds:

Fiscal Year Ending June 30	2015 Series A Bonds		Total Debt Service⁽¹⁾
	Principal	Interest	
2015	\$	\$	\$
2016			
2017			
2018			
2019			
2020			
2021			
2022			
2023			
2024			
2025			
2026			
2027			
2028			
2029			
2030			
2031			
2032			
2033			
2034			
2035			
2036			
2037			
2038			
2039			
2040			
2041			
2042			
2043			
2044			
TOTAL⁽¹⁾	\$	\$	\$

⁽¹⁾ Totals may not add due to rounding.

THE CITY AND COUNTY OF SAN FRANCISCO

The City is the economic and cultural center of the Bay Area and northern California. The limits of the City encompass over 93 square miles, of which 49 square miles are land, with the balance consisting of tidelands and a portion of the San Francisco Bay (the “Bay”). The City is located at the northern tip of the San Francisco Peninsula, bounded by the Pacific Ocean to the west, the Bay and the San Francisco-Oakland Bay Bridge to the east, the entrance to the Bay and the Golden Gate Bridge to the north, and San Mateo County to the south. Silicon Valley is about a 40-minute drive to the south, and the wine country is about an hour’s drive to the north. The City’s most recently completed and adopted Comprehensive Annual Financial Report (the “CAFR”) for its fiscal year 2012-13 estimated the City’s fiscal year 2012-13 through 2013-14 population at 839,100.

The San Francisco Bay Area consists of the nine counties contiguous to the Bay: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano and Sonoma Counties (collectively, the “Bay Area”). The economy of the Bay Area includes a wide range of industries, supplying local needs as well as the needs of national and international markets. Major business sectors in the Bay Area include retail, entertainment and the arts, conventions and tourism, service businesses, banking, professional and financial services, corporate headquarters, international and wholesale trade, multimedia and advertising, biotechnology and higher education.

The City is a major convention and tourist destination. According to the San Francisco Travel Association, a nonprofit membership organization, during the calendar year 2013, approximately 16.9 million people visited the City and spent an estimated \$9.38 billion during their stay. The City is also a leading center for financial activity in the State and is the headquarters of the Twelfth Federal Reserve District, the Eleventh District Federal Home Loan Bank, and the San Francisco regional Office of Thrift Supervision.

The City benefits from a highly skilled, educated and professional labor force. The CAFR estimates that per-capita personal income of the City for fiscal year 2012-13 was \$73,197. The San Francisco Unified School District operates 5 transitional kindergarten schools, 72 elementary and K-8 school sites, 13 middle schools, 18 senior high schools (including two continuation schools and an independent study school), and 34 State-funded preschool sites, and sponsors 13 independent charter schools. Higher education institutions located in the City include the University of San Francisco, California State University-San Francisco, University of California-San Francisco (a medical school and health science campus), the University of California Hastings College of the Law, the University of the Pacific’s School of Dentistry, Golden Gate University, City College of San Francisco (a public community college), the Art Institute of California – San Francisco, the San Francisco Conservatory of Music, the California Culinary Academy and the Academy of Art University.

San Francisco International Airport (“SFO”), located 14 miles south of downtown San Francisco in an unincorporated area of San Mateo County and owned and operated by the City, is the principal commercial service airport for the Bay Area and one of the nation’s principal gateways for Pacific traffic. In fiscal year 2012-13, SFO serviced approximately 44.7 million passengers and handled 370,195 metric tons of cargo. The City is also served by the Bay Area Rapid Transit District (“BART”) (electric rail commuter service linking the City with the East Bay and the San Francisco Peninsula, including SFO), Caltrain (a conventional commuter rail line linking the City with the San Francisco Peninsula), and bus and ferry services between the City and residential areas to the north, east and south of the City. San Francisco Municipal Railway (“Muni”), operated by the San Francisco Municipal Transportation Agency (the “SFMTA”), provides bus and streetcar service within the City. The Port of San Francisco (the “Port”), which administers 7.5 miles of Bay waterfront held in “public trust” by the Port on behalf of the people of the State, promotes a balance of maritime-related commerce, fishing, recreational, industrial and commercial activities and natural resource protection.

The City is governed by a Board of Supervisors elected from eleven districts to serve four-year terms, and a Mayor who serves as chief executive officer, elected citywide to a four-year term. Edwin M. Lee is the 43rd and current Mayor of the City, having been elected by the voters of the City in November 2011. The City’s budget for fiscal years 2014-15 and 2015-16 totals \$8.58 billion and \$8.56 billion, respectively. The City’s General Fund portion of each year’s budget is \$4.27 billion in fiscal year 2014-15 and \$4.33 billion in fiscal year 2015-16, with the balance being allocated to all other funds, including enterprise fund departments, such as the SFMTA, SFO, the Port and the SFPUC. The City’s CAFR estimates that the City employed approximately 28,387 full-time-equivalent employees at the end of fiscal year 2012-13. According to the Controller, the preliminary fiscal year 2014-15 total net assessed valuation of taxable property in the City is approximately \$181.8 billion.

THE GENERAL FUND OF THE CITY IS NOT LIABLE FOR THE PAYMENT OF DEBT SERVICE ON THE BONDS AND NEITHER THE CREDIT NOR THE TAXING POWER OF THE CITY IS PLEDGED TO THE PAYMENT THEREOF. THE BONDS ARE NOT SECURED BY A LEGAL OR EQUITABLE PLEDGE OF, OR CHARGE, LIEN, OR ENCUMBRANCE UPON, ANY OF THE PROPERTY OF THE CITY.

THE PUBLIC UTILITIES COMMISSION

General

The SFPUC is a department of the City responsible for the maintenance, operation and development of three utility enterprises: Hetch Hetchy Water and Power, which consists of Hetch Hetchy Water and the Power Enterprise, the Water Enterprise and the Wastewater Enterprise, all as further described below.

The revenues of the Water Enterprise and the Wastewater Enterprise, and revenues allocable to Hetch Hetchy Water, are not available for payment of the principal of, premium, if any, or interest on the Bonds. See SECURITY FOR THE BONDS – Pledge of Revenues.

Organization, Purposes and Powers

Hetch Hetchy Water and Power. Hetch Hetchy Water and Power is comprised of two key components: Hetch Hetchy Water, which operates and maintains the Hetch Hetchy Project, and Hetch Hetchy Power (known as and referred to in this Official Statement as the “Power Enterprise”), which is responsible for all SFPUC power utility commercial transactions and in-City power operations. The Hetch Hetchy Project, which provides water for distribution through the Water Enterprise and hydroelectric power to municipal and public infrastructure, services and facilities of the City and to commercial customers through the Power Enterprise. A number of the facilities of the Hetch Hetchy Project are joint assets and are used for both water transmission and power generation and transmission, benefitting both Hetch Hetchy Water and the Power Enterprise. All power sales revenues are allocated to the Power Enterprise. Operating and capital costs benefitting the Power Enterprise, and 55% of operating and capital costs that benefit both Hetch Hetchy Water and the Power Enterprise, also are allocated to the Power Enterprise. See **THE POWER ENTERPRISE**. Operating and capital costs benefitting Hetch Hetchy Water and 45% of operating capital costs benefitting both Hetch Hetchy Water and the Power Enterprise are allocated to the SFPUC’s Water Enterprise.

The Power Enterprise was created in February 2005 as a separate system and accounting unit within Hetch Hetchy Water and Power. The Power Enterprise provides retail electric service to meet the municipal requirements of the City, including power to operate the SFMTA’s streetcars and electric buses, San Francisco General Hospital, City Hall, police stations, fire stations and schools, certain Port facilities, street and traffic lights, municipal buildings and other City facilities, such as SFO and to certain public agencies and retail customers and provides pedestrian and streetlight operation and maintenance services, energy efficiency, and distributed generation services to City residents and businesses and other customers. Additionally, the Power Enterprise provides power to the Districts and to other customers consistent with prescribed contractual obligations and federal law. See **THE POWER ENTERPRISE**.

Water Enterprise. Nearly 2.6 million people rely on water supplied by the SFPUC to meet their daily water needs through its Water Enterprise. The SFPUC serves as the retail water supplier for the City and is responsible for water deliveries to residents and institutions within the City limits, as well as to a number of retail accounts outside of the City limits. In addition, the SFPUC sells water to 27 wholesale customer entities in San Mateo, Alameda and Santa Clara Counties under the 2009 Water Supply Agreement and related individual contractual agreements.

The revenues of the Water Enterprise are not “Revenues” under the Indenture and do not secure the payment of the principal of, premium, if any, or interest on the Bonds, including the 2015 Series A Bonds. See SECURITY FOR THE BONDS – Pledge of Revenues.

Wastewater Enterprise. The Wastewater Enterprise’s collection and treatment system consists of a combined sewer collection system conveying wastewater and stormwater flows within the City to three water pollution control plants, also located within the City. Treated effluent flows are then discharged through deep-water outfalls into the San Francisco Bay and Pacific Ocean. The Wastewater Enterprise also operates and maintains a sewer system on Treasure Island/Yerba Buena Island pursuant to an agreement with TIDA, and an onsite wastewater and stormwater reclamation and treatment facility at the new SFPUC headquarters at 525 Golden Gate Avenue.

The revenues of the Wastewater Enterprise are not “Revenues” under the Indenture and do not secure the payment of the principal of, premium, if any, or interest on the Bonds, including the 2015 Series A Bonds. See SECURITY FOR THE BONDS – Pledge of Revenues.

Commission Members

Under the Charter, the SFPUC is given exclusive charge of the operation and management of all water, wastewater and municipal customers’ energy supplies and utilities of the City as well as the real, personal and financial assets under the SFPUC’s jurisdiction. The SFPUC is governed by the Commission.

In June 2008, an initiative measure amended the Charter, changing the process for Commission appointments, and establishing qualifications for commissioners, as follows:

- The Commission consists of five members appointed by the Mayor, subject to confirmation by a majority of the Board of Supervisors.
- Seat 1 is designated for a member with experience in environmental policy and an understanding of environmental justice issues.
- Seat 2 is designated for a member with experience in ratepayer or consumer advocacy.
- Seat 3 is designated for a member with experience in project finance.
- Seat 4 is designated for a member with expertise in water systems, power systems, or public utility management.
- Seat 5 is designated for an at-large member.
- In order to stagger the terms of the commissioners, the members appointed to Seats 2 and 4 served for an initial term of two years from August 1, 2008. The remaining three members appointed to Seats 1, 3, and 5 served for an initial term of four years from August 1, 2008. Thereafter, the terms of all members are four years.
- Members may be suspended by the Mayor and may be removed by a three-fourths vote of the Board of Supervisors for official misconduct.

The current members of the Commission and the appointment and expiration dates of their terms are:

<u>Name and Title</u>	<u>Seat</u>	<u>Originally Appointed</u>	<u>Term Expires</u>
Ann Moller Caen, President	3	March 1997	August 2016
Francesca Vietor, Vice President	1	September 2008	August 2016
Vince Courtney	5	January 2011	August 2016
Anson Moran	4	July 2009	August 2018

Seat 2 is currently vacant.

Management

Management of the SFPUC is led by the General Manager. The General Manager is appointed by the Mayor from candidates submitted by the Commission. Once appointed by the Mayor, the General Manager serves at the pleasure of the Commission; however, the Commission also has Charter authority to employ the General Manager under an individual contract.

Brief biographies of the General Manager and principal members of the senior management of the SFPUC are set forth below.

Harlan L. Kelly, Jr. Harlan L. Kelly, Jr. became General Manager of the SFPUC in September 2012. He previously served as the SFPUC's Assistant General Manager, Infrastructure, and was responsible for implementing over \$10 billion in capital programs for water, sewer and power, including the \$4.6 billion Water System Improvement Program, the \$6.9 billion Sewer System Improvement Program, and the \$202 million SFPUC Headquarters and Administration Building at 525 Golden Gate Avenue. His civil engineering career spanning nearly three decades includes his tenure as the City Engineer of San Francisco. At San Francisco Department of Public Works, he held functional and project management positions, including Acting General Manager, and Deputy Director of Engineering, during which he managed complex capital improvement programs that included the rebuild and seismic retrofit of City Hall, and expansions of convention, hospital, county jail, and public arts facilities. He is a licensed professional engineer, and a graduate of the University of California at Berkeley. He is the recipient of the Municipal Fiscal Advisory Committee's Public Municipal Excellence Award from the San Francisco Planning and Urban Research Association; the Public Works Leader of the Year Award from the American Public Works Association – Northern California Chapter; the Eminent Engineer Award from the National Engineering Honor Society Tau Beta Pi; and the Heroes and Hearts Award from the San Francisco General Hospital Foundation for exceptional community service. He is a member of the Construction Managers Association of America, the American Society of Civil Engineers, the National Society of Black Engineers, and the American Public Works Association. He is co-founder of the youth internship program Project Pull, which has been in continuous operation since 1995, and he has served on the Board of Directors of the Embarcadero YMCA.

Michael Carlin. Michael Carlin is the SFPUC Deputy General Manager. Mr. Carlin has worked for the SFPUC since 1996 and served from 2004 through 2009 as Assistant General Manager for Water. Since 2009 he has served as Deputy General Manager. Mr. Carlin acts as Chief Operating Officer of the SFPUC, reporting directly to the General Manager, and oversees the SFPUC's efforts to integrate Asset Management, Supervisory Control & Data Acquisition, Work Order Writing & Tracking, Security and other systems and functions across the Water, Wastewater and Power Enterprises and throughout the organization. Mr. Carlin also plays a leading role in overseeing new initiatives and the many environmentally innovative "green" projects that cut across enterprises within the SFPUC, including a comprehensive SFPUC-wide approach towards confronting and adapting to the impacts of climate change. He joined the SFPUC as the Water Resources Planning Manager in 1996. Prior to joining the City, he was the Chief of Planning for the San Francisco Bay Regional Water Quality Control Board. Mr. Carlin holds a B.A. in Biology from San Francisco State University and an M.P.A. with an emphasis in Environmental Management from Golden Gate University.

Barbara Hale. Barbara Hale is Assistant General Manager of the Power Enterprise. Ms. Hale oversees the Power Enterprise, including Power Retail Services, Utilities Services, Regulatory Affairs, Infrastructure Development and Power Purchasing and Scheduling. She is responsible for the development of a strategic business plan for the organization, setting out priorities, objectives, schedules and policy issues. Ms. Hale oversees all power-related inter-governmental relations, works directly with the Commission on policy and capital matters, and provides direction and leadership to a multi-discipline staff at remote and downtown locations. Ms. Hale provides strategic advice on energy policy matters to the General Manager and manages a staff responsible for developing specific energy efficiency projects and renewable and other advanced sources of electrical generation. Ms. Hale also acts as liaison between the SFPUC and State and federal agencies responsible for energy policy, such as the California Public Utilities Commission, the California Energy Commission, the California Power Authority, the Federal Energy Regulatory Commission, and the United States Department of Energy. Ms. Hale graduated cum laude from San Francisco State University with a B.A. in Economics, receiving special recognition for high achievement with the Department Honors Award. Ms. Hale has pursued extensive graduate coursework in Applied Economics.

Tommy T. Moala. Tommy T. Moala is the Assistant General Manager of the Wastewater Enterprise which protects public health and safety through the collective treatment of raw sewage runoff. The City's unique and award-winning combined sewer system treats on average more than 79 million gallons per day of sewage and stormwater during dry weather periods. Mr. Moala oversees operations, equipment and facilities maintenance, structural design and governmental compliance for the City's three wastewater treatment plants, 993-mile long sewer system and network of wastewater pumping stations. A former Naval Propulsion Engineer, Mr. Moala has

more than 15 years experience in wastewater in-plant management. He began his 20-year career with the SFPUC as a Stationary Engineer, moving up steadily through the ranks to Senior Engineer, Chief Stationary Engineer and Operations Manager, and setting the Wastewater Enterprise's standard for zero-violations along the way. A team recipient of the National Protection Agency O & M Award and the National Association of Clean Water Agency Award, Mr. Moala has also received then-Mayor Gavin Newsom's Public Managerial Excellence Award and the SFPUC O'Shaughnessy Award for organizing the SFPUC Emergency Response Team dispatched to Hurricane Katrina. He is a member of the Water Environment Federation, the California Water Environment Federation, the National Association of Clean Water Agencies and the American Water Works Association.

Steven R. Ritchie. Steven Ritchie is the Assistant General Manager of the Water Enterprise, responsible for overseeing water system operations and planning from the Hetch Hetchy Project through the Regional Water System to the City Distribution Division. He is also responsible for the management of the SFPUC's lands and natural resources. Mr. Ritchie was the Manager of Planning at the SFPUC from 1995 to 1998. Prior to his current assignment, he managed the South Bay Salt Pond Restoration Project, a multi-agency effort to restore 15,100 acres of valuable habitat in South San Francisco Bay, while providing for flood risk management and public access. In addition, Mr. Ritchie has worked at management positions at the San Francisco Bay Regional Water Quality Control Board (1987-1995), the CalFed Bay-Delta Program (1998-2000), and URS consultants (2000-2004). He has a B.S. and M.S. in Civil Engineering from Stanford University.

Emilio Cruz. Emilio Cruz is the Assistant General Manager of Infrastructure, responsible for overseeing all water, power and sewer capital programs and projects, including the Water System Improvement Program, Sewer System Improvement Program, and Hetchy System Improvement Program. He leads the Infrastructure Division, coordinating the work of the following Bureaus: Environmental Management, Construction Management, Engineering Management, Project Management, Project Controls, and Contract Administration. Mr. Cruz brings to the SFPUC all the attributes of a dynamic career encompassing twenty-five years serving the City, and private and non-profit sectors. He was Program Manager of the Waterfront Capital Improvement Program under the Chief Administrative Officer of San Francisco; Director of Facilities and Operations for the Port of San Francisco; Chief of Staff to the Mayor; General Manager of the Municipal Railway; Vice President of URS Corporation; Director of Economic Development for the City and County of San Francisco; Chief Operating Officer of the Hispanic Scholarship Fund; Vice President and Partner of EPC Consultants; and most recently, Program Manager for the \$4.2 billion Transbay Terminal Program. He is a graduate of Stanford University, with a B.S. in Civil Engineering. He has led numerous boards, including the San Francisco Board of Education, and San Francisco Planning and Urban Research (SPUR), for which he served as President and Vice President, respectively.

Juliet Ellis. Juliet Ellis is the Assistant General Manager for External Affairs at the SFPUC. Prior to holding her position as an Assistant General Manager, Ms. Ellis served on the Commission as a Commissioner for two years. During her time as a Commissioner, she championed the adoption of an Environmental Justice and Community Benefits policy. Ms. Ellis now oversees the implementation of these policies as Assistant General Manager, along with the Policy and Government Affairs, Communications, and Sustainability Planning teams within the SFPUC. Ms. Ellis also oversees the agency's national partnerships with other public utilities with the goal of scaling community benefits programs within the public sector. Before joining the SFPUC, Ms. Ellis spent nine years as the Executive Director of Urban Habitat, a regional social and environmental justice organization. She also served as the Associate Program Officer for Neighborhood and Community Development at The San Francisco Foundation. Ms. Ellis has served on numerous national, regional and local boards and committees.

Employee Relations

The wages, hours and working conditions of City employees are determined by collective bargaining pursuant to State law (the Meyers-Milias-Brown Act, California Government Code Sections 3500-3511) and the Charter. Except for nurses and a few hundred unrepresented employees, the Charter requires that bargaining impasses be resolved through final and binding interest arbitration conducted by a panel of three arbitrators. The award of the arbitration panel is final and binding unless legally challenged. Wages, hours and working conditions of nurses are not subject to interest arbitration, but are subject to Charter-mandated economic limits. Strikes by City employees are prohibited by the Charter. Since 1976, no City employees have participated in a union-authorized strike. See **CERTAIN RISK FACTORS – Unavailability of Generation or Transmission – Labor Actions.**

The City's budget for fiscal years 2014-15 and 2015-16 includes 27,669 and 29,053 budgeted City positions, respectively. City workers are represented by 37 different labor unions. The largest unions in the City are the Service Employees International Union, Local 1021; the International Federation of Professional and Technical Engineers, Local 21; and the unions representing police, fire, deputy sheriffs and transit workers. In May 2014, the City negotiated three-year agreements (for fiscal years 2014-15 through 2016-17) with most of its labor unions. In general, the parties agreed to: (1) annual wage increases schedule of 3% (October 11, 2014), 3.25% (October 10, 2015), and between 2.25% and 3.25% depending on inflation (July 1, 2016); and (2) some structural reforms of the City's healthcare benefit and cost-sharing structures to rebalance required premiums between the two main health plans offered by the City. These changes to health contributions build on reforms agreed to by most unions during earlier negotiations.

The SFPUC employs approximately 2,300 of the City's workers. The Charter governs the SFPUC's employment policies and authorizes the San Francisco Civil Service Commission to establish rules and procedures to implement those policies. Of the 37 labor unions representing City workers more broadly, 14 presently represent SFPUC employees. Most SFPUC employees collectively bargain every three years, with certain unions having agreed to a two-year memorandum of understanding with the City ending June 30, 2014.

Over the next five years, nearly half of the SFPUC workforce will be eligible for retirement. A new generation of jobs will require workers with specialized training, skills and experience. The SFPUC's Strategic Sustainability Plan includes indicators for employee training and development. The SFPUC also provides ethics training, diversity training, management training, environmental management system training, as well as fraud prevention and awareness training.

Local Hiring

The SFPUC has 64 projects underway that are covered by San Francisco's Local Hire Ordinance. For projects with a 20 percent and 25 percent local hire requirement, the SFPUC has achieved 37 percent and 39 percent local resident participation, respectively. San Francisco apprentices also made up 80 percent and 68 percent of total apprentice hours, respectively.

THE HETCH HETCHY PROJECT

General

The Hetch Hetchy Project impounds and delivers to the Water Enterprise water for approximately 2.6 million Bay Area residents and, in an average year, generates more than 1,600,000 MWh of clean, renewable electricity which the Power Enterprise uses to serve its customers, including the City and the Districts. The Hetch Hetchy Project is comprised of approximately 384.3 megawatts ("MW") of nameplate capacity hydroelectric generating facilities in the Sierra Nevada foothills of Tuolumne County, California (including O'Shaughnessy Dam), reservoirs (including Hetch Hetchy Reservoir), hydroelectric generation and electric transmission facilities, and water transmission facilities from Hetch Hetchy Valley to a connection with the facilities of the Water Enterprise.

History

As early as the 1880s, the City began looking to the Sierra Nevada and the Tuolumne River in what is now Yosemite National Park as a possible source of water for the City and the Bay Area. Hetch Hetchy Valley, which is located on the Tuolumne River in Yosemite National Park, was first recommended as a reservoir site at the turn of the 20th Century in a U.S. Geological Survey Study. Then City Mayor James D. Phelan made the first filings for water rights and reservoir rights-of-way in the Tuolumne River watershed as a private citizen, transferring those filings to the City in 1903.

Following the 1906 earthquake, the City again sought water rights and reservoir rights-of-way in the Tuolumne River watershed and began to develop a preliminary design for what would become the Hetch Hetchy Project. It also entered into negotiations with the Districts to protect the Districts' existing water rights and to provide them a share of the hydroelectricity to be produced by the Hetch Hetchy Project, at cost-based rates.

The Raker Act, enacted in 1913 (38 Stat. 242), granted rights of way to the City over federal lands in Yosemite National Park, Stanislaus National Forest, and unclassified public lands for purposes of constructing and operating the Hetch Hetchy Project, conceived by the City to provide water to the Bay Area and generate hydroelectricity as part of water delivery operations. Major facilities in place under authorized Raker Act rights of way issued by the Department of the Interior include O’Shaughnessy Dam and Hetch Hetchy Reservoir on the Tuolumne River in Yosemite National Park; Eleanor Dam and Reservoir in Yosemite National Park; Cherry Dam and Lake Lloyd in Stanislaus National Forest; Kirkwood, Holm, and Moccasin Powerhouses; and appurtenant facilities such as tunnels, penstocks and regulating reservoirs and electric transmission facilities. See – **Hydroelectric Generation.**

The Raker Act grants the City the right to sell electricity generated by the Hetch Hetchy Project to meet municipal and pumping needs, including without limitation its own needs and the needs of the Districts, and for commercial purposes, provided that such electricity may not be sold to a private corporation or individual for resale.

Wholesale electricity deliveries to the Districts are on an “as available” basis and are required by the Raker Act only after satisfying the City’s own municipal needs. Any additional excess electricity supplies are sold to certain retail customers and then on the wholesale market to public entities—primarily other publicly-owned utilities (“POUs”)—consistent with the requirements of the Raker Act. The Raker Act does not restrict the City’s purchase, use and sale of non-Hetch Hetchy Project electricity. See **THE POWER ENTERPRISE – Wholesale Electricity Sales.**

Hydroelectric Generation

The Hetch Hetchy Project is comprised of approximately 384.3 MW of large-scale hydroelectric facilities. The following table shows a timeline of Hetch Hetchy Project powerhouse improvements and impacts on installed capacity at the Hetch Hetchy Project.

**TABLE 1
HETCH HETCHY PROJECT GENERATION RESOURCES
POWERHOUSE TIMELINE**

Date	Event	Capacity Increases / (Decreases) in MW
1918	Early Intake Powerhouse commences operation	3.0
1923	O’Shaughnessy Dam completed	--
1925	Moccasin Powerhouse begins operations	80.0
1938	O’Shaughnessy Dam raised 85.5 feet	--
1960	Holm/Cherry Powerhouse commences operation	148.5
1967	Kirkwood Powerhouse (1 st and 2 nd units) commences operation	71.1
1967	Early Intake Powerhouse is removed	(3.0)
1969	New Moccasin Powerhouse replaces prior one	20.0
1986	Moccasin low-head commences operation	3.8
1988	Kirkwood Powerhouse (3rd unit) commences operation	36.5
2005	Holm units 1 and 2 refurbished	16.5
2007	Kirkwood units 1 and 2 refurbished	7.9
Total Installed Capacity		384.3

Source: SFPUC.

The Hetch Hetchy Project includes three large reservoirs and three large hydroelectric powerhouses. The reservoirs, Cherry Lake, Lake Eleanor, and the Hetch Hetchy Reservoir, have an aggregate water storage capacity of approximately 660,000 acre-feet. The powerhouses, Holm Powerhouse, Kirkwood Powerhouse and Moccasin Powerhouse, have an aggregate nameplate capacity of approximately 380.5 MW. Holm Powerhouse has 2

generating units, totaling approximately 165 MW in nameplate capacity, and relies on gravity-driven water flowing downhill from Cherry Lake. Kirkwood Powerhouse has 3 generating units, with an aggregate nameplate capacity of approximately 115 MW. Moccasin Powerhouse has 2 generating units with an aggregate nameplate capacity of approximately 100 MW. Both Kirkwood and Moccasin rely on gravity-driven water flowing downhill from the Hetch Hetchy Reservoir. There is also a smaller, gravity driven in-line 3.8 MW hydroelectric unit near Moccasin Powerhouse, Moccasin Low-head.

The combined generating capacity of these facilities is approximately 384.3 MW, about 97% of the Power Enterprise’s aggregate 395 MW of controlled generation capacity. Annual Hetch Hetchy Project generation averages about 1.6 million MWh, which represents on average approximately 148% of the Power Enterprise’s firm retail load. These multiple, sizable hydroelectric generating units, and ready access to State energy markets through available transmission resources, provide the Power Enterprise with redundancy to address both planned and unexpected outages, helping to ensure reliable, firm service for its customers.

Transmission and Distribution

Electricity generated by the Hetch Hetchy Project is transmitted through SFPUC-owned and operated transmission lines, consisting of approximately 110 miles of 115kV and 50 miles of 230kV transmission line, plus four substations. The SFPUC transmission segments are described in the following table.

**TABLE 2
SFPUC TRANSMISSION LINE SEGMENTS**

Lines No.	Voltage	Transmission Line Alignment / Segment	Year Put into Operation	Length (miles)
1 & 2	230 kV	Holm Powerhouse to SFPUC’s Intake Switchyard	1961	1.55
3 & 4	115 kV	Moccasin Switchyard to PG&E’s Newark Substation	1925	98.3
5 & 6	230 kV	Intake Switchyard to SFPUC’s Moccasin Switchyard	1961	20.1
		Moccasin Switchyard to SFPUC’s Warnerville Switchyard	1961	28.3
7 & 8	115 kV	SFPUC’s Warnerville Switchyard to Modesto Irrigation District’s Standiford Substation	1961	12.5
9 & 10	230 kV	Kirkwood Powerhouse to SFPUC’s Intake Switchyard	1964	0.73
11	230 kV	Kirkwood Powerhouse to SFPUC’s Intake Switchyard	1987	0.73

The transmission facilities also interconnect with PG&E’s transmission and distribution systems in order to deliver SFPUC generated or purchased power to customers of the Power Enterprise in and around the City. The Hetch Hetchy Project has a small amount of load connected directly to its system, averaging less than 2.5 MW, with a 7 MW peak during water pumping operations to support the Water Enterprise’s municipal water operations.

Approximately 75% of HHWP’s generating capacity is connected to its 230kV system via Intake Switchyard and Warnerville Substation. Intake Switchyard is a 230kV switchyard configured using main and auxiliary buses. The switchyard was initially put into service in about 1961. Intake Switchyard provides the main

accumulation, switching and transmission point for the Holm and Kirkwood powerhouses (Lines 1 and 2 from Holm Powerhouse and Lines 9, 10 and 11 from Kirkwood Powerhouse). A failure of any critical component within this switchyard represents a significant loss of electric generation and transmission capability. From Intake Switchyard, electricity is transmitted to the SFPUC's Warnerville Substation via Lines 5 and 6. The Warnerville Substation, put in operation in about 1961, is segregated into three areas: 230kV yard, 115kV yard, and PG&E 230kV tap yard. The 230kV yard has a main and transfer bus configuration and consists of two incoming lines, Lines 5 and 6, three 230/115kV transformers, and two tap lines for PG&E. The 115kV system has a main bus, three transformer positions and two line positions, Lines 7 and 8 towards Modesto's Standiford Substation.

The remaining 25% of HHWP's capacity is normally connected to another 115kV sub system at the Moccasin Switchyard which interconnects with PG&E's Newark Substation via two 115kV lines, Lines 3 and 4. Taps off of these lines connect to Turlock Irrigation District at their Oakdale Substation. The Moccasin Powerhouse can be connected to either the 115kV or 230kV systems.

The SFPUC owns about 50 miles of electric 22.4kV and 2.4kV distribution line to provide electricity to its remote operations. The distribution is fed from the powerhouses, where electricity is generated at 13.8kV then stepped up to 22.4kV. At some remote sites, the electricity is stepped down to 2.4kV for distribution.

Physical Condition of Facilities

The Hetch Hetchy Project powerhouses have been in operation since the 1960's. See – **Hydroelectric Generation**. While civil assets, such as structures, dams, tunnels and pipes, have a service life of up to 100 years, the mechanical and electrical equipment within the powerhouses have a shorter service life of approximately 25-50 years, depending on the equipment. For planning purposes, the SFPUC assumes expected life of equipment based on industry standards and manufacturer's design life. Actual expected life of equipment may vary depending on a variety of factors including, but not limited to, site conditions, runtime, loading, and maintenance. The SFPUC has experienced life expectancies beyond industry standards. However, as the electrical equipment ages and technology expires, obtaining replacement parts becomes a challenge.

SFPUC construction costs are higher than industry average. Total project cost estimates to rehabilitate the large Hetch Hetchy Project powerhouses is as follows:

- Holm Powerhouse: \$17 million
- Kirkwood Powerhouse: \$35 million
- Moccasin Powerhouse: \$35 million

The cost and operational impact to the SFPUC of either a loss of a unit or the inability to generate from a powerhouse varies. The SFPUC anticipates that there would be significant cost and operational impact if either unit at Holm Powerhouse was not available for generation for a one-year period. At Kirkwood Powerhouse, the loss of one of the three units would have a moderate cost and operational impacts, however the loss of two units would become significant. The loss of one unit at Moccasin Powerhouse would have a moderate cost and operational impact to the SFPUC, however the loss of both units would be significant.

The Hetch Hetchy Project electric delivery system includes the transmission lines and the switchyards/substations. These assets vary in age, condition, and estimated service life remaining. A majority of the Hetch Hetchy Project's transmission lines were built in the 1960's, and have a remaining life expectancy of about 15 years. Transmission lines 3 & 4 were built in 1925, and have exceeded their expected life expectancy. For planning purposes, the SFPUC assumes expected life of equipment based on industry standards and manufacturer's design life. Actual expected life of equipment will vary depending on a variety of factors, but the largest driver for a transmission system is site conditions. The SFPUC has an ongoing inspection/replacement program funded at about \$2 million per year. The inspection/replacement program includes, but is not limited to, tower repair (to address bent members and/or corrosion), insulators, hardware, grounding and a vegetation management program to maintain proper clearances. Though work is being done to extend the life of the assets and guard against catastrophic failure, there are many portions of the system that are of concern, including but not limited to the tower foundations and the grounding. Although Lines 3&4 are at end of life, the existing lines are acceptable for limited

continued use with selective refurbishment; a complete rebuild will ultimately be required for long-term continued use of this transmission segment.

In addition to aging transmission line infrastructure, in 2014 the SFPUC identified hard clearance issues at SFPUC's condition assessment of its transmission lines identified 195 safety detections on the SFPUC transmission lines that do not meet National Electric Safety Code and/or California Public Utilities Commission General Order 95 minimum safety clearance criteria. In response to these findings, the SFPUC increased maintenance and selective refurbishment activities in order to preserve and extend the operability of these lines and to meet regulatory requirements. In order to maintain the current level of reliability of these lines, substantial future maintenance and upkeep will be required, about \$48 million. Transmission Lines 3 & 4 are important to the delivery of electricity by the Power Enterprise, and the Power Enterprise anticipates that there would be moderate cost and operational impacts were they to go out of service.

Hetch Hetchy Project substations/switchyards were built in the 1960's. For planning purposes, the SFPUC assumes expected life of equipment based on industry standards and manufacturer's design life. Similar to the powerhouses, the SFPUC has experienced life expectancies beyond industry standards but is experiencing challenges obtaining replacement parts. In 2014, Intake Switchyard was rebuilt. The SFPUC plans to rebuild Warnerville Substation followed by Moccasin Switchyard. Decision on the final construction project will hinge on the SFPUC's future business. Total project cost estimates to rehabilitate the Moccasin Switchyard and Warnerville Substation in-kind is as follows:

- Moccasin Switchyard: \$25 million
- Warnerville Substation: \$45 million

Intake Switchyard, Moccasin Switchyard and Warnerville Substation are imperative to transmit Hetch Hetchy Project generation to the grid. The SFPUC anticipates that there would be significant cost and operational impact if Intake Switchyard, Moccasin Switchyard or Warnerville Substation were inoperable impacting the SFPUC's ability to transmit Hetch Hetchy Project generation to the grid.

The fourth substation, Calaveras Substation, feeds the SFPUC facilities at Sunol Valley Water Treatment Plant. Though the financial impact to Revenues from loss of this substation is small, the operational impact to the water operations is significant. Improvements at this facility were made to facilitate construction activities for the SFPUC's Water System Improvement Program. However, a condition assessment of the facility has not been performed.

The SFPUC has not performed a condition assessment of its distribution system. However, of the 50 miles of system, about 20 miles was replaced after it was destroyed in the 2013 Rim Fire. The SFPUC has an ongoing inspection/maintenance. The inspection program includes inspection of poles, ancillary equipment and a vegetation management program to maintain proper clearances.

During the summer and fall period, each hydroelectric generation unit is taken out of service for two weeks to perform annual maintenance. Annual maintenance consists of inspections and assessments, testing, calibrating and adjusting the unit, and verifying and updating station drawings on all systems associated with each unit.

Corrective maintenance activities that require a full system outage are also sometimes scheduled during the annual outage period. However the SFPUC focuses on and prioritizes proactive maintenance activities.

Hetch Hetchy Project Operations

General

The Hetch Hetchy Project provides two utility services with distinct ratepayers: water and power. A number of the facilities operated by Hetch Hetchy Project staff are joint assets used for both water storage and transmission and electric generation and transmission, benefitting both Hetch Hetchy Water and Power Enterprise operations. Operating and capital costs that jointly benefit both ratepayer groups are allocated 45% to the Water Enterprise and 55% to the Power Enterprise.

Water First Policy

The Hetch Hetchy Project is operated as a combined water storage and conveyance and electric generation and transmission system. The Water Enterprise and the Power Enterprise coordinate operation of the Hetch Hetchy Project to ensure reliable utility services are provided by the combined system. Pursuant to State statute, the Charter and the terms of the Water Supply Agreement, the SFPUC operates the Hetch Hetchy Project pursuant to a “water first” policy to optimize the reliability and quality of its water deliveries and ensure that hydroelectric generation does not cause any reasonably anticipated adverse impact on water service. Power is generated when water is delivered to meet water system operational requirements.

Hetch Hetchy Project reservoir operations are guided by two principal objectives: collection of Tuolumne River water runoff for diversion to the Bay Area; and fulfillment of the SFPUC’s downstream release obligations. To ensure water supply, Hetch Hetchy Project reservoirs remain high through the early winter, until snowmelt runoff is forecasted at 90% certainty to fill all Tuolumne reservoirs. When the forecasted snowmelt is certain to be in excess of the fill volume, the reservoirs may be drawn down through Power Enterprise operations without risking water supply. Similarly, the Regional Water System Bay Area reservoirs are operated to conserve watershed runoff. As such, reservoirs are drawn down early in the winter period to capture storms and reduce the potential for spilling water out of the reservoirs. In the spring, the Hetch Hetchy Project water that may be drawn down (snowmelt) is often transferred to three of the Bay Area reservoirs that are capable of receiving the water, so that any unused local reservoir storage is filled prior to July 1.

Typically, this policy requires that more water be delivered by the Hetch Hetchy Project to lower level reservoirs in spring, when electricity prices tend to be lower, than in the summer and fall, when electricity prices tend to be higher. Therefore, in an average year, the Power Enterprise has excess generation to sell in the first half of the year and generally supplements Power Enterprise generation with purchases of wholesale electricity to meet demand during the second half of the year. Nevertheless, consistent annual water needs and water deliveries create consistent “base load” electricity generation to meet almost all of the Power Enterprise’s annual retail customer load requirements. In addition, reservoir levels are flexible and to the extent possible are strategically managed to generate power when valuable. The Power Enterprise accounts for the costs of projected power purchases, including seasonal differential in electricity prices, in its budget and reflects such costs in the rates it charges customers. See – **Variability of Hydroelectric Generation** and **CERTAIN RISK FACTORS – Changes in Energy Prices**.

Licensing and Regulation

FERC Regulation

Under the Federal Power Act, the Federal Energy Regulatory Commission (“FERC”) is responsible for the licensing of hydroelectric plants within the United States. The Raker Act, which authorized rights-of-way on federal lands necessary for the Hetch Hetchy Project, predates the Federal Power Act. Hetch Hetchy Project hydroelectric facilities are on rights-of-way granted under the Raker Act. In addition, the Federal Power Act specifically exempts from FERC regulation those Hetch Hetchy Project facilities subject to the Raker Act. See **DEVELOPMENTS IN THE ELECTRICITY MARKETS AND REGULATION – Federal Law and Regulation – Federal Energy Regulatory Commission**.

Downstream from the Hetch Hetchy Project, the Districts own and operate a hydroelectric generating plant located at the Don Pedro Reservoir on the Tuolumne River (the “Don Pedro Project”). The Don Pedro Project is subject to FERC regulation and is currently undergoing re-licensing. The SFPUC has a water banking arrangement with the Districts that allows the SFPUC to “advance” water owed to the Districts to satisfy their entitlements through storage in the Don Pedro Reservoir for the Districts’ later use, thus improving the water flows (and the timing of related electric generation) from Hetch Hetchy Project facilities upstream on the Tuolumne River. See – **FERC Proceeding Regarding Relicensing of the Don Pedro Project**.

CPUC Regulation

The California Public Utilities Commission (the “CPUC”) establishes standards that apply to transmission and distribution facilities in order to ensure the safety of employees and the general public. The CPUC applies these

standards to POUs as well as privately owned utilities, even though POUs are generally not subject to CPUC jurisdiction. The standards concern all aspects of maintaining and operating transmission and distribution facilities, including vegetation management, clearances, line-loading, inspections, and reporting.

Dam Operation; Dam Safety

In 1929, the California Legislature enacted legislation providing for supervision over non-federal dams in the State. The statutes place the supervision of the safety of non-federal dams and reservoirs under the jurisdiction of the California Department of Water Resources, Division of the Safety of Dams (“DSOD”). Dams under jurisdiction are artificial barriers, together with appurtenant work, including outlet towers, which are twenty-five feet or more in height or have an impounding capacity of fifty acre-feet or more.

The DSOD reviews plans and specifications for the construction of new dams or for the enlargement, alteration, repair or removal of existing dams, under applications, and must grant written approval before the owner can proceed with construction. The DSOD routinely inspects operating dams to assure that they are adequately maintained. The DSOD also conducts investigations of selected dams and directs the owners to additional investigations and detailed safety evaluations when necessary.

At a minimum, a DSOD representative inspects each Hetch Hetchy Project dam annually with the SFPUC Hetchy Dam Safety Engineer. DSOD has historically requested up to two inspections per year to inspect the dam at its highest and lowest water levels in order to observe the upstream face of the dam under both conditions. In addition to the DSOD inspection, each Hetch Hetchy Project dam is inspected weekly by the SFPUC Watershed Keepers. Data from these weekly inspections, deflection data and weir flow data are reviewed by the SFPUC Hetchy Dam Safety Engineer. In addition to the scheduled inspections, inspections are performed following earthquakes if certain parameters are met based on size and epicenter proximity to the dam.

FERC Proceeding Regarding Relicensing of the Don Pedro Project

FERC licenses the Don Pedro Project, owned and operated by the Districts. The City helped fund the original construction of Don Pedro Project in exchange for a water bank account allowing the SFPUC to receive water credits for advanced releases from the Hetch Hetchy Project to the Don Pedro Reservoir.

The current FERC license for the Don Pedro Project expires in 2016, subject to the issuance of annual licenses if necessary to complete the relicensing process. The Districts initiated the process to relicense the Project using FERC’s Integrated Licensing Process in 2010. Relicensing is a lengthy process, stretching over a number of years and open to public participation. It is estimated the process may cost up to \$50 million to complete, which costs are split for certain studies between the Districts and the SFPUC pursuant to an existing agreement. The Districts are in the process of working through a Study Plan related to the relicensing that was issued and subsequently supplemented by FERC. The Districts have reports that, as of July 1, 2014, the Study Plan described a total of 35 studies to be completed and a total of 24 had been completed by the end of 2013. TID has further reported that two more studies were to be performed in 2014, but the California Department of Fish and Wildlife did not issue permits timely and TID filed an extension letter with FERC to perform the studies in 2015. After all of the studies are complete, California Environmental Quality Act (“CEQA”) and National Environmental Policy Act efforts must be undertaken before the license may be finalized. The Districts may operate under the existing license until the new license is finalized subject to the issuance of annual licenses by FERC.

A 1995 Don Pedro Project Settlement Agreement (“Settlement Agreement”) and a 1996 Order by FERC (“1996 Order”) established increased water flows on the Tuolumne River to protect fisheries and riparian resources. A restoration plan (“Restoration Plan”) adopted in 2000 guides planning, funding and implementation efforts. The Restoration Plan calls for a series of projects with a combined estimated cost of \$25 million to improve river channel, riparian and fisheries conditions within a 27 mile stretch of the Tuolumne River corridor below La Grange Dam. Four of the ten priority projects have been completed. However, no additional projects are in the planning or construction phases due to the limited availability of federal and state grant funds.

Pursuant to a then-existing agreement between the City and the Districts, the City might have been liable to provide a portion of the increased flows mandated under the 1995 Settlement Agreement. Instead, the City and the Districts entered into a new agreement whereby the Districts agreed to provide all flows ordered by FERC to

implement the Settlement Agreement for the term of the current license for the Don Pedro Project (2016), in exchange for which the City pays to the Districts on a monthly basis an amount aggregating \$3.5 million per year, subject to an escalation clause applied to keep pace with inflation. Pursuant to the terms of its agreement with the Districts, the City may withdraw from the agreement upon one year's notice.

The term of the Settlement Agreement runs until expiration of the current FERC license. License conditions, such as release requirements, could change under a new license. Changed release requirements could adversely affect the availability of Tuolumne River water to the SFPUC and incidental hydroelectric generation.

WECC/NERC Requirements

The FERC has adopted mandatory electric reliability standards developed by the North American Electric Reliability Corporation ("NERC") and enforced in the West by the Western Electric Coordinating Council ("WECC"). These standards require all entities that are a part of the bulk power supply system to demonstrate their ability to ensure reliability for all operations. The SFPUC is required to register and demonstrate compliance (or plans to mitigate non-compliance) in a number of operational areas. The SFPUC has established a compliance program that includes regular training of staff, systematic inspection and monitoring of operations and facilities, regular audits of compliance and mitigation plans, and regular reporting to senior management. NERC regulations are specified by operational function and require entities to register for each applicable function. The SFPUC is registered for several functions, including those applicable to transmission owners and operators and generation owners and operators. See **DEVELOPMENTS IN THE ELECTRICITY MARKETS AND REGULATION – Federal Law and Regulation – Federal Energy Regulatory Commission.**

Wildfire Considerations; 2013 Rim Fire

The Hetch Hetchy Project and electric transmission and other facilities operated by the Hetch Hetchy Project staff are primarily located in the Sierra Nevada and surrounding foothills, where wildfire remains a risk, particularly in the Yosemite National Forest surrounding Hetch Hetchy Reservoir. Wildfires can disrupt the operation of or cause damage to electric generation and transmission facilities.

The third largest wildfire in the State's history, and the biggest wildfire on record in the Sierra Nevada, started on August 17, 2013 and burned over 257,135 acres. This fire, popularly referred to as the Rim Fire, passed through an area containing two of the Hetch Hetchy Project's electric generating stations and reached the southern edge of the Hetch Hetchy Reservoir, which supplies 85% of San Francisco's drinking water and the Kirkwood and Moccasin Powerhouses, which combined generate approximately 57% of the electricity produced by the Hetch Hetchy Project. Other critical infrastructure, inclusive of electricity transmission and distribution lines, switch yards, and structures were in the wildfire's direct path prior to containment. On August 23, 2013, the City declared a State of Emergency followed by Governor Brown's declaration of a State of Emergency for the San Francisco area. Emergency response teams were immediately deployed to protect the City's resources and assets in the Sierra Nevada. The fire was fully contained in October 2013.

The Rim Fire inflicted approximately \$40 million in damages to the Hetch Hetchy Project and related transmission assets and other facilities in the Sierra Nevada region. The Hetch Hetchy Project electric generation system was also interrupted by the effects of the Rim Fire for a period of 43 days. In order to serve its retail load and maintain safety and reliability during this period, the SFPUC purchased power on the open market, including using existing banked electricity with PG&E. The total cost to the SFPUC of such power purchases and banked power usage was approximately \$1.7 million. The SFPUC is pursuing cost recovery to recoup losses through the Federal Emergency Management Agency's and the State of California Governor's Office of Emergency Services' Public Assistance Grant programs, as well as purchased property insurance coverage for mission critical assets. To date, the SFPUC has made progress in recovering the majority of costs related to the power purchases through insurance and is working towards collecting further reimbursements for damages caused by the Rim Fire. See **FINANCIAL OPERATIONS – Risk Management and Insurance.**

Ultimately, though, endpoint delivery of electricity to Power Enterprise retail and wholesale customers remained unaffected. Nor did the Rim Fire have an adverse impact on drinking water quality, despite some ash having been observed falling into the Hetch Hetchy Reservoir.

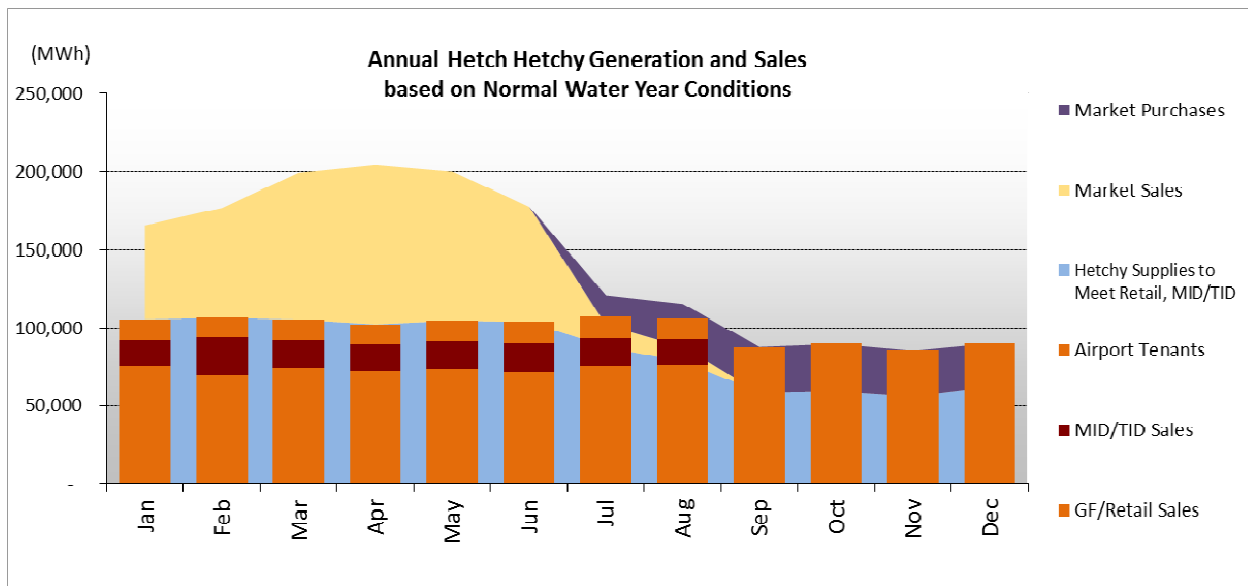
Safety and Security

The safety of the facilities of the Hetch Hetchy Project is maintained via a combination of regular inspections by SFPUC employees, electronic monitoring, and analysis of unusual incident reports. All above-ground facilities operated and maintained by the SFPUC are controlled-access facilities with fencing, gates, closed circuit television systems and security officers at certain points. Smaller, above ground and subterranean pumping stations operated and maintained by the SFPUC are locked with padlock or internal locking mechanisms, and most are monitored via access/intrusion alarms. Security improvements are evaluated on an ongoing basis. The electronic operations and controls have been evaluated and exposure reduced through a series of technology systems enhancements and integration.

Variability of Hydroelectric Generation

As is the case for nearly all hydroelectric generating assets, generation at the Hetch Hetchy Project is subject to annual and seasonal variations in precipitation. Typically, in the spring, hydroelectric generation at the Hetch Hetchy Project is higher than in other parts of the year as collected water and snowmelt flows through the Hetch Hetchy Project and the regional water system serving the City and the Water Enterprise’s wholesale customers (the “Regional Water System”) to satisfy customer draws and fill reservoirs at lower elevations, while electrical demand within the western region generally is lower than it is during most other parts of the year. Conversely, in the late summer and fall, with substantially less snowmelt and, on average, decreased precipitation, hydroelectric generation at the Hetch Hetchy Project declines due to concomitant decreases in water flow through the Hetch Hetchy Project, at the time electrical demand from western regional users increases. In an average year, the Power Enterprise has excess generation to sell in the first half of the year and generally purchases wholesale electricity during the second half of the year to meet its electricity demand. See – **Hetch Hetchy Project Operations -- Water First Policy** and **CERTAIN RISK FACTORS – Changes in Energy Prices**.

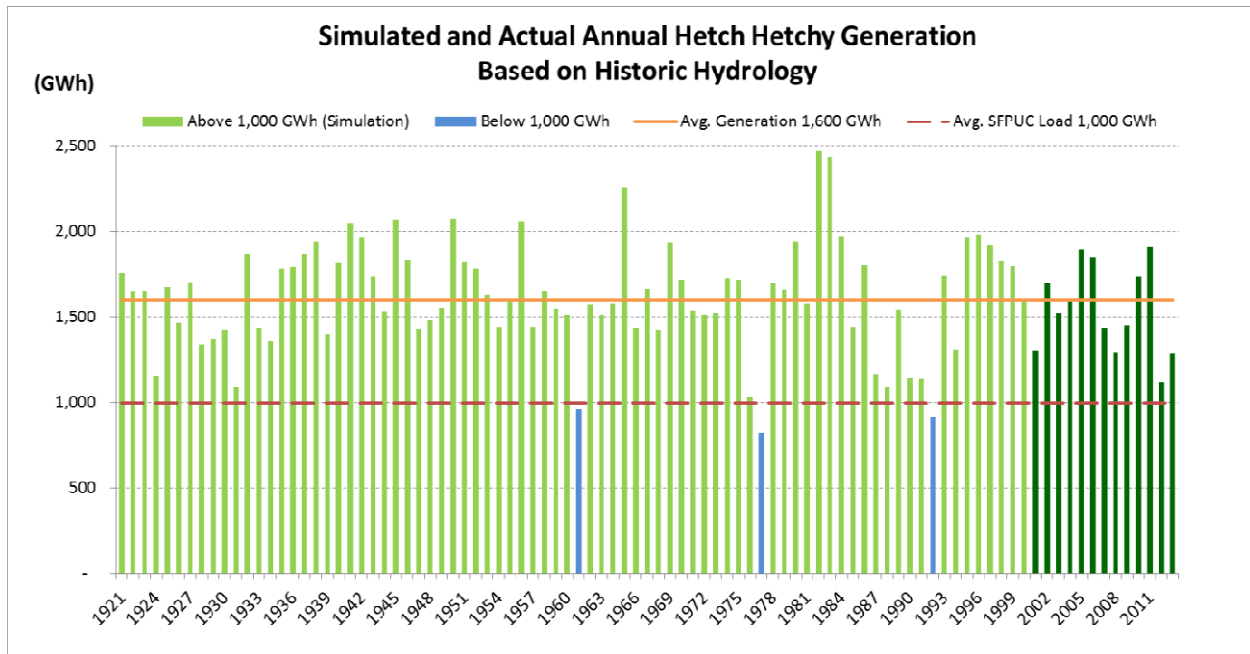
Under normal annual rainfall conditions, the Hetch Hetchy Project generates in excess of 1,600,000 MWh per year, with an average of 1,160,000 MWh generated in the first six months to satisfy average customer load of 532,700 MWh during the same period, and an average of 440,000 MWh generated in the second six months to satisfy average customer load of 547,300 MWh during the same period. The Power Enterprise manages Hetch Hetchy Project generation with market power purchases as needed to meet retail load in real time. During the second half of an average year, Power Enterprise typically makes wholesale electricity purchases equating to approximately 15% of its customers’ total load. See **THE POWER ENTERPRISE– Load and Electricity Supply Resource Management; Wholesale Electricity Trading**.



Source: SFPUC.

Precipitation conditions also vary on an annual basis. The Hetch Hetchy Project is geographically located in an environment subject to periodic drought conditions. Since 1921, four extended droughts have been recorded in the Hetch Hetchy Project area, including the current drought which began in 2011. See – **Current California Drought**. During dry years in the Hetch Hetchy Project area, the share of purchased power as a percentage of Power Enterprise customers’ load increases. Because of the prevalence of hydroelectric generating resources in the Western and particularly Northwestern portions of the United States, regional drought conditions of the type experienced in such regions in 2013 and 2014 can also impact the overall cost of purchased power. The SFPUC cannot predict when current drought conditions will end or the frequency or severity of any future drought conditions.

Had current system generation been in place throughout the past 93 years, models indicate the Hetch Hetchy Project would have produced an annual maximum generation of approximately 2,500,000 MWh and a minimum of approximately 900,000 MWh, while serving an average retail customer load of 1,000,000 MWh. On average, the Hetch Hetchy Project generates approximately 1,600,000 MWh of electricity. Even during drought conditions, the Hetch Hetchy Project has frequently generated enough electricity to meet its retail load obligations, but had less excess generation available for wholesale sales effectively reducing revenues from wholesale market transactions. See **THE POWER ENTERPRISE– Load and Electricity Supply Resource Management; Wholesale Electricity Trading**. The following graph shows simulated annual generation of the Hetch Hetchy Project applying current system generation capability to historic hydrology since 1921.



Source: SFPUC.

Potential Impact of Climate Change

The issue of climate change has become an important factor in hydroelectric generation in the State. There is evidence that increasing concentrations of greenhouse gases have caused and will continue to cause a rise in temperatures around the world, which will result in a wide range of changes in climate patterns. Moreover, there is evidence that a warming trend occurred during the latter part of the 20th century and will likely continue through the 21st century. These changes will have a direct effect on hydroelectric generation in the State, and numerous studies on climate and water in the State have been conducted to determine the potential impacts. Based on these studies, global warming could result in the following types of water resources impacts in the State, including impacts on the Regional Water System and associated watersheds which may, in turn, impact hydroelectric generation:

- Reductions in the average annual snowpack due to a rise in the snowline and a shallower snowpack in the low- and medium-elevation zones, such as in the Tuolumne River basin, and a shift in snowmelt runoff to earlier in the year,
- Changes in the timing, intensity, and variability of precipitation, and an increased amount of precipitation falling as rain instead of as snow,
- Long-term changes in watershed vegetation and increased incidence of wildfires that could affect water quality,
- Sea level rise and an increase in saltwater intrusion,
- Increased water temperatures with accompanying adverse effects on some fisheries,
- Increases in evaporation and concomitant increased irrigation need, and
- Changes in urban and agricultural water demand.

However, other than the general trends listed above, there is no clear scientific consensus on exactly how global warming will quantitatively affect State water supplies and, therefore, hydroelectric generation.

The SFPUC staff performed an initial evaluation of the effect on the Regional Water System of a 1.5-degree Celsius (°C) temperature rise between 2000 and 2025. The temperature rise of 1.5°C is based on a consensus among many climatologists that this level of warming is likely to occur by 2025. The evaluation predicts that an increase in temperature of 1.5°C will raise the snowline approximately 500 feet. The elevation of the watershed draining into Hetch Hetchy Reservoir ranges from 3,800 to 12,000 feet above mean sea level, with about 87% of the watershed area above 6,000 feet. In 2000 (a normal hydrologic year in the 82-year period of historical record), the average snowline in this watershed was approximately 6,000 feet during the winter months. Therefore, the SFPUC evaluation indicates that a rise in temperature of 1.5°C between 2000 and 2025 will result in less or no snowpack between 6,000 and 6,500 feet and faster melting of the snowpack above 6,500 feet. Similarly, a temperature rise of 1.5°C between 2025 and 2050 will result in less or no snowpack between 6,500 and 7,000 feet and faster melting of the snowpack above 7,000 feet.

The SFPUC climate change modeling indicates that, on average, about 7% of the runoff currently draining into Hetch Hetchy Reservoir will shift from the spring and summer seasons to the fall and winter seasons in the Hetch Hetchy basin by 2025. This percentage is within the current inter-annual variation in runoff and is within the range accounted for during normal runoff forecasting and existing reservoir management practices. The additional change between 2025 and 2030 is not expected to be detectable. The predicted shift in runoff timing is similar to the results found by other researchers modeling water resource impacts in the Sierra Nevada due to warming trends associated with climate change.

Based on these preliminary studies and the results of literature reviews, the potential impacts of global warming on the Regional Water System are not expected to affect power system operations through 2030. SFPUC hydrologists are involved in ongoing monitoring and research regarding climate change trends and will continue to monitor the changes and predictions, particularly as these changes relate to water system operations and management of the Regional Water System. The SFPUC has developed a work plan to further advance its research on the effects of climate change on the Regional Water System.

Proposals to Restore Hetch Hetchy Valley

Some environmental organizations advocate for the removal of the Hetch Hetchy Reservoir and the restoration of Hetch Hetchy Valley. For example, an initiative ordinance entitled the “Water Sustainability and Environmental Restoration Planning Act of 2012” qualified for the November 2012 City ballot with support from an organization called “Restore Hetch Hetchy” and would have required the City to identify alternative sources of water and, subject to certain additional conditions, end its use of the Hetch Hetchy Reservoir that supplies the

Kirkwood and Moccasin Powerhouses, which combined generate approximately 57% of the electricity produced by the Hetch Hetchy Project. This initiative was rejected by voters.

There have been previous studies that examined prior proposals to remove the Hetch Hetchy Reservoir. For example, the California Department of Water Resources and the California Department of Parks and Recreation issued a comprehensive report and concluded that it does appear technically feasible to restore Hetch Hetchy Valley, but expressed caution about the financial feasibility. The study estimated that the total cost for such a project would range from nearly \$3 billion to \$10 billion. The planning effort alone, they concluded, would take up to ten years to complete and would cost \$65 million dollars. Restoring the Hetch Hetchy Valley would likely increase, perhaps substantially, the Power Enterprise's annual cost of purchased power. *However, the SFPUC is unable to predict whether this initiative, or any future initiatives, might be submitted to or approved by the voters, or their potential impact on the SFPUC or the Power Enterprise.*

THE POWER ENTERPRISE

General

The SFPUC has provided electricity services to retail customers and State irrigation districts since the 1920s in accordance with the terms of the Raker Act. Pursuant to the Raker Act, the City developed a system of hydroelectric facilities, transmission facilities and other electric utility infrastructure to serve its customers. See **THE HETCH HETCHY PROJECT**. The City also built and owns certain distribution facilities. Since at least 1945, the City has purchased transmission and distribution services from PG&E through a FERC-approved wholesale agreement to transmit and deliver electricity to City customers.

In 2005, as part of an agency-wide reorganization, the SFPUC created the Power Enterprise as a separate electric utility enterprise to complement the Water and Wastewater Enterprises. Although the Power Enterprise is functionally organized as a separate enterprise within the SFPUC's overall structure, the Hetch Hetchy Project operates as a combined water storage and conveyance and electric generation and transmission utility. See **THE HETCH HETCHY PROJECT**.

The Power Enterprise generates, schedules, purchases, sells, transmits and distributes electricity to meet the needs of about 2,416 retail and wholesale customers, including 17% of the total electricity consumed within the City (the remaining 83% is provided by PG&E and electricity service providers through a State-authorized direct access scheme). The Power Enterprise's customers include:

- all municipal departments, including the City's fire houses, hospitals, municipal transit rail system, water and wastewater treatment facilities, SFO, recreational facilities, maritime facilities, public housing and all City streetlights and traffic signals;
- tenants in City-owned properties, including tenants of the Port and SFO; and
- Phase I of the Hunters Point Shipyard redevelopment project, and tenants of TIDA on the former Naval Station Treasure Island and Yerba Buena Island.

The Power Enterprise also owns, operates and maintains more than half of the street lights in the City (and supplies electricity to the other half, which are owned and maintained by PG&E). In addition, as a result of the increasing commitment of the citizens of the City to reduce the production of GHGs, together with related environmental concerns, the SFPUC has begun to diversify its generation resources and make additional investments in renewable generation resources and energy efficiency. The Power Enterprise provides energy efficiency and other clean energy services to its customers, including solar incentives to all residents and business within the City through the Power Enterprise's GoSolarSF program to encourage local installations of small scale photovoltaic systems.

The Power Facilities include the power-related assets of the Hetch Hetchy Project, 17 solar arrays and 2 biogas facilities, transmission lines, and numerous distribution facilities. The Power Enterprise currently has 98 full-time positions, an operating budget of \$146.7 million for fiscal year 2014-15, and a capital budget of about \$75.9 million for power facilities and the power portion of combined water and power facilities. The Power

Enterprise's revenues for fiscal year 2013-14 were approximately \$105.8 million. Power Enterprise revenues currently support approximately 80% of the SFPUC's costs of operating the Hetch Hetchy Project, including maintenance and capital improvements relating to the Hetch Hetchy Project. See **THE HETCH HETCHY PROJECT – Hetch Hetchy Project Operations**.

Power Service in San Francisco

Based on the City's 2011 Updated Electricity Resource Plan (defined below), average total electricity usage in the City has been approximately 6,000 GWh per year or an average of approximately 980 MW of demand. The City's electricity needs are met by three primary providers. PG&E is the largest provider of electricity in the City and serves approximately 75% of the total load within the City. Approximately 8% of the City's electricity needs are supplied by third party electric service providers through direct bilateral power contracts, using PG&E's transmission and distribution system to deliver their electricity. The remaining 17% of the City's electricity usage is served by the Power Enterprise. The above percentages include electricity usage for all of the City and SFO, which is located outside City boundaries in unincorporated San Mateo County, California and served by the SFPUC. In 2008, the City established a goal to have GHG-free electric service by 2030, to be realized in part by generating, deploying and procuring all of the SFPUC's electricity needs from renewable and zero-GHG electric energy sources.

Pacific Gas & Electric Company

Incorporated in the State in 1905, PG&E is an investor-owned natural gas and electric utility company, with a service area in the State that extends from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada in the east, although portions of the area are served by municipally owned utilities. PG&E is headquartered in the City. PG&E is the largest provider of electricity within San Francisco. As calculated in San Francisco's 2011 Updated Electricity Resource Plan, PG&E provided 75% of the approximately 6,000 MWh of electricity consumed in the City as of 2010.

PG&E is regulated primarily by the CPUC and FERC. CPUC has jurisdiction over the rates and terms and conditions of service for PG&E's electricity and natural gas distribution operations, electric generation, and natural gas transportation and storage. FERC has jurisdiction over the rates and terms and conditions of service governing PG&E's electric transmission operations and interstate natural gas transportation contracts. The federal Nuclear Regulatory Commission oversees the licensing, construction, operation, and decommissioning of the PG&E's nuclear generation facilities. PG&E is also subject to the jurisdiction of other federal, state, and local governmental agencies in certain matters.

The SFPUC interfaces with PG&E in multiple ways:

- *Customer.* The SFPUC is a wholesale customer of PG&E's for transmission and distribution services within the City, paying PG&E approximately \$16 million a year for such services. The SFPUC is also a customer of PG&E streetlight services, currently paying PG&E approximately \$1.6 million a year to operate and maintain the 20,000 PG&E-owned streetlights in the City. The SFPUC, though, provides electricity for all streetlights in the City.
- *Regulator.* A Franchise Agreement between the SFPUC and PG&E, approved by the Board of Supervisors on December 26, 1939, grants PG&E non-exclusive franchises to provide electric and gas service in the City and authorizes use of public rights-of-way in connection therewith. The City, including the SFPUC, regularly issues permits to PG&E for work on or use of City property to improve its systems. For example, PG&E is a permitted user of some of the SFPUC's watershed lands.
- *Competitor.* Neither the Raker Act nor PG&E's Franchise Agreement imposes any limitations for the City's ability to serve retail customers. The SFPUC and PG&E are able to compete to serve any load and offer competing products.

Electric Service Providers (Direct Access)

Direct access service in the State was established as a result of the restructuring of the State's electric industry in 1998 through AB 1890 and allows qualified large customers to purchase their electricity directly from qualified generators or other suppliers through bilateral contracts, subject to utility-specific load caps. The local utilities continue to be responsible for transmission and distribution under CPUC tariffs. In the City, although fewer than 800 customers continue to participate in the direct access program, given their large size, their combined electricity usage constitutes approximately 8% of total electricity usage and includes about 60% of PG&E's largest customers within the City, including certain downtown office buildings, large department stores, industrial customers, the University of California and the California State University System. Residential and small commercial customers of investor-owned utilities are not eligible for participation in the direct access program. None of the Power Enterprise's customers are eligible to participate in the State's direct access program.

Power Enterprise Service

The Power Enterprise is responsible for the marketing, sale, transmission, and delivery of all of the clean energy products produced by the Hetch Hetchy Project and other power produced by SFPUC. The Power Enterprise balances that supply with purchases or sales to meet customer demand. The Power Enterprise transmits, distributes, meters, and prepares the electric bills for its customers, comprised of all City offices, facilities, and their tenants, ranging from neighborhood Police Stations and Fire Houses, the Ferry Building, and City Hall, to the Airport, General Hospital, wastewater pumping and treatment facilities, the Regional Water Treatment Facilities, and the Municipal Railway. The Power Enterprise is also the full-service electricity provider to the newly developing Hunters Point Shipyard Phase 1 project and the Transbay Transit Center. The Power Enterprise also provides gas and electric service to former Naval Station Treasure Island, by agreement with TIDA. Power operates and maintains four substations and switchgear, and many miles of distribution wires to provide reliable electric service to its customers. See **-Power Enterprise Customers**.

The Power Enterprise provides the full complement of electricity services to its customers, which includes implementing energy efficiency improvements and on-site renewable power generation. The Power Enterprise has developed and owns 2 MW of rooftop solar projects. The Power Enterprise has also developed certain in-City solar generation and methane gas-fired co-generation facilities. See **- Power Supply Resources**. The Power Enterprise owns, operates, manages, and maintains approximately 25,000 street lights and related circuitry throughout the City.

The Power Enterprise's operations and planning are guided by a number of policy objectives, including;

- Ensuring compliance with the Raker Act;
- Preserving the ability to operate, maintain, repair and improve SFPUC-owned facilities and providing safe and reliable electric service;
- Maximizing the value received from Hetch Hetchy Project electricity supply; and
- Continuing to support other valuable City and community goals, such as:
 - Reducing the City's carbon footprint,
 - Increasing the reliability of the City's electrical supplies,
 - Encouraging conservation and sustainable technologies.

Power Supply Resources

The Power Enterprise meets its customer's electricity requirements with a combination of (1) generation from the SFPUC-owned Hetch Hetchy Project, (2) generation at renewable projects in the City owned by the Power Enterprise and (3) market purchases. See **THE HETCH HETCHY PROJECT**.

The Power Enterprise portfolio is comprised of approximately 395 MW of renewable electricity generating capacity serving approximately 150 MW of Retail load.

**TABLE 3
POWER GENERATION RESOURCES**

Hetch Hetchy Project Large Hydro (96% of Total)

<u>Powerhouse</u>	<u>Capacity (MW)</u>	<u>Units</u>
Holm	165.0	2
Kirkwood	115.5	3
Moccasin	<u>100.0</u>	<u>2</u>
Total	380.5	7

Other Renewable (4% of Total)

<u>Source</u>	<u>Capacity (MW)</u>
Solar (local)	7.7
Hetchy Small Hydro	3.8
Biogas (local)	<u>3.1</u>
Total	14.6

Solar, Biogas, Wind

In addition to the generation resources of the Hetch Hetchy Project, the Power Enterprise has developed, owns, and maintains 2.7 MW of rooftop solar projects on City property. The Power Enterprise has also partnered with a private solar developer to build a large-scale, local solar facility on the SFPUC's Sunset Reservoir. The SFPUC has entered into a long-term Power Purchase Agreement for the output of this 5 MW Sunset Solar Generating Project. See – **Power Purchases**. Solar generation capacity is distributed among the 17 municipal solar installations listed below.

**TABLE 4
SOLAR GENERATION RESOURCES**

Project	Date Online	Location	Output
Moscone Convention Center	Mar. 2004	747 Howard St.	676 kW
Southeast Wastewater Treatment Plant	Oct. 2005	750 Phelps St.	255 kW
Pier 96	Jan. 2007	Pier 96	245 kW
Maxine Hall Neighborhood Medical Center	Dec. 2007	1301 Pierce St.	32 kW
North Point Wet-Weather Facility	Dec. 2007	111 Bay St.	241 kW
City Distribution Division	Dec. 2007	1990 Newcomb Ave.	134 kW
Chinatown Public Library	Jan. 2008	1135 Powell St.	10 kW
San Francisco International Airport	Mar. 2008	Terminal 3	456 kW
Sunset Reservoir ⁽¹⁾	Nov. 2010	Ortega & 28 th Ave.	5 MW
MUNI Maintenance Yard	Oct. 2011	1095 Indiana St.	106 kW
Chinatown Public Health Center	Nov. 2011	1490 Mason St.	24.5 kW
Tesla Water Treatment Facility	Mar. 2012	Tracy, CA	32 kW
SFPUC Headquarters	Jun. 2012	525 Golden Gate Ave.	164 kW
Alvarado Elementary School	Nov. 2012	625 Douglass St.	50 kW
MUNI Ways and Structures	Sep. 2013	700 Pennsylvania Ave.	101 kW
Louise M. Davies Symphony Hall	Mar. 2014	201 Van Ness Ave.	182 kW
North Beach Library	Jul. 2014	850 Columbus Ave.	11.7 kW

⁽¹⁾ Owned by SFCity1. Power purchased by the Power Enterprise pursuant to a long-term power purchase agreement. See – **Power Purchases.**

Source: SFPUC.

The SFPUC has also begun the process of installing an 80 kW solar electric system on City Hall, which is expected to be operational in 2015.

The SFPUC also operates two biogas generation facilities, located at the Wastewater Enterprise’s Southeast and Oceanside Wastewater Treatment Plants, with a combined capacity of approximately 3.1 MW or approximately 1% of the Power Enterprise’s aggregate generation capacity. Such facilities generate clean, renewable energy from the gas byproducts of the wastewater decomposition process.

Power Purchases

The Power Enterprise supplements its resource portfolio with long-term and short-term power purchases to meet retail customer demand. The SFPUC has entered into a number of long-term power purchase agreements to help meet its electricity requirement:

- ***Western Area Power Administration*** – The SFPUC has entered into a long-term power agreement with the Western Area Power Administration (“WAPA”) wherein WAPA provides supplemental power and portfolio management services for customer needs on Treasure Island and Yerba Buena Island (“TI/YBI”). Through the agreement, WAPA provides full load service and scheduling coordinator services for TI/YBI. The contract allocates a percentage of WAPA’s base resources and supplemental electricity to the SFPUC to meet the existing needs of TI/YBI. Additionally, the WAPA agreement provides for transmission access on the Central Valley Project Transmission System for such allocation. The contract expires on December 31, 2024.
- ***Sunset Reservoir Photovoltaic*** – The SFPUC has entered into an agreement with SFCity1 to finance, construct, own, operate, and maintain a 5 MW solar photovoltaic generating plant on the rooftop of the SFPUC-owned North Storage Basin Reservoir and certain adjacent land on the Sunset Reservoir property and to sell all electricity generated by such project to the SFPUC through a 25-year power purchase agreement. The power purchase agreement provides that the SFPUC will purchase all electricity produced by the Sunset Solar Project at specified contract

prices. The contract provides an option for the SFPUC to buy the solar facility at a predetermined price on or after 7 or 15 full years from the actual commercial operation date.

When electricity from its owned-generation resources and long-term purchased power are not sufficient to meet electricity demand, the Power Enterprise supplements its electrical resources with medium- and short-term power purchases through month-ahead, day-ahead and spot purchases on the CAISO market. All market purchases are subject to established risk management practices and guidelines, including trading limits and counterparty credit requirements, and are required to include electricity produced from GHG-free sources.

Wholesale Electricity Sales

The Raker Act requires the City to sell electricity from the Hetch Hetchy Project first to meet the City's own pumping and municipal needs, then, as available, to meet the pumping and municipal needs of the Districts, and lastly, as available, the City may sell excess electricity for commercial purposes. The Raker Act does not limit the type of commercial end-use customer that SFPUC may supply; electricity may be sold to any retail/commercial end-use customer. However, such electricity may not be sold to a private corporation or individual for resale. Historically, excess Hetch Hetchy Project electricity has generally been sold to other public utilities.

In 1988, the SFPUC entered into a long-term power sales agreement with the Districts. The SFPUC subsequently amended the terms of the agreement with each of the Districts. The agreement with MID was renegotiated in 2008 to remove the Power Enterprise's obligation to provide firm power to MID and to eliminate MID's rights to excess electricity from the Hetch Hetchy Project. The SFPUC's agreement with MID expires on June 30, 2015. In 2005, the SFPUC amended the terms of the agreement with TID. The amended agreement between the SFPUC and TID terminates the Power Enterprise's obligation to provide TID firm power at below market costs. The SFPUC's agreement with TID also expires on June 30, 2015. The SFPUC is negotiating updated agreements, subject to the requirements of the Raker Act. The SFPUC will continue to comply with the Raker Act by making hydroelectricity generated by the Hetch Hetchy Project available at cost to MID and TID for agricultural pumping and municipal loads after the expiration of the power sales agreement, as electricity is available. See **CERTAIN RISK FACTORS – Raker Act Requirements.**

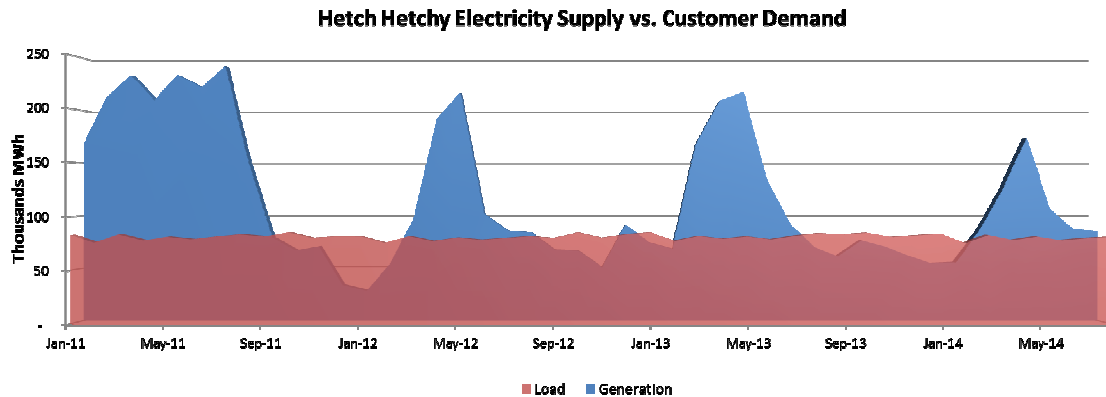
For Fiscal Years 2012-13 and 2013-14 electricity sales to the Districts totaled approximately 227,544 MWh or approximately \$6.54 million, and approximately 103,489 MWh or approximately \$3.43 million, respectively.

The SFPUC previously entered into a long-term agreement with the Riverbank Local Redevelopment Authority (the "Riverbank LRA") to provide firm power to the Riverbank LRA to serve electric load at the former Riverbank Army Ammunition Plant (the "RAAP"). The Riverbank LRA is currently in the process of converting the RAAP to civilian and commercial uses. The agreement expired in 1991, however, the SFPUC continues to provide firm service under the same terms and conditions. Total electric sales to the Riverbank LRA in 2013 were approximately 6,000 MWh. The SFPUC expects to negotiate a new power supply agreement with Riverbank LRA. See – **Power Enterprise Customers – Wholesale Customers.**

Load and Electricity Supply Resource Management; Wholesale Electricity Trading

The Power Enterprise manages Hetch Hetchy Project generation with market power purchases as needed to meet retail load in real time and by season to account for the variability of available hydroelectric generation. As a net-long generator, variation in annual generation is covered by fund balances which are replenished in normal- and high-precipitation years. Seasonal variability in hydroelectric generation is addressed through seasonal market power sales and purchases, and a power banking agreement with PG&E. In the second half of the calendar year, the Power Enterprise purchases wholesale electricity to meet, on average, approximately 15% of its needs. During dry years, when less Hetch Hetchy Project generation is available, Power Enterprise's market exposure increases, historically by an additional 5% on average of its retail needs. See **THE HETCH HETCHY PROJECT -- Variability of Hydroelectric Generation.**

The following chart shows the last four years of historical Hetch Hetchy Project generation and Power Enterprise customer demand on an annual basis.



Source: SFPUC.

In addition to providing transmission and distribution services, PG&E also provides the Power Enterprise with a power banking arrangement. Historically, the SFPUC relied on its electricity bank arrangement with PG&E to hedge and manage differences in Hetch Hetchy Project generation and customer demand on a seasonal basis. The power banking arrangement permits the Power Enterprise to deposit a limited amount of Hetch Hetchy Project electricity during periods when generation exceeds the Power Enterprise’s retail and wholesale obligations. The Power Enterprise withdraws, within certain limits, electricity to meet SFPUC requirements when Hetch Hetchy Project generation is less than retail obligations. See **THE HETCH HETCHY PROJECT -- Variability of Hydroelectric Generation**.

The City’s interconnection agreement with PG&E allows the Power Enterprise to bank excess electricity to a maximum of 110,000 MWh. As of June 30, 2014, the balance of electricity accounted for under such banking arrangement was 78,502 MWh for the benefit of the Power Enterprise. The interconnection agreement is scheduled to expire in July 2015. Following expiration of the agreement, PG&E will no longer be obligated to provide power banking services to the Power Enterprise. The Power Enterprise anticipates that, after termination of the Interconnection Agreement, it will utilize bilateral agreements or the CAISO market to derive value from its excess generation and meet the SFPUCs requirements during periods when Hetch Hetchy Project Generation is less than retail obligations. See – **Transmission and Distribution**.

The SFPUC has adopted an Energy Trading Risk Management Policy applicable to the wholesale purchases and sales of electricity by the SFPUC to balance loads and resources in the near-term. The policy sets parameters for trades that include guidelines for load forecasting, counterparty eligibility, transaction authorizations, documentation and reporting requirements, and other transaction limitations.

Transmission and Distribution

Since at least 1945, the City has purchased transmission and distribution services from PG&E through a FERC-approved wholesale agreement to transmit and deliver electricity to City customers. Currently, the SFPUC takes transmission and distribution services from PG&E through a long-term FERC-approved interconnection agreement. The City’s interconnection agreement with PG&E was entered into in 1987 and renegotiated in 2007. Under the interconnection agreement, PG&E provides firm transmission capacity and interconnection to its distribution network. Such wholesale transmission and distribution services are provided to the Power Enterprise at negotiated, FERC-approved rates to facilitate the transmission and distribution of the Power Enterprise’s electricity supplies to its customers within the City, on the San Francisco Peninsula, in the East Bay and in other locations. The Power Enterprise also purchases distribution service from PG&E under PG&E’s Wholesale Distribution Tariff

to serve customers at Hunters Point and the new Transbay Transit Center. In addition to these arrangements for transmission and distribution services, the Power Enterprise provides electric service on Treasure Island through long-term agreements with the WAPA and the Port of Oakland. See – **Power Supply Resources – Power Purchases**.

The interconnection agreement is scheduled to expire in July 2015. As a result of electric industry restructuring in the 1990s, PG&E is now required to provide open, non-discriminatory service on its distribution and transmission network to wholesale customers, such as the Power Enterprise, under FERC-approved wholesale tariffs. Open access to PG&E's grid avoids the need for the Power Enterprise to install, own and maintain duplicative and costly transmission and distribution infrastructure for its existing customer base. Upon expiration of the current interconnection agreement, the Power Enterprise expects to transition from its current arrangement to similar transmission and distribution services under FERC-approved tariffs. For transmission services, the Power Enterprise will take wholesale transmission services on PG&E's system using the CAISO's Open-Access Transmission Tariff at rates approved and regulated by FERC. For distribution services, the Power Enterprise expects to take distribution services from PG&E under the FERC-approved Wholesale Distribution Tariff at rates approved and regulated by FERC.

The City has filed a complaint against PG&E at FERC related to PG&E's delays in processing the SFPUC's request for service under PG&E's Wholesale Distribution Tariff beginning in July 2015. PG&E acknowledges that the SFPUC is entitled to open access service under the tariff, but disagreements remain regarding the extent of new distribution facilities the City will be required to construct in order to serve its existing customers. Resolution of the complaint, either through a negotiated settlement with PG&E or a decision by the FERC, will impact the cost of service for the Power Enterprise. If the disputed issues are not resolved before the interconnection agreement expires, though, service to Power Enterprise customers will not be interrupted.

See **DEVELOPMENTS IN THE ELECTRICITY MARKETS AND REGULATION – Federal Legislation – Federal Law and Regulation**.

Current transmission and distribution rates specified in the interconnection agreement are less than the FERC-approved tariffed rates for transmission service through the CAISO Open-Access Transmission Tariff and distribution service through PG&E's Wholesale Distribution Tariff. With the expiration of the interconnection agreement, the Power Enterprise's transmission and distribution costs are expected to increase. The Power Enterprise's adopted two-year budget through Fiscal Year 2015-16, and all financial projections, include the anticipated cost increases, with the cost budgeted at \$17 million for Fiscal Year 2015-16 and projected to increase 6% per year for the next ten years.

SFPUC-owned Transmission Service

The SFPUC owns and maintains four transmission lines extending from the generation units of the Hetch Hetchy Project. See **THE HETCH HETCHY PROJECT**. These transmission lines connect with the CAISO system and are also connected to two other balancing authorities that serve the SFPUC's two largest wholesale customers. These are the Balancing Authority of Northern California, which covers MID, and TID, which operates as its own balancing authority. See **DEVELOPMENTS IN THE ELECTRICITY MARKETS AND REGULATION – The Power Enterprise's Relationship to the CAISO**. The SFPUC is evaluating the potential to extend the transmission line terminating at Newark into the City.

The SFPUC also provides transmission-level service to RAAP via a tap from the SFPUC's 115 kV transmission system located just north of the main RAAP site. See – **Wholesale Electricity Sales**.

Trans Bay Cable

The Trans Bay Cable project is an electricity transmission infrastructure project for delivery of electricity to the transmission grid in the City. On August 7, 2007, the Board of Supervisors granted two non-exclusive licenses to Trans Bay Cable LLC ("TBC") for the Trans Bay Cable Project. TBC proposed to install, operate, and maintain approximately 53 miles of high-voltage direct current transmission cable bundle of approximately 10 inches in diameter running from the City of Pittsburg to the City. Approximately 9.4 miles of the cable are in submerged

lands, a small portion of shoreline, and on a portion of a street that are under San Francisco Port Commission jurisdiction. The project came on line November 29, 2010.

The first license is a nonexclusive license to install a 400 MW high-voltage transmission line, with a four-year term. In connection with this license, TBC paid the SFPUC \$3.5 million as a “Renewable Energy, Transmission and Grid Reliability Payment,” which the SFPUC is using to study development of two City-owned transmission projects, a Newark-San Francisco Project and a Potrero-Embarcadero Project.

The second license is a non-exclusive license for operation of the high-voltage transmission line with 25-year term with an option to renew for 10 years. TBC is obligated to pay the Power Enterprise approximately \$20 million in 10 separate installments of \$2 million annually, adjusted for inflation, as the “San Francisco Electric Reliability Payment” to implement, advance, promote, or enhance policies and projects consistent with City energy policies, including renewable energy, conservation, and environmental health programs and green jobs training and placement programs which benefit low- income, at-risk, and environmentally disadvantaged communities.

In-City Distribution

PG&E owns and operates most of the electric distribution infrastructure within the City and, with the exception of Trans Bay Cable, PG&E also owns all of the high-voltage transmission lines entering San Francisco. The Power Enterprise serves customers through City-owned distribution networks at SFO, large City-owned properties (for example, properties operated by the Port, SFMTA, and the SFPUC’s water treatment and wastewater facilities). The Power Enterprise is in the process of installing additional distribution facilities to serve new retail customers in Hunters Point Shipyard (Phase 1) and at the Transbay Transit Center. The SFPUC distribution facilities (lines and substations) directly interconnect to PG&E’s distribution network, but they are not adequate to provide service to all SFPUC customers.

Some large Power Enterprise customers, such as SFO, are interconnected at transmission level. Through an agreement with TIDA, the Power Enterprise maintains the distribution system at the former Naval Station Treasure Island, on behalf of TIDA. The existing system on the property is owned by the Navy, but will be transferred to TIDA upon implementation of a memorandum of agreement between TIDA and the Navy. SFPUC has the right to take title to a newly constructed submarine electric cable linking the property to the East Bay. TIDA has entered into a development agreement for the redevelopment of the property, which would include construction of new utility infrastructure.

Operational Control

The Power Enterprise plans for and operates within resource adequacy, renewable portfolio standards (“RPS”) and other retail regulatory requirements for peak demand of 160 MW and an annual electricity requirement of 1,000,000 MWh of retail load. The Power Enterprise provides scheduling services on a non-stop basis. Electricity supplies are firmed and shaped to retail loads with market purchases and sales (at hourly, daily, monthly and longer term periods). Scheduling Coordinator services and certain federal reliability requirements are independent of sales volumes, strategy and retail/wholesale mix. See **DEVELOPMENTS IN THE ELECTRICITY MARKETS AND REGULATION – Federal Legislation**. Power Enterprise staff handles trading, scheduling, settlements, risk management, and long-term resource planning with capacity largely independent of sales volumes, strategy, and retail/wholesale mix.

Power Enterprise Customers

The Power Enterprise’s retail service territory provides it with a monopoly franchise similar to those enjoyed by other public utilities, but with atypical geographic boundaries. With the exception of a few large customers, most of Power Enterprise’s retail customers are directly interconnected to PG&E’s distribution network. See – **Transmission and Distribution – In-City Distribution**. Most Power Enterprise retail customers are entities affiliated with the City or are located on City property. Many City departments currently served by the Power Enterprise have been served by the City and/or the SFPUC (or its predecessor) for decades, in many cases since 1923. The ability of such customers to switch to service provided by another utility in the area is limited and generally would result in neither cost savings nor service improvements for such customers. Specifically, PG&E’s ability to serve customers in the City is constrained by its non-exclusive franchise agreement with the City and the

Power Enterprise's competitive cost-of-service, which remains below PG&E's cost-of-service as of November 1, 2014.

The following table shows the total number of electric service accounts maintained by the Power Enterprise from Fiscal Year 2009-10 to Fiscal Year 2013-14 by customer category.

**TABLE 5
POWER ENTERPRISE ELECTRIC SERVICE ACCOUNTS
BY CUSTOMER CATEGORY
FISCAL YEARS 2009-10 TO 2013-14**

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
City Agencies	1,429	1,437	1,437	1,449	1,470
Non-City Agencies (e.g. SFUSD, SF Community College District)	786	791	780	766	758
Moccasin/City of Riverbank	39	40	41	40	41
Modesto/Turlock Irrigation Districts	2	2	2	2	2
Total accounts	<u>2,256</u>	<u>2,270</u>	<u>2,260</u>	<u>2,257</u>	<u>2,271</u>

Source: SFPUC.

The following table presents the Power Enterprise's major customers by average total amount of electricity purchased during Fiscal Years 2009-10 to 2013-14.

TABLE 6
ANNUAL ELECTRICITY SALES TO MAJOR CUSTOMERS
FISCAL YEARS 2009-10 TO 2013-14

	Annual Electricity Sales (MWh)				
	2010	2011	2012	2013	2014
Municipal Customers					
San Francisco International Airport (incl. tenants)	323,050	326,652	330,497	329,327	330,143
Municipal Transportation Agency	113,157	107,509	107,396	106,007	108,232
SFPUC - Wastewater Enterprise	64,994	70,711	66,056	64,112	67,102
Administrative Services Agency	45,123	43,397	41,162	57,684	61,174
Department of Public Health	52,315	55,748	54,901	58,460	61,130
SFPUC - Water Enterprise	43,734	46,913	53,527	54,074	54,444
San Francisco Unified School District	35,776	35,658	34,536	34,079	33,513
Recreation and Parks Department	18,385	18,776	18,865	19,366	20,107
San Francisco Housing Authority	21,789	23,956	23,170	21,803	20,056
City Owned Parking Garages	12,590	12,094	12,015	12,398	12,274
Port of San Francisco ⁽¹⁾	8,619	8,380	7,736	8,778	9,423
Other Municipal ⁽²⁾	210,365	208,394	216,425	202,299	202,290
Other Retail					
Treasure Island ⁽³⁾	9,519	9,733	10,535	10,998	10,920
Hunters Point Shipyard Redevelopment Phase 1 Development ⁽⁴⁾	-	6	28	6	58
Transbay Transit Center ⁽⁵⁾	-	-	-	-	-
Wholesale					
Turlock Irrigation District	209,163	345,477	199,900	168,921	75,077
Modesto Irrigation District	77,745	113,843	77,938	58,623	28,412
Riverbank (formerly Norris Industries)	8,123	6,166	6,073	6,273	7,707
Western Systems Power Pool	298,549	568,157	143,675	131,200	2,400
Total⁽⁶⁾	1,552,996	2,001,570	1,404,435	1,344,408	1,104,462

⁽¹⁾ Excludes tenants.

⁽²⁾ Includes Port tenants, Moccasin and miscellaneous accounts.

⁽³⁾ Does not include amount for flat rate customers. Customers are tenants of TIDA and Federal agencies, which SFPUC serves by agreement with TIDA

⁽⁴⁾ Includes Construction only.

⁽⁵⁾ Not yet in service.

⁽⁶⁾ Totals may not add due to rounding.

Source: SFPUC.

Municipal Customers

- San Francisco Public Utilities Commission

The Power Enterprise supplies electricity to the SFPUC Water Enterprise and Wastewater Enterprise. See **THE PUBLIC UTILITIES COMMISSION – Organization, Purposes and Powers.**

- San Francisco International Airport

With 40 airlines and 112 direct destinations, SFO is the 7th leading passenger airport in North America and the 19th largest air cargo airport. In its fiscal year 2013-14, SFO served nearly 45 million incoming and outgoing passengers, and moved 329,571 metric tons of cargo.

- San Francisco Municipal Transportation Agency

The SFMTA, a department of the City, is responsible for the management of all ground transportation in the City. The SFMTA operates Muni, which provides bus and street car service and is the nation's seventh largest public transit system. The agency's additional responsibilities include managing parking and traffic, bicycling, walking and the regulation of taxis. The agency is governed by a Board of Directors, appointed by the Mayor and confirmed by the Board of Supervisors.

- San Francisco Unified School District

The San Francisco Unified School District ("SFUSD") is the seventh largest school district in the State, educating over 57,000 students every year. SFUSD is governed by an elected seven-member Board of Education. During school year 2013-14, SFUSD had:

- 72 elementary and K-8 schools
 - 12 middle schools
 - 19 senior high schools (including two continuation schools and an independent study school)
 - 13 preschools
 - 13 active charter schools authorized by the District
- Other City Departments

In addition to the departments described above, the Power Enterprise serves all other City departments, including but not limited to City Hall, the Port, the San Francisco Public Library, the San Francisco Police Department, the San Francisco Fire Department, and also serves the San Francisco Housing Authority and the Community College District of San Francisco.

Wholesale Customers

- The Districts

The TID and MID were both established in 1887, and are publicly owned irrigation districts in the State that also provide electric retail electricity directly to homes, farms and businesses. Both Districts were organized under the Wright Act, operate under the provisions of the California Water Code as special districts, and are governed by five-member Boards of Directors.

TID serves electricity to a growing retail customer base that now numbers in excess of 98,000 residential, farm, business, industrial and municipal accounts. The District also provides irrigation water to more than 5,800 growers in 149,500 acres of Central Valley farmland.

MID provides electricity to over 115,000 residential, commercial, industrial and municipal accounts, and irrigation water to more than 3,000 accounts in a service area of 101,700 acres.

The Power Enterprise has long-term Energy Sales Agreements with both TID and MID. See – **Wholesale Electricity Sales.**

- Riverbank LRA

The Riverbank LRA is currently in the process of converting the RAAP to civilian and commercial uses. The RAAP is located at the southeastern edge of the City of Riverbank, 5 miles north of Modesto and consists of approximately 673,000 square feet of buildings located on 173 acres. RAAP is located at the southeastern edge of the City of Riverbank, 5 miles north of Modesto and consists of approximately 673,000 square feet of buildings located on 173 acres. The SFPUC provided electric service to RAAP when it was a military facility and has continued to provide electric service to the Riverbank LRA as it transitions the site to civilian use. See – **Wholesale Electricity Sales.**

- Western Systems Power Pool

The Western Systems Power Pool (“WSPP”) is a group of energy buyers and sellers who maintain an agreement that provides standard terms and conditions for power transactions to facilitate trading opportunities and manage power delivery and price risk. The current WSPP Agreement, effective May 9, 2013 and updated June 6, 2013, is the most commonly used standardized power sales contract in the electric industry. It is regularly modified and approved by FERC and used by jurisdictional and non-jurisdictional entities. WSPP parties regularly enter agreements using some or all of the WSPP standard terms and adding additional terms as required for particular transactions. Many public entities are members of the WSPP, which allows the Power Enterprise to efficiently sell excess Hetch Hetchy Project electricity to Raker Act-eligible entities, such as the Districts and the California Department of Water Resources.

The Power Enterprise may purchase or sell energy with different market entities through the Western System Power Pool. During periods in which the Hetch Hetchy Project generates electricity in excess of the amount necessary to satisfy the Power Enterprise’s retail and wholesale obligations, the Power Enterprise may sell such excess to counterparties eligible under the provisions of the Raker Act. The SFPUC’s Energy Trading Risk Committee performs verification processes regularly to update the qualified counterparties in order to comply with Raker Act. During Fiscal Year 2013-14, the Power Enterprise purchased \$2.6 million of power. Sales of excess electricity, after meeting the Power Enterprise’s other obligations, were approximately 2,400 MWh, or approximately \$120,000.

Commercial Customers

- **Port and SFO Tenants.** The Power Enterprise serves commercial customers at SFO and the Port that are not City General Fund departments. The Power Enterprise has also historically served City General Fund department tenants at SFO. The Power Enterprise acquired the Port tenants as part of the 1997 Master Settlement Agreement with PG&E.
- **Hunters Point Shipyard Phase 1.** A redevelopment project currently under construction, the Hunters Point Shipyard Phase 1 is entitled for 1400 residential units. SFPUC has constructed facilities to serve this development, and will own, operate and maintain the distribution system as public utility infrastructure is installed and dedicated to the City.
- **Former Treasure Island Naval Station.** Under Navy control since 1941, the former Naval Station was decommissioned in the 1990s. The property includes both Treasure Island and Yerba Buena Island, totaling approximately 575 acres with access from Highway 80 off the Bay Bridge. In 1997, the City created a non-profit public benefit corporation, TIDA, to act as a single entity focused on reuse and conversion of former Naval Station Treasure Island. Since that time, under agreements with the Navy, TIDA has assumed maintenance and operation of the property, excluding portions that were transferred to the Coast Guard, the Department of Labor, or retained by the Navy. TIDA has established both residential and commercial tenancies in existing facilities, with a current resident population over 2,500. TIDA has entered into a memorandum of agreement with the Navy providing for transfer of the property, on a phased basis, subject to Navy remediation of hazardous materials.

TIDA and the City have also entered into agreements with the Treasure Island Community Developers, a for-profit development company, to redevelop the property, with entitlements for 8000 residential units, and commercial development. The SFPUC operates and maintains the existing water, wastewater, and power distribution systems on Treasure Island pursuant to agreement with TIDA, subject to receiving full compensation from TIDA for those services. TIDA sets rates, fees and charges for its tenants, and the federal agencies, under agreement with the Navy.

- **Transbay Transit Center.** The Transbay Joint Powers Authority (“TJPA”) is constructing a new multi-modal regional transportation center, a downtown rail extension, bus ramps, bus storage facility, and related facilities (collectively referred to as the Transbay Transit Center). The TJPA and the SFPUC entered into an Electric Service Agreement for the Power Enterprise to be the primary provider of electric service to the Transbay Transit Center, beginning January 2014 with no defined expiration date.

Under the City’s Administrative Code, all City projects, including projects managed by the successor to the San Francisco Redevelopment Agency, the Office of Community Investment and Infrastructure, must work with SFPUC to study the feasibility of the SFPUC providing power to the project. For example, in 2007 the Power Enterprise, working with the San Francisco Redevelopment Agency, performed a financial analysis to assess the feasibility of the Power Enterprise being the electricity provider to the new Hunters Point redevelopment project. The results of the analysis guided the City’s decision that the Power Enterprise would be the power provider for Phase 1 of the development. The Power Enterprise expects to be the power provider for other phases of the Hunters Point development and is working with developers and other City agencies as later phases are developed.

Security and Reliability

The security and reliability of the nation’s electrical grid is regulated by FERC through agreement with the NERC. The SFPUC is a NERC registered Generator Owner, Generator Operator, Transmission Owner, Transmission Operator, Purchasing Selling Entity and Transmission Planner, and as such is subject to mandatory and enforceable NERC Reliability Standards. The SFPUC ensures the secure and reliable operation of its electric system, and compliance with NERC Reliability Standards, by having systems, processes, and trained staff in place to avoid, and if necessary, mitigate operating emergencies. These systems include a Supervisory and Control and Data Acquisition system providing 24/7 monitoring and control functions to SFPUC NERC Certified system operators, and data sharing functions with interconnected transmission systems to enhance situational awareness and interconnection-wide preparedness. The secure and reliable operation of the Hetch Hetchy Project system is maintained by following a well-defined set of mandatory rules established by the NERC Reliability Standards, which the SFPUC implements through its own operating procedures, in coordination with other interconnected systems. The SFPUC’s procedures provide its trained personnel with pre-planned processes for event reporting, back-up control center operations, system restoral, emergency operations, and contingency analysis and planning that can be executed in coordination with other entities. The security and reliability of the Hetch Hetchy Project, and compliance with NERC Reliability Standards, is achieved through this application of tools, processes and trained staff.

Municipalization Proposals

Since 1921, the City’s citizens have voted on a number of voter initiatives that have from time-to-time proposed provision of electricity by the SFPUC to all customers within the City, or municipalization of PG&E’s distribution system within the City. In every case the voters failed to approve a full-scale municipalization of electric service by the City and/or the SFPUC. If such a measure were approved, the City could either take over through eminent domain the existing distribution system within the City, or build out its own distribution system. The decision to build or purchase the distribution system would be a cost-benefit analysis that would include the value and condition of the existing system and the time necessary to build out a new system.

FUTURE POWER SUPPLY AND DEMAND

Projected Power Demand and Adequacy of Power Supply

The Power Enterprise develops five-year forecasts of growth in electricity sales to its current customers based on a combination of known new construction projects, expansion of existing service and general projected load growth. These forecasts are factored into the Power Enterprise's adopted budget and ten-year financial plans. In connection with its two year adopted budget for Fiscal Years 2014-15 and 2015-16 and its current ten-year financial plan, the Power Enterprise anticipates electricity sales to current and new customers will increase over the next five years.

The expiration of the Power Enterprise's interconnection agreement with PG&E in 2015 may increase the availability of Hetch Hetchy Project generation to serve retail customer load. The expiration of the interconnection agreement with PG&E will eliminate the SFPUC's power banking arrangement with PG&E. See **THE POWER ENTERPRISE – Load and Electricity Supply Resource Management; Wholesale Electricity Trading**.

TABLE 7
POWER ENTERPRISE PROJECTED LOAD GROWTH AND POWER SUPPLIES
(MWH)

	Fiscal Years Ending June 30				
	2015	2016	2017	2018	2019
Future Load of Current Customers⁽¹⁾					
Municipal Customers	992,042	978,605	1,002,119	1,010,568	1,019,153
Norris (City of Riverbank)	6,590	6,607	6,733	6,767	6,801
MID Class 1	70,299	88,331	83,299	83,590	83,644
TID Class 1	49,624	62,353	87,051	86,718	86,723
TID Excess	154,715	0	0	0	0
Electricity Sale ⁽²⁾	308,617	372,843	401,116	382,216	369,499
DDA Deposit			0	0	0
Future Load of Current Customers Total	1,581,887	1,508,740	1,580,317	1,569,859	1,565,820
Future Expansion (Redevelopment) Total⁽³⁾	18,155	18,868	20,372	26,774	32,733
Total Future Power Sales	1,600,042	1,527,608	1,600,689	1,596,633	1,598,553
Projected Power Supply					
Hetch Hetchy Generation	1,414,321	1,364,866	1,490,513	1,490,513	1,490,513
Sunset Solar	7,211	7,211	6,719	6,719	6,719
DDA Return	110,000	0	0	0	0
WSPP Energy Purchases	79,452	176,777	115,470	121,709	129,724
Total Projected Power Supply	1,610,984	1,548,854	1,612,702	1,618,940	1,626,956
Delta: Supply - Loads	10,942	21,247	12,012	22,307	28,402
	1%	1%	1%	1%	2%

⁽¹⁾ Fiscal Year 2015-16 projections based on adopted budget for Fiscal Years 2014-15 and 2015-16. Fiscal Year 2017-18 and 2018-19 projections based on ten year financial plan.

⁽²⁾ Electricity Sales are all excess Hetch Hetchy Project generation after meeting retail load requirements. The availability of Hetch Hetchy Project generation depends on hydrological conditions. Electricity Sales forecasts are based on Average Annual Hydrological Conditions. See **THE HETCH HETCHY PROJECT – Variability of Hydroelectric Generation**.

⁽³⁾ Future Expansion load includes Treasure Island service.

Source: SFPUC.

The Power Enterprise meets its electricity delivery obligations through a portfolio of demand management and supply-side resources consistent with City policies and best utility practices. The Power Enterprise anticipates addressing any increases in retail electricity sales through a combination of energy efficiency measures, sales of Hetch Hetchy Project generation as available, including amounts expected to become available to serve retail load after 2015, and supplemental market purchases, each as reflected in the Power Enterprise's current five-year forecast.

POWER ENTERPRISE CAPITAL PROGRAM

Capital Planning Process

SFPUC's long-term financial planning is performed on an annual rolling ten-year forward basis. The SFPUC prepares a Ten-Year Capital Plan as part of the budget deliberations process as required by the Charter. Proposed long-term capital program, projects and investment, and related costs are included in the Ten-Year Financial Plan. Required rates necessary to pay for both capital and operating costs are also calculated. The Ten-Year Capital Plan is not a budget and is not "appropriated" like a budget. Annual Capital Improvement Programs ("CIPs") can be revised during the development of the budget and final projects, costs and totals for annual CIPs can change. Consequently, even though the annual CIPs are based on the Ten-Year Capital Plan, they may occasionally differ from it.

Consistent with the Charter, updates to the Ten-Year Capital Plan are annually reviewed by the Commission. The Ten-Year Capital Plan provides estimated rate impacts of projected spending and assure compliance with debt service coverage and fund balance reserve policy requirements.

Ten-Year Capital Plan

In May 2014, the Commission adopted the Ten-Year Capital Plan for the Hetch Hetchy Water and Power Enterprise for Fiscal Years 2014-15 through 2023-24. The Hetch Hetchy Water and Power capital program is divided into power-infrastructure-related projects (allocable to the Power Enterprise), water-infrastructure-related projects (allocable to the Water Enterprise) and joint projects for facilities that are used for both water and power operations (allocable 55% to the Power Enterprise and 45% to the Water Enterprise). The Capital Plan during this period totals \$1.24 billion, with the Power Enterprise's share totaling \$748.3 million. The Capital Plan for Fiscal Year 2014-15 and Fiscal Year 2015-16 was approved by the City as part of the two-year budget for the Power Enterprise, with capital spending budgeted at \$75.8 million and \$73.6 million, respectively, for Fiscal Year 2014-15 and Fiscal Year 2015-16.

The Ten-Year Capital Plan is projected to be funded primarily from a combination of revenues (i.e. cash) and bonds and commercial paper. Specifically, the Ten-Year Capital Plan projects that revenue funding will account for \$162.2 million of project funding, and bond funding will account for \$555.4 million of project funding. For Fiscal Year 2014-15, projects are to be primarily funded from \$40.5 million of revenues and \$33.8 million of bond proceeds; for Fiscal Year 2015-16, projects are expected to be primarily funded from \$17.3 million of revenues and \$54.5 million of proceeds of future bond or commercial paper sales. Revenues attributed to Cap and Trade Auctions expected to be received from the State account for another capital funding source for the Power Enterprise.

The Power Enterprise's capital plan consists primarily of projects that are either Hetch Hetchy Project facilities (referred to as "upcountry" facilities) or facilities located in the City (referred to as "in-City" facilities). The following summarizes projected capital spending of the Power Enterprise for upcountry and in-City facilities over the Ten-Year Capital Plan period.

The Ten-Year Capital Plan projects capital spending for upcountry projects as set forth below. Actual spending may differ from the amounts shown as the SFPUC retains broad authority to prioritize and substitute projects in order to meet the organization's needs at any particular time.

Power Infrastructure

\$121.1 million will be spent on the rehabilitation and upgrades to Hetch Hetchy Project powerhouses, transformers, reservoir pumps and control systems. This category includes rehabilitation of transmission lines/distribution systems and switchyards/substations.

Joint Power/Water Projects

\$822.2 million will be related to capital spending for upcountry joint assets, allocable 55% to the Power Enterprise and 45% to the Water Enterprise pursuant to the 2009 Water Supply Agreement (the "WSA") between the SFPUC and its wholesale water customers. The Power Enterprise's 55% allocable

share of this capital spending totals \$452.2 million. Projects identified include replacements to support the infrastructure required for the operation and maintenance for the Hetch Hetchy Project's water- and power-related systems, including improvements to facilities at Moccasin, road improvements, facility security and communication projects.

The largest of the joint power/water projects during the Ten-Year Capital Plan period is Mountain Tunnel. Mountain Tunnel is estimated to cost approximately \$628 million, with the Power Enterprise's 55% allocable share totaling \$345.4 million. Mountain Tunnel conveys upcountry water supply from Kirkwood Powerhouse to Priest Reservoir. Mountain Tunnel has been in-service for over 80 years, with only minimal maintenance work performed over that time. Recent inspections showed considerable repair work needed over nine miles of lined tunnel sections. 90% of estimated costs are expected to be incurred over the last five years of the Ten-Year Capital Plan period.

The SFPUC is currently negotiating an amendment to the WSA to further clarify the allocation of new asset capital cost recovery between the retail and wholesale water customers. This negotiation may result in certain joint power/water project costs being recategorized as power-related projects in the Ten-Year Capital Plan, resulting in an approximate \$23.8 million increase to Power Enterprise project expense over the next ten years.

Projected capital spending for in-City projects is as follows:

Streetlights

\$29 million will be spent for streetlights located in the City. Specifically, funds will be spent for various street lighting improvements, replacement and repairs, including engineering and construction costs.

Treasure Island

\$29 million will be spent for projects servicing Treasure Island and Yerba Buena Island, including the replacement of the existing overhead electric distribution system.

Renewable Generation

\$26 million will be spent on certain renewable generation projects, including the planning, development and implementation of new electricity generation resources to provide clean, local generation. Such spending includes \$10 million over Fiscal Year 2014-15 and Fiscal Year 2015-16 for the GoSolarSF Program.

Transmission/Distribution

\$2.3 million will be spent to convert 2,000 PG&E meters to Power Enterprise meters, and to provide electrical connection to the new Transbay Transit Center.

Energy Efficiency

\$9 million will be spent on investments to reduce facility operating costs for General Fund and Enterprise customers, improving system functionality and reducing the environmental impact of energy use.

Proceeds of the 2015 Series A Bonds are expected to fund upcountry infrastructure projects that are part of the Fiscal Year 2014-15 Capital Plan. The following are brief descriptions of these projects.

Hydroelectric Transmission Lines/Distribution System (Moccasin to Warnerville (Don Pedro Crossing)) – Rehabilitation of certain facilities used for the transmission and distribution of hydroelectricity.

Other Powerhouse Projects; Holm Unit 2 – Hydroelectric generation powerhouse upgrade, renewal and replacement projects, including upgrades to the Holm Powerhouse generator unit number 2.

Hydroelectric Powerhouse Control Upgrade – Upgrade to powerhouse protection, control and indication monitoring systems used in connection with hydroelectric generation.

Switchyard/Substation Rehabilitation related to Hydroelectricity (Warnerville SW Phase 1) – Renewal and replacement of switchyard and substation components for hydroelectricity transmission.

Oil Containment Upgrades for Holm & Kirkwood Hydroelectric Facilities – Upgrades to the oil separation systems within the hydroelectric powerhouse to prevent oil discharges.

Moccasin GSU Transformers & Oil Containment – Replace existing transformers within the hydroelectric powerhouse.

Kirkwood Powerhouse Refurbishment & TSOV Replacement – Rehabilitation of Kirkwood hydroelectric powerhouse to increase the life expectancy of the asset.

Moccasin Hydroelectric Generator Rewind – Rewind Moccasin Powerhouse generator units 1 and 2.

Moccasin Hydroelectric Switchyard Upgrade – Renewal and replacement of switchyard and substation components at Moccasin Switchyard for hydropower transmission.

Environmental Considerations

Projects undertaken by the SFPUC are generally subject to CEQA and certain projects involving the participation of federal agencies are also subject to the National Environmental Policy Act of 1969, as amended (42 U.S.C. Section 4321).

Under CEQA, a project that may have a significant effect on the environment and is to be carried out or approved by a public agency must comply with a comprehensive environmental review process, including the preparation of an Environmental Impact Report (“EIR”). The EIR reflects not only an independent technical analysis of the project’s potential impacts, but also the comments of other agencies with some form of jurisdiction over the project and the comments of interested members of the public. Contents of the EIR include a detailed statement of the project’s significant environmental effects; any such effects that cannot be avoided if the project is implemented; mitigation measures proposed to minimize such effects; alternatives to the proposed project; the relationship between local and short-term uses and long-term productivity; any significant irreversible environmental changes that would result from the project; the project’s growth-inducing impacts; and a brief statement setting forth the agency’s reasons for determining that certain effects are not significant and hence do not require discussion in the EIR. Before approving a project the SFPUC must make findings on whether or how it can mitigate the significant environmental effects of the project. If the project requires mitigation, the SFPUC must adopt a mitigation monitoring plan to determine whether the mitigation is carried out during project implementation. If the SFPUC determines that the project itself will not have a significant effect on the environment, it may adopt a written statement (called a negative declaration) to that effect and need not prepare an EIR. After deciding to approve or carry out a project, either following the EIR process or after adopting a negative declaration, the SFPUC must file notice of such determination. Any action or proceeding challenging the SFPUC’s determination must be brought within 30 days following the filing of such notice. If an action challenging the SFPUC’s compliance with CEQA is successful, the particular project could be delayed, revised, suspended or canceled. CEQA also contains a number of exemptions, which the SFPUC uses for its projects when appropriate.

As part of its regular planning and budgetary process, the SFPUC gives careful attention to environmental considerations. All projects are evaluated under the SFPUC’s environmental impact review procedures, developed in compliance with federal and State laws and regulations.

FINANCIAL OPERATIONS

General

The SFPUC is a department of the City and, as such, the financial operations of its three enterprises are included in the Comprehensive Annual Financial Report of the City and shown as enterprise funds. *The City's Comprehensive Annual Financial Report is not incorporated by reference herein.*

The following information is provided with respect to the Power Enterprise only and does not purport to reflect the financial position of the SFPUC or the City as a whole.

Basis of Accounting

The accounts of Hetch Hetchy Water and Power are organized on the basis of proprietary fund types and are included as enterprise funds of the City. The activities of the Power Enterprise are accounted for with a set of self-balancing accounts that comprise assets, liabilities, net position, revenues, and expenses. The Power Enterprise fund accounts for activities (i) that are financed with debt that is secured solely by a pledge of the net revenues from fees and charges of the activity; or (ii) that are required by laws or regulations that the activity's costs of providing services, including capital costs (such as depreciation or debt service), be recovered with fees and charges, rather than with taxes or similar revenues; or (iii) that the pricing policies of the activity establish fees and charges designed to recover its costs, including capital costs (such as depreciation or debt service).

The financial activities of the Power Enterprise are accounted for on a flow of economic resources measurement focus, using the accrual basis of accounting in accordance with U.S. generally accepted accounting principles. Under this method, all assets and liabilities associated with operations are included on the statements of net position, revenues are recognized when earned, and expenses are recognized when liabilities are incurred. Operating revenues are defined as charges to customers and rental income.

The Power Enterprise applies all applicable Governmental Accounting Standards Board ("GASB") pronouncements, as well as statements and interpretations of the Financial Accounting Standards Board ("FASB"), Accounting Principles Board Opinions, and Accounting Research Bulletins of the Committee on Accounting Procedures issued on or before November 30, 1989, unless those pronouncements conflict with or contradict GASB pronouncements.

City Budget Process

The SFPUC budget is a part of the overall budget prepared bi-annually by the City. The SFPUC's two-year proposed budget is prepared by SFPUC staff and then submitted to the Commission for approval before being submitted to the Mayor. The Mayor's Office reviews and may amend the SFPUC's proposed budget, and then incorporates the proposed budget into the total City budget that is submitted to the Board of Supervisors for approval. Under the Charter, the Board of Supervisors may increase or decrease any proposed expenditure in the Mayor's budget so long as the aggregate changes do not cause the expenditures to exceed the total amount of expenditures proposed by the Mayor. The Charter further provides that the Mayor may reduce or reject any expenditure authorized by the Board of Supervisors except appropriations for bond interest, redemption or other fixed charges, subject to reinstatement of any such expenditure by a two-thirds vote of the Board of Supervisors.

Rate-Setting Process; Rates

General

The California Constitution permits the City, like other municipalities within the State, to serve electric customers both within and outside of its geographic borders, except within the service territory of another municipality that objects to such service. Section 8B.121 of the Charter gives the SFPUC exclusive control of energy supplies and utilities for the City. The Commission sets the rates, fees and other charges imposed in connection with provision of utility services under its jurisdiction pursuant to Section 8B.125 of the Charter, including rates contained in the SFPUC's agreements with various parties (for example, the Districts) for the sale of

electricity. Commission action on all rates, fees and charges for utility services is subject to rejection – within 30 days of submission - by resolution of the Board of Supervisors. If the Board fails to act within 30 days the rates shall become effective without further Board action. Prior to the Commission taking action on any rate-setting, the proposed rates, fees and charges are reviewed by the Citizens Advisory Committee and the Rate Fairness Board.

In addition, under Charter Section 8B.125, in setting retail rates, fees and charges (which exclude charges to the City for certain utility services), for example, to Hunters Point Shipyard customers, the Commission must:

- (a) Provide sufficient revenues to improve or maintain the financial condition and bond ratings of the Power Enterprise at or above levels equivalent to highly-rated utilities, meet requirements and covenants under all bond resolutions and the Indenture, and provide sufficient resources for the continued financial health (including appropriate reserves), operation, maintenance and repair of the Power Enterprise, consistent with good utility practice;
- (b) Retain an independent rate consultant to conduct a cost-of-service study for the Power Enterprise at least every five years;
- (c) Set retail rates, fees and charges based on the cost-of-service;
- (d) Study and develop, in accordance with applicable state and federal laws, rate-based conservation incentives or lifeline rates and similar rate structures to provide assistance to low-income customers;
- (e) Adopt annually a rolling five-year forecast of rates, fees and other charges; and
- (f) Establish an independent Rate Fairness Board.

None of the rates set by the Commission are subject to administrative or regulatory review by any State or federal regulatory body, including the CPUC and FERC. However, such rates are subject to review by the Board of Supervisors and must comply with certain ratemaking and other requirements of federal and state law, together with the Charter and municipal code of the City. It is possible that future legislative or regulatory changes could subject the rates or service area of the SFPUC to the jurisdiction of the CPUC or to other limitations or requirements of law.

SFPUC Citizens Advisory Committee and Rate Fairness Board

The Public Utilities Commission Citizens' Advisory Committee (“CAC”), established by a Charter amendment in 2002, provides recommendations to the SFPUC’s General Manager and the Board of Supervisors regarding the SFPUC’s long-term strategic, financial and capital improvement plans. The CAC is comprised of seventeen appointees. Each member of the Board of Supervisors may appoint one member who must be a resident of his or her supervisory district. Candidates must demonstrate one or more of the following qualifications: represent a community, business, environmental, or environmental justice organization, or have demonstrated knowledge, skill or experience in a field related to public utilities, environmental justice or environmental science. Two additional members of the CAC are appointed by the President of the Board of Supervisors, one of whom represents a small business and the other of whom represents an environmental justice organization. The final four members are appointed by the Mayor and must include one member who represents regional water customers of the SFPUC, one who represents a large City water user, one who has knowledge of engineering or financial management and one who represents a regional or statewide environmental organization.

Proposition E, approved by City voters on November 5, 2002 (“Proposition E”), directed the establishment of a Rate Fairness Board to advise the SFPUC on water, sewer and power rate matters. The Rate Fairness Board consists of seven members: the City Administrator or his or her designee; the Controller or his or her designee; the Director of the Mayor's Office of Public Finance or his or her designee; two residential City retail customers, consisting of one appointed by the Mayor and one by the Board of Supervisors; and two City retail business customers, consisting of a large business customer appointed by the Mayor and a small business customer appointed by the Board of Supervisors. Specific powers for the Rate Fairness Board include the authority to: (1) review the five-year rate forecasts produced by the SFPUC enterprises, including the Power Enterprise; (2) hold one or more public hearings on annual rate recommendations before the SFPUC adopts rates; (3) provide a report and

recommendations to the SFPUC on any rate proposal; and, (4) in connection with periodic rate studies, submit to the SFPUC rate policy recommendations for the Commission's consideration, including recommendations to reallocate costs among various retail utility customer classifications, subject to any outstanding bond requirements. The Rate Fairness Board is not authorized, however, to reject proposed rates approved by the Commission.

Cost of Service Studies

Proposition E also added a requirement in the Charter that the SFPUC conduct an independent utility cost-of-service study at least every five years. The most recent study was completed in December 2010 to determine the cost of service for existing municipal and public agency customers as well as cost of service and projected electric load from retail redevelopment areas, including Hunters Point Shipyard and Treasure Island. This study concluded that the average cost of service for redevelopment, municipal and public agencies load was 9.0 cents/kWh. As of May 2014, the average Power Enterprise cost of service is 9.9 cent/kWh.

The SFPUC anticipates completing the next independent rate and cost-of-service study in 2015 to determine the cost of service for municipal and public agency customers, retail commercial and residential customers, and other new customer classes as identified by the Power Enterprise, for rates to be effective on July 1, 2016.

Municipal Rate-Setting Actions

In Fiscal Year 1989-90, the Commission adopted Resolution 89-0355 prescribing that rates for City Enterprise departments be based on comparable PG&E rates and that these rates rise or fall automatically with changes in applicable rates authorized by the CPUC. This resolution also defined cost of service for municipal departments to include maintenance and operations expenses, taxes, depreciation and repair and replacement expenses over time.

In Fiscal Year 1998-99, a rate study was conducted which concluded that the City's General Fund department rates did not reflect cost-of-service. This resulted in the implementation of the first of a three-step rate increase in General Fund department rates ranging from 0 cent/kWh to 3.125 cent/kWh. The second and third step increases were not implemented. In Fiscal Year 2001-02, some General Fund departments had their rates increased to 3.75 cent/kWh in connection with certain events that occurred during the California energy crisis. In Fiscal Year 2004-05, the Board of Supervisors adopted Resolution No. 431-04 which established a policy that appropriations for General Fund departments be sufficient to cover cost-of-service electric rates. However, no rate increases were implemented immediately in connection with such policy. In December 2011, the Commission adopted Resolution 11-0203 increasing average municipal customer rates by 0.5 cent/ kWh per year for four years beginning in Fiscal Year 2012-13. The first of these four-year scheduled rate increases went into effect on July 1, 2012. However, two years into the four-year agreement, in February 2014, the SFPUC reopened negotiations to increase the City General Fund department electric rates in effort to balance the Power Enterprise's Ten-Year Financial Plan, as required by the City Charter. In May 2014, the Commission adopted Resolution 14-0089 increasing average municipal customer rates by 1.0 cent/ kWh per year for two years beginning in Fiscal Year 2014-15 through Fiscal Year 2015-16. As a result of this resolution, City General Fund departments are charged an average 0.475cent/kWh, resulting in a discount of approximately 45% relative to comparable PG&E rates.

As prescribed by Resolution 89-0355, the SFPUC continues to set electric rates for City Enterprise departments based on comparable PG&E rates that adjust automatically with changes authorized by the CPUC.

Average rates for Fiscal Year 2013-14 to Fiscal Year 2015-16, reflected in the following Table 8, are based on the municipal department or other public or governmental agency's existing SFPUC established rate.

**TABLE 8
MUNICIPAL CUSTOMERS AVERAGE RATES FOR FY 2013-14 TO 2015-16**

Municipal Power Service Rates	FY 2013-14 Historical Rates	FY 2014-15 Adopted Rates⁽¹⁾	FY 2015-16 Adopted Rates⁽¹⁾
General Fund Department Activities and Related Customers	4.75 ¢/kWh	5.75 ¢/kWh	6.75 ¢/kWh
Public Libraries	8.13 ¢/kWh	9.13 ¢/kWh	10.13 ¢/kWh
Moscone Convention Center Facilities	6.70 ¢/kWh	7.70 ¢/kWh	8.70 ¢/kWh
San Francisco General Hospital	1.70 ¢/kWh	2.70 ¢/kWh	3.70 ¢/kWh
Laguna Honda Hospital	2.49 ¢/kWh	3.49 ¢/kWh	4.49 ¢/kWh
Public Buildings and San Francisco City Street Lights	1.00 ¢/kWh	2.00 ¢/kWh	3.00 ¢/kWh
Enterprise Departments (tied to PG&E rates)	13.00 ¢/kWh	12.82 ¢/kWh	13.19 ¢/kWh

⁽¹⁾ Adopted by the Commission.

Source: SFPUC.

Retail Rate-Setting Actions

As a result of the SFPUC’s 2011 electric rate study, the SFPUC adopted public electric rates for new retail customers in redevelopment areas in the City, including Hunter’s Point Shipyard and Treasure Island. On February 8, 2011, the Commission adopted Resolution 11-0021 establishing SFPUC electric rates for residential and commercial retail redevelopment effective on July 1, 2012. These rates were established such that they covered maintenance and operations expenses, taxes, depreciation and repair and replacement expenses over time. This resolution also established an annual adjustment for these rates based on the lesser of the annual percentage in the Consumer Price Index or the change of the PG&E scheduled rates effective each successive July 1.

**TABLE 8A
ADOPTED RETAIL ELECTRICITY RATES FOR FY 2014-15**

Retail Electric Service Rates	FY 2014-15 Adopted Rates⁽¹⁾
Residential R-1 Rates	
Monthly Service Charge	\$2.91/account
Winter Season	
For the first 278 kWh	\$0.11451/kWh
For the next 83 kWh	\$0.13018/kWh
All additional kWh	\$0.26649/kWh
Summer Season	
For the first 278 kWh	\$0.11451/kWh
For the next 83 kWh	\$0.13018/kWh
All additional kWh	\$0.26649/kWh
Commercial C-1 Rates	
Monthly Service Charge – Single Phase Service	\$14.47/account
Monthly Service Charge – Poly-Phase Service	\$21.73/account
Winter Season	
All kWh	\$0.14049/kWh
Summer Season	
All kWh	\$0.1963/kWh

⁽¹⁾ Adopted by the Commission

Source: SFPUC.

To date, the Power Enterprise has prepared service standards, developed system plans and specifications, acquired materials and equipment, and initiated construction of primary distribution facilities. Under an existing development agreement, the Power Enterprise will also construct, own, and operate the electric distribution infrastructure required to provide retail electric service to residential and commercial customers in a portion of the former Hunter’s Point Shipyard.

Contractual Rate-Setting Actions

In addition, as of Fiscal Year 2013-14, MID and TID Class 1 rates were \$0.03593/kWh and \$0.03212/kWh, respectively. Consistent with existing agreements, the amounts paid by the Districts adjust annually based on actual costs. The MID and TID Class 1 rate contract is up for renegotiation with Modesto and Turlock Irrigation Districts in spring 2015 for rates to be effective on July 1, 2015.

PG&E Rates

The rates PG&E may charge for various categories of electricity delivery within the City (“PG&E Rates”) are established by the CPUC. PG&E Rates are adjusted by the CPUC from time to time. The electric rates charged by the SFPUC to its customers are sometimes limited by or established with reference to PG&E rates. See – **Rate Setting Actions**. The establishment of higher or lower PG&E Rates by the CPUC will result in increases or decreases in the electric rates charged by the SFPUC to affected customers and increased or decreased Revenues. The SFPUC does not have control over PG&E’s rates. The City does actively participate in PG&E’s general rate case and rate design proceedings at the CPUC, however.

Billing and Collection Procedures

The SFPUC bills customers for electric service on a monthly basis. Billing is generally based on actual meter reads, although in certain cases estimates are used (with a later adjustment) or are made pursuant to an average billing agreement. The SFPUC may impose a late charge or disconnect service for nonpayment.

**TABLE 9
HISTORICAL REVENUES
FOR FISCAL YEARS ENDED JUNE 30
(IN THOUSANDS)**

Revenues:	2010	2011	2012	2013	2014
Charges for Services	\$ 97,236	\$108,454	\$ 94,680	\$ 96,398	\$ 98,693
Municipal Sales	60,344	62,425	62,568	64,156	73,114
Other Retail Sales⁽¹⁾	18,089	19,476	21,034	18,146	20,101
Wholesale Sales	18,803	26,554	11,079	14,097	5,478
Rent & concessions	135	140	134	135	123
Interest & investment income	2,081	1,965	2,589	139	1,289
Other non-operating revenues⁽²⁾	6,456	7,424	5,800	4,892	5,798
Totals	\$105,908	\$117,983	\$103,203	\$101,564	\$ 105,903

⁽¹⁾ Includes revenues recovered from services to Treasure Island. Such amounts are excluded from Revenues under the Indenture.

⁽²⁾ Includes revenues from Trans Bay Cable LLC licenses and cap and trade allowances. Such amounts are excluded from Revenues under the Indenture.

Source: SFPUC.

Operation and Maintenance Expenses

“Operation and Maintenance Expenses” covers the general operational expenses of the Power Enterprise. These expenses include labor and employment benefits, contractual services, materials and supplies, depreciation, general and administrative, services from other departments and other miscellaneous costs. See **HISTORICAL OPERATING RESULTS** and **THE PUBLIC UTILITIES COMMISSION – Employee Relations**. Services from other departments include payment for services from other City departments, such as City Attorney’s Office and the General Services Agency. Purchased power costs also constitute Operation and Maintenance Expenses.

Employee Benefit Plans

Retirement System Plan Description. The SFPUC participates in the City’s single employer defined benefit retirement plan (the “Plan”) which is administered by the San Francisco City and County Employees’ Retirement System (the “Retirement System” or “SFERS”). The Plan covers substantially all full time employees of the SFPUC along with other employees of the City. The Plan provides basic service retirement, disability, and death benefits based on specified percentages of final average salary, and provides cost-of-living adjustments after retirement. The Plan also provides pension continuation benefits to qualified survivors. The Charter and City Administrative Code are the authorities that establish and amend the benefit provisions and employer obligations of the Plan.

Plan Financial Reports and Funded Status. The Retirement System issues a publicly available financial report that includes financial statements and required supplementary information for the Plan. That report may be obtained by writing to the San Francisco City and County Employees’ Retirement System, 30 Van Ness Avenue, Suite 3000, San Francisco, CA 94102, or by calling (415) 487-7020.

The funded status of the Plan as of June 30, 2013 (the most recent date for which information is available) was as follows:

Actuarial Liability	\$ 20,224,776,000
Actuarial Value of Assets	\$ 16,303,397,000
Unfunded Actuarial Liability	\$ 3,921,379,000
Funded Status (assets/liabilities)	80.6%

Source: SFPUC.

Retirement System Funding Policy. Contributions to the basic Plan are made by both the SFPUC and its employees. Employee contributions are mandatory. Employee contribution rates for Fiscal Years 2013-14, 2012-13 and 2011-12 varied from 7.5% to 13.0% as a percentage of covered payroll. Due to certain bargaining agreements, the SFPUC contributed from 0.5% to 8.0% of covered payroll on behalf of some employees.

The contributions made by the Power Enterprise for the prior three Fiscal Years were as follows:

<u>Fiscal Year</u>	<u>Actuarially Determined Rate as a Percentage of Covered Payroll</u>	<u>Contribution (000s)</u>	<u>Percent of Required Contribution</u>
2011-12	18.09%	\$2,497	100%
2012-13	20.70	2,731	100
2013-14	20.80	3,400	100

Source: SFPUC.

Projected Future Contributions and Pension Costs. Employer-share contribution rates increased from 18.1% in Fiscal Year 2011-12 to 20.7% in Fiscal Year 2012-13 for covered City employees, as adopted by the Retirement Board in March 2012. Required employer-share rates included in the City’s projections are based on a projection scenario provided by the Cheiron consulting firm, which assumes that the pension fund achieves a 0% investment return in Fiscal Year 2011-12 and achieves its target investment return in each subsequent year. This projection assumes required employer-share contribution rates of 25.5% in Fiscal Year 2013-14, 28.6% in Fiscal Year 2014-15, and 27.6% in Fiscal Year 2015-16. These rates are assumed to be reduced by the floating employee contribution rates included in the pension cost sharing provisions of Proposition C, as well as the increased employee contributions included in the amended labor agreements with the Police Officers Association and Firefighters Local 798. Together, these provisions result in \$38.1 million in savings to the City in Fiscal Year 2012-13, growing to \$56.5 million in Fiscal Year 2015-16. Despite these savings, SFERS employer contribution costs are projected to increase by \$10.2 million in Fiscal Year 2012-13, \$47.1 million in Fiscal Year 2013-14, and \$36.6 million in Fiscal Year 2014-15, followed by a decrease of \$12.8 million for Fiscal Year 2015-16.

Health Care Benefits. Health care benefits of the SFPUC employees, retired employees and surviving spouses are financed by beneficiaries and by the City through the City and County of San Francisco Health Service System (the “Health Service System”). The Power Enterprise’s annual contribution for both active and retired employees amounted to approximately \$4.547 million and \$4.621 million in Fiscal Years 2012-13 and 2013-14, respectively.

Included in these amounts are \$906,000 and \$846,000 for 2014 and 2013, respectively, to provide post-retirement benefits for retired employees, on a pay-as-you-go basis.

The City has determined a Citywide Annual Required Contribution (“ARC”), interest on net other post-employment benefits other than pensions (“OPEB”) obligation, ARC adjustment, and OPEB cost based upon an actuarial valuation performed in accordance with GASB 45, by the City’s actuaries. The ARC represents a level of

funding that, if paid on an ongoing basis, is projected to cover the normal cost of each year and any unfunded actuarial liabilities (or funding excess) amortized over 30 years. The City’s allocation of the OPEB related costs to the SFPUC for the year ended June 30, 2014 based upon its percentage of Citywide payroll costs is presented below.

The following table shows the components of the City’s annual OPEB allocations for the Power Enterprise for the years ending June 30, 2014 and 2013, for the amount contributed to the plan, and changes in the City’s net OPEB obligation:

TABLE 10
ANNUAL OPEB OBLIGATION FOR THE POWER ENTERPRISE
FOR FISCAL YEARS ENDING JUNE 30, 2013 AND JUNE 30, 2014
(IN THOUSANDS)

	<u>2014</u>	<u>2013</u>
Annual required contribution	\$ 2,238	\$ 2,576
Interest on net OPEB obligation	469	361
Adjustment to ARC	(390)	(300)
Annual OPEB cost (expense)	2,317	2,637
Contribution made	(906)	(846)
Increase in net OPEB obligation	1,411	1,791
Net OPEB obligation – beginning of year	11,038	9,247
Net OPEB obligation – end of year	<u>12,449</u>	<u>11,038</u>

Source: SFPUC, Financial Services.

The City issues a publicly available financial report on a City-wide level that includes the complete note disclosures and required supplementary information related to the City’s post-retirement health care obligations. The report may be obtained by writing to the City and County of San Francisco, Office of the Controller, 1 Dr. Carlton B. Goodlett Place, Room 316, San Francisco, CA 94102, or by calling (415) 554-7500.

Unfunded Actuarial Accrued Liability. The City’s Unfunded Actuarial Accrued Liability (“UAAL”) was \$4.4 billion for Fiscal Year 2013-14. The amount allocable to the Power Enterprise, as of July 1, 2014, was \$28.93 million.

Pension and Health Care Cost Reforms. City voters have implemented pension and health care cost reforms in recent years to help mitigate future cost increases. These include the following propositions:

Proposition B. Proposition B was approved by voters in June 2008 and increased the years of service required to qualify for employer-funded retiree health benefits for City employees who retire under SFERS and were hired on or after January 10, 2009. Employees hired before January 10, 2009, became eligible to participate in the retirement health care system after 5 years of service and the employer paid 100% of the contribution. Proposition B also stated that a separate Retiree Health Care Trust Fund would be created to pay for the City’s future costs related to retiree health care. This trust fund will be funded by employer and employee contributions for employees hired on or after January 10, 2009. These new employees would contribute up to 2% of their pre-tax pay and employers would contribute 1%.

Proposition C. Proposition C was a Charter amendment approved by voters in November 2011 that changed the way the City and current and future employees share in funding SFERS pension and health benefits.

With regard to pension benefits, the base employee contribution rate remains at 7.5% for most employees when the City contribution rate is between 11% and 12% of City payroll. Employees making at least \$50,000 will pay an additional amount up to 6% of compensation when the City contribution rate is over 12% of City payroll. When the City contribution rate falls below 11%, employee contributions will be decreased proportionately.

Proposition C creates new retirement plans for employees hired on or after January 7, 2012 that: (1) for miscellaneous employees, increased the minimum retirement age to 53 with 20 years of service or 65 with 10 years; (2) for safety employees, kept the minimum retirement age at 50 with five years of service, but increased the age for maximum benefits to 58; (3) for all employees, limited covered compensation, calculated final compensation from three-year average, and changed the multipliers used to calculate pension benefits, and (4) for miscellaneous employees, raised the age of eligibility to receive vesting allowance to 53 and reduced by half the City's contribution to vesting allowances. Proposition C limits cost-of-living adjustments for SFERS retirees.

With regard to health benefits, elected officials and employees hired on or before January 9, 2009, contribute up to 1% of compensation toward their retiree health care, with matching contribution by the City. For employees or elected officials who left the City workforce before June 30, 2001, and retire after January 6, 2012, Proposition C requires that the City contributions toward retiree health benefits remain at the same levels they were when the employee left the City workforce.

Allocation of Costs

The SFPUC allocates various common costs it incurs among the Hetch Hetchy Water and Power, the Water Enterprise and the Wastewater Enterprise. Allocations are based on the SFPUC management's best estimate and may change from year to year depending on activities undertaken by each enterprise and information available. For the years ended June 30, 2014 and 2013, the SFPUC allocated \$12.426 million and \$12.848 million, respectively, in administrative costs to Hetch Hetchy Water and Power, which is included in the financial statements under various expense categories. These costs are then allocated to Hetchy Water and the Power Enterprise in the Hetch Hetchy Water and Power financial statements, using the periodically reviewed department overhead allocation model.

Payments to/from the City

The City performs certain administrative services such as maintenance of accounting records and investment of cash for all fund groups within the City. For the years ended June 30, 2014 and 2013, the Commission allocated \$9.341 million and \$9.589 million, respectively, in administrative costs to the Power Enterprise, which is included in the financial statements under various expense categories, using the periodically reviewed department allocation model.

The overhead allocation paid to the General Fund of the City by Power Enterprise was \$62,000 and \$402,000 for the years ended June 30, 2014 and 2013, respectively, and is included in other operating expenses in the financial statements.

A variety of City departments provide direct services such as engineering, purchasing, legal, data processing, telecommunications, and human resources to the Power Enterprise and charge amounts designed to recover those costs. These charges totaling approximately \$5.892 million and \$5.002 million for the years ended June 30, 2014 and 2013, respectively, are included in services provided by other departments in the Power Enterprise's financial statements.

SFPUC's 75-year lease agreement with the San Francisco Recreation and Parks Department, for the use of parking spaces for its fleet of vehicles at the Civic Center garage, commenced on February 1, 2011. Total payment under this agreement is \$6.274 million with one more payment of \$274,000 due in Fiscal Year 2014-15. The expenses and prepayments among the three SFPUC Enterprises are based on 525 Golden Gate occupancy. As of Fiscal Year ended June 30, 2014, the Power Enterprise's allocable shares of expenses and prepayments were \$16,000 and \$984,000, at June 30, 2013 were \$15,000 and \$714,000, respectively.

The SFPUC makes payments to the City relating to the financing of the SFPUC's headquarters. See **OBLIGATIONS PAYABLE FROM REVENUES – Other Obligations Payable from Revenues.**

The SFPUC receives payments from other agencies of the City for their share of the cost of the service provided to them. See -- **Rate-Setting Process; Rates.**

Debt Management and Fund Balance Reserve Policies

The SFPUC has established Debt Management Policies and Procedures for debt financing under its jurisdiction. These policies apply to all SFPUC enterprises, including the Power Enterprise, and are intended to enable the SFPUC to effectively manage its debt issuance and debt management practices. The policies and procedures are reviewed biannually and revised, as necessary, with Commission approval. The most recent revisions were approved on April 9, 2013. The Commission may also approve exceptions to adherence to these policies.

The SFPUC also established a Fund Balance Reserve Policy in 2010. This policy is applied to the long-term financial planning of all SFPUC enterprises, including the Power Enterprise. The Fund Balance Reserve Policy states that operating and capital plans, budgets and rates will be projected and proposed for adoption such that all bond indenture requirements are met or exceeded and that Operating Fund Balance Reserves meet one or more of the following: total at least 15% of annual revenues; total at least 15% of annual expenditures; and result in Debt Service Coverage, on a bond indenture basis, including fund balance reserves available to pay debt service, of at least 1.25 times.

The SFPUC makes no representation that these policies will not be revised or amended and, except to the extent required for compliance with the terms of the Indenture, and makes no representation that these policies will be followed by the SFPUC.

Investment of SFPUC Funds

The SFPUC's pooled deposits and investments are invested pursuant to State law and the investment policy established by the City Treasurer and overseen by the Treasury Oversight Committee. This policy seeks the preservation of capital, liquidity and yield, in that order of priority. The policy addresses the soundness of the financial institutions that hold City assets and the types of investments permitted by the California Government Code. The earned income yield for Fiscal Year 2013-14 was 0.73%.

The SFPUC's non-pooled deposits and investments consist primarily of funds related to the SFPUC's outstanding bonds, which are invested pursuant to policy established by the SFPUC, subject to the restrictions contained in the applicable bond documentation.

Risk Management and Insurance

The SFPUC's risk management program encompasses both self-insured and insured exposure at risk. Risk assessments and purchasing of insurance coverage are collaboratively coordinated by the SFPUC Enterprise Risk Management department and the City's Office of Risk Management. With certain exceptions, the City and the SFPUC's general approach is to first evaluate the exposure at risk for self-insurance. Based on this analysis, internal mitigation strategies and financing through a "self-retention" mechanism are identified and, if more economical, the SFPUC administers, adjusts, settles, defends, and pays claims from budgeted resources. When economically more viable or where required by debt financing covenants, the SFPUC obtains commercial insurance.

At least annually, the City reviews and actuarially determines general liability and workers' compensation risk exposures. The SFPUC generally does not maintain commercial earthquake coverage.

The following is a summary of the SFPUC's coverage approach to risk:

Primary Risks	Typical Coverage Approach
General Liability	Self-Insured
Property	Purchased Insurance & Self-Insured
Electronic Data Processing	Purchased Insurance & Self-Insured
Workers' Compensation	Self-Insured through City-Wide Pool
Other Risks	Typical Coverage Approach
Surety Bonds	Purchased and Contractually Transferred
Professional Liability	Combination of Self-Insured, and Contractual Risk Transfer
Errors & Omissions	Combination of Self-Insured, and Contractual Risk Transfer
Builders Risk	Purchased Insurance & Contractual Risk Transfer
Employment Practices Liability	Purchased Insurance
Public Officials Liability	Purchased Insurance
Crime	Purchased Insurance

The SFPUC's property risk management approach varies depending on whether the facility is currently under construction, or if the property is part of revenue-generating operations. The majority of purchased insurance program is for revenue-generating facilities, debt-financed facilities, and mandated coverage to meet statutory or contractual requirements.

The SFPUC has purchased a Public Officials Liability policy for all public officials with financial oversight responsibilities, including Commissioners, the General Manager and the Chief Financial Officer. The policy also includes employment practices liability coverage.

Additionally, the SFPUC has implemented an Enterprise Risk Management program for the Business & Financial Services Bureau and is currently in the process of establishing an ERM program for the Power Enterprise. The framework provides a strategic approach to managing operational risks of the organization through a coordinated process that identifies, assesses, treats, and monitors risks. The SFPUC acknowledges the importance of aligning strategic planning to the risk management process and intends to continue implementation across the organization.

Capital Project Risk Management. For capital construction projects, the SFPUC has utilized traditional contractual risk transfer, owner-controlled insurance programs or other alternative insurance programs. Under the latter two approaches, the insurance program usually provides coverage for the entire construction project, along with multiple risk coverages, such as general liability and workers compensation. When a contractual risk transfer is used for capital construction risks, the SFPUC requires each contractor to provide its own insurance, while ensuring that the full scope of work be covered with satisfactory levels to limit the SFPUC's risk exposure balanced by that which is commercially available.

Bonds are required, unless Builder's Risk is purchased, in most phases of the construction contracting process for such phases, as bid, performance, and payment or maintenance. Additionally, bonds may be required in other contracts where goods or services are provided to ensure compliance with applicable terms and conditions such as warranty.

Professional liability policies are either directly purchased insurance on behalf of the SFPUC, transferred through contract to the contracted professional, or retained through self-insurance on a case by case basis depending on the size, complexity or scope of construction or professional service contracts. Professional liability policies are typically purchased for services provided by engineers, architects, design professionals and other licensed or certified professional service providers.

Builder's Risk policies of insurance are required to be provided either through an owner-controlled insurance program or the contractor on all construction projects for the full value of the construction.

HISTORICAL OPERATING RESULTS

The historical results of operations reflected in the table below are based on the tables contained in the Financial Statements entitled “Statements of Revenues, Expenses and Changes in Net Assets” and “Statements of Cash Flows” for the Fiscal Years listed. See **APPENDIX B – SFPUC POWER ENTERPRISE FINANCIAL STATEMENTS**. The calculation of debt service coverage includes net operating income and funds not budgeted to be spent in the next twelve months and legally available to pay debt service, as permitted under the Indenture.

TABLE 11
POWER ENTERPRISE
HISTORICAL REVENUES AND OPERATION AND MAINTENANCE EXPENSES
FOR FISCAL YEARS ENDED JUNE 30
(IN THOUSANDS)⁽¹⁾

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Revenues:					
Charges for services ⁽¹⁾	\$ 97,236	\$ 108,454	\$ 94,680	\$ 96,398	\$ 98,693
Rent & concessions	135	140	134	135	123
Subtotal Operating Revenues	\$ 97,371	\$ 108,594	\$ 94,814	\$ 96,533	\$ 98,816
Interest & investment income	2,081	1,965	2,589	139	1,289
Other non-operating revenues ⁽¹⁾	6,456	7,424	5,800	4,892	5,798
Subtotal Non-Operating Revenues	\$ 8,537	\$ 9,389	\$ 8,389	\$ 5,031	\$ 7,087
Total Revenues	\$ 105,908	\$ 117,983	\$ 103,203	\$ 101,564	\$ 105,903
Expenses:					
Personnel services	\$ 25,755	\$ 28,474	\$ 31,719	\$ 33,564	\$ 33,762
Contractual services	5,627	6,063	4,726	4,956	4,063
Purchased power & related costs	17,726	19,269	21,539	20,891	26,215
Materials and supplies	1,540	1,638	1,694	1,671	2,075
Depreciation	8,539	9,582	9,796	11,079	11,128
Services provided by other departments and general & administrative	4,018	7,101	7,947	8,665	9,711
Other operating expenses ⁽²⁾	23,129	14,114	16,186	12,433	14,086
Subtotal operating expenses	\$ 86,334	\$ 86,241	\$ 93,607	\$ 93,259	\$ 101,040
Interest expense	722	562	99	1,641	1,574
Other non-operating expenses	5,321	4,403	3,179	3,025	2,485
Total expenses	\$ 92,377	\$ 91,206	\$ 96,885	\$ 97,925	\$ 105,099
Change in net position before transfers	13,531	26,777	6,318	3,639	804
Transfers in (out)	(1,400)	(184)	(2)	(196)	(38)
Change in net position	12,131	26,593	6,316	3,443	766
Net position at beginning of year	\$ 331,090	\$ 343,221	\$ 369,814	\$ 375,848	\$ 379,284
Net position at end of year	\$ 343,221	\$ 369,814	\$ 376,130	\$ 379,284	\$ 376,146

⁽¹⁾ See Table 9.

⁽²⁾ Includes operating programmatic expenses associated with facility maintenance.

Source: SFPUC, Hetch Hetchy Water and Power Audited Financial Statements.

CERTAIN RISK FACTORS

The following section discusses certain risk factors that should be considered by potential investors, along with all other information presented in this Official Statement, in evaluating the risks inherent in the purchase of the 2015 Series A Bonds. The following discussion is not meant to be a comprehensive or definitive list of the risks associated with an investment in the 2015 Series A Bonds. Any one or more of the risk factors discussed below, among others, could adversely affect the ability of the SFPUC to pay principal of or interest on the 2015 Series A Bonds or lead to a decrease in the market value and/or in the liquidity of the 2015 Series A Bonds. The order in which this information is presented does not necessarily reflect the relative importance of the various issues. There can be no assurance that other risk factors not discussed herein will not become material in the future, and the SFPUC has not undertaken to update investors about the emergence of other risk factors in the future.

General

The ability of the SFPUC to comply with its covenants under the Indenture and to generate Revenues sufficient to pay the Operation and Maintenance Cost of the Power Enterprise and principal of and interest on the 2015 Series A Bonds may be adversely affected by actions and events outside of the control of the SFPUC and may be adversely affected by actions taken (or not taken) by voters, property owners, taxpayers or persons obligated to pay fees and charges. Among other matters, general and local economic conditions, weather or climatic conditions, natural or other disasters and changes in law and government regulations could adversely affect the amount of Revenues realized by the SFPUC or significantly raise the cost of operating the Power Facilities.

In addition, the realization of future Revenues is subject to, among other things, the capabilities of management of the SFPUC, the ability of the SFPUC to provide service to its customers, the ability of the SFPUC to establish, maintain and collect charges from its customers and the ability of the SFPUC to establish, maintain and collect rates and charges sufficient to pay for Operation and Maintenance Cost of the Power Enterprise, the Bonds and other obligations payable from Revenues. See **FINANCIAL OPERATIONS** and **OBLIGATIONS PAYABLE FROM REVENUES**.

Limited Obligations

If the SFPUC defaults on its obligations to make debt service payments on the Bonds, the Trustee has the right under the Indenture to accelerate the total unpaid principal amount of the Bonds. However, in the event of a default and such acceleration, there can be no assurance that the SFPUC, and correspondingly the Trustee, will have sufficient moneys available for payment of the Bonds.

The SFPUC is not obligated to pay the principal of, premium, if any, or interest on the 2015 Series A Bonds from any source of funds other than the Revenues of the Power Enterprise, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits. The SFPUC has no taxing power. The General Fund of the City is not liable for the payment of the principal of, premium, if any, or interest on the 2015 Series A Bonds, and neither the credit nor the taxing power of the City is pledged to the payment of the principal of, premium, if any, or interest on the 2015 Series A Bonds. The 2015 Series A Bonds are not secured by a legal or equitable pledge of, or charge, lien or encumbrance upon, any of the property of the City or of the SFPUC or any of its income or receipts, except Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits.

Unavailability of Generation or Transmission

The operation of the Power Facilities, including the Hetch Hetchy Project, is subject to a number of risks which could adversely affect the ability of the Power Enterprise to generate electricity or deliver electricity to its customers. Such interruptions in generation or transmission could adversely impact Revenues or require the SFPUC to increase expenditures for repairs and replacement power. Such Revenue losses or increased operating expenses, if significant, could adversely impact the SFPUC's ability to pay debt service on the Bonds.

Lack of Supply Diversity. Although the SFPUC has been developing alternative sources of generation, the Power Enterprise's electric supply resources remain highly concentrated. Developments with respect to

hydroelectric generation in general, or the Hetch Hetchy Project in particular, could have an amplified effect on the availability and cost of electricity required to meet the needs of the Power Enterprise's customers. See **THE HETCH HETCHY PROJECT**.

Aging Facilities; Failure of Key Facilities. The Power Facilities vary in age, condition, and estimated service life remaining. The average useful life of generating assets is about 30 years while the average useful life of transmission assets is approximately 80 years. Certain portions of the Power Facilities are near the end of their useful life. Long-lived assets result in decreased reliability due to unplanned outages and place a greater maintenance burden on Power Enterprise operations. Aging generating and transmission assets, if left unaddressed, could result in increased system failures, including losses of Hetch Hetchy Project electric generation delivered to the City, increasing the Power Enterprise's cost of purchased power. See, for example, **THE HETCH HETCHY PROJECT -- Physical Condition of Facilities**.

The Power Enterprise's CIP addresses rehabilitation and upgrade needs of a number of Power Facilities. With respect to infrastructure relating solely to the Power Enterprise, the CIP addresses: (i) rehabilitation and upgrades of the Hetch Hetchy Project's generating assets, including powerhouses, transformers, reservoir pumps and control systems, (ii) rehabilitation of transmission assets and increased maintenance of facilities and transmission line clearance zones, (iii) rehabilitation of streetlights; and (iv) other improvements intended to increase reliability. The CIP also includes projects whose components relate to infrastructure shared by the Power Enterprise and the Water Enterprise, including the Mountain Tunnel. Built between 1917 and 1925, the Mountain Tunnel extends 19.2 miles from the Early Intake Dam to the Priest Reservoir. The lower 12 miles are lined. The lining shows signs of deterioration which will likely increase over time. The risk of failure of the Mountain Tunnel, defined as a loss of 25% carrying capacity, is currently low but will increase over time. Failure could cause up to six or more months of water supply disruption, affect approximately 27% of the Hetch Hetchy Project's generating capacity and require significant adjustments in operations of the Power Facilities. The current preferred option for remedying the problem is to construct a bypass tunnel, but the SFPUC has engaged an expert Technical Advisory Panel to review the alternatives analysis and will be recommending further consideration of a focused lining repair project. See **POWER ENTERPRISE CAPITAL PROGRAM**.

Limited Redundancy. Certain Power Facilities have limited redundancy, which reduces the SFPUC's ability to take components of the system out of service for maintenance and repairs, and to provide backup facilities in cases of failure. Any failure of the Power Facilities could result in an increase in the Power Enterprise's purchased power or transmission costs.

Rainfall Variability and Drought. Hydroelectric generation by the Hetch Hetchy Project is subject to seasonal and annual variations in rainfall. See **THE HETCH HETCHY PROJECT – Variability of Hydroelectric Generation**.

Water System Operation Requirements. The SFPUC's "Water First" Policy requires the Power Enterprise to coordinate electricity generation with water releases from Hetch Hetchy Reservoir required to serve the needs of Water Enterprise customers, which has an impact on the Power Enterprise's ability to schedule generation in a manner that would maximize Revenues and minimize Operation and Maintenance Expenses. The price of electricity is subject to market conditions and seasonal market variations which frequently result in lower costs per MWh during the early part of the calendar year when more water is released to serve the requirements of the Water Enterprise and higher costs per MWh in the latter part of the calendar year when less water is released to serve the requirements of the Water Enterprise. See **THE HETCH HETCHY PROJECT – Hetch Hetchy Project Operations – Water First Policy and – Rainfall Variability and Drought**.

Casualty Losses. Damage to the Power Facilities from a variety of sources could impair or degrade the Power Enterprise's ability to deliver electricity to its customers, perhaps for an extended period of time. The SFPUC maintains a risk management program which includes both insured and self-insured coverages; however, the program does not provide, and the SFPUC is not required to obtain, coverage for every type of loss. For example, damage attributable to seismic events and environmental pollution are excluded from such coverages. In situations where the SFPUC has not purchased commercial coverage, the Power Enterprise has a 'self-retention' program that it administers and retains budgeted resources internally to provide coverage for loss liabilities. See **FINANCIAL OPERATIONS – Risk Management and Insurance**. There can be no assurance in the event of a casualty loss

that insurance proceeds or the SFPUC's budgeted resources will be available in amounts sufficient to make necessary capital repairs and mitigate other consequential losses.

Seismic Hazards. Certain facilities and customers of the Power Enterprise are located in seismically active regions of the State. See – **Seismic Considerations.**

Other Natural and Man-Made Disasters. Other natural disasters, including without limitation wildfires, flooding and landslides, or man-made disasters, could interrupt operation of the Hetch Hetchy Project and other Power Facilities. See **THE HETCH HETCHY PROJECT – Wildfire Considerations; 2013 Rim Fire.**

Operational Liability. The SFPUC operates high voltage transmission lines through right of way corridors that extend approximately 200 miles across forested and populated areas between the Sierra Nevada Mountains and the Newark Substation. These high voltage transmission lines can cause fires, electrocution or other casualties if safe clearance zones are not maintained or are accidentally breached, potentially resulting in significant liability losses. SFPUC is undertaking a condition assessment of its transmission line right of way and has identified potential hazards, including those due to insufficient ground clearance and those caused by encroachments or structures improperly located by other local jurisdictions, utilities or individuals in proximity to the transmission lines. Immediate measures are being taken to enhance warning notification, exclude access, or remove trees or vegetation, and a capital improvement program is under development in order to establish safe clearance zones where deficient. The cost and complexity of remedying all such potential hazards is such that such measures are unlikely to be fully implemented within the scope of the current ten year CIP, and the SFPUC is working to prioritize its remedial actions. See **POWER ENTERPRISE CAPITAL PROGRAM.**

Safety and Security. Military conflicts and terrorist activities could also adversely impact the operations of the Power Enterprise or the finances of the SFPUC. The SFPUC plans and prepares for emergency situations and related responses to maintain critical services. However, there can be no assurance that any such safety and security measures will prove adequate in the event of terrorist activities directed against the Power Facilities or that costs of security measures will not be greater than presently anticipated.

Statutory and Regulatory Compliance. The operation of the Power Facilities is subject to a variety of federal and State statutory and regulatory requirements concerning matters such as reliability, reporting, and the scheduling of electrical generation and transmission. Non-compliance with applicable laws or regulations could result in fines and penalties being assessed against the SFPUC or claims being made by private parties. Changes in the scope and standards for electricity generation, transmission and distribution systems such as the Power Facilities may also lead to administrative orders issued by federal or State regulators. Future compliance with increased regulatory requirements or enforcement orders could impose substantial additional operating expenses on the Power Enterprise.

Endangered Species. Various aquatic species (including native fishes) present in the Tuolumne River and Bay Area streams (e.g., Alameda, San Mateo and Pilarcitos Creeks) are either listed or candidates for listing under the State or federal endangered species acts. New listings and future enforcement actions under the acts, or conditions placed in permits to undertake construction for certain projects, could potentially directly affect water flow and electrical generation at the Hetch Hetchy Project.

Labor Actions. The Charter prohibits SFPUC and other City employees from striking. Nonetheless, a work stoppage or other labor action could limit the SFPUC's ability to operate the Power Facilities and adversely impact Revenues. See **FINANCIAL OPERATIONS – Labor Relations.**

Unavailability of Transmission. The Power Enterprise's transmission assets are interconnected to the California Independent System Operator's (the "CAISO's") system. The unavailability of transmission assets due to failure or maintenance outage could require the Power Enterprise to obtain alternative transmission services from other utilities or increase the Power Enterprise's reliance on the CAISO's transmission network, which could result in increased transmission costs to the Power Enterprise. See **THE POWER ENTERPRISE – Transmission and Distribution.**

Proposals to Restore Hetch Hetchy Valley. Various environmental advocates have from time to time proposed the dismantling of O'Shaughnessy Dam with the aim of draining Hetch Hetchy Reservoir and restoring the

river valley, most recently through a ballot initiative ordinance to require a planning process for the restoration of Hetch Hetchy Valley, which was rejected by City voters in the November 2012 election. Any such proposals, if implemented, would increase the operating and capital expenses of the Power Enterprise, primarily due to increased power purchases. See **THE HETCH HETCHY PROJECT – Proposals to Restore Hetch Hetchy Valley**.

Seismic Considerations

Certain distribution and transmission facilities of the Power Enterprise and the Power Enterprise's principal customers are located in seismically active regions of the State. The San Andreas Fault lies immediately west of the City, and the Hayward fault is approximately fifteen miles to the east. A third major fault, the Calaveras Fault, is a branch of the Hayward Fault and lies east of the Hayward Fault.

During the past 150 years, the San Francisco Bay Area has experienced several major and numerous minor earthquakes. The largest was the 1906 San Francisco earthquake along the San Andreas Fault with an estimated magnitude of 8.2 on the Richter scale. Another was the 1868 Hayward earthquake along the Hayward Fault. The most recent significant earthquake was the October 1989 Loma Prieta earthquake on the San Andreas Fault, which had a magnitude of 7.1 on the Richter scale and an epicenter near Santa Cruz, approximately fifty-five miles south of the City. According to a recent United States Geological Survey, a significant earthquake along these or other faults is probable during the period the 2015 Series A Bonds will be outstanding. A significant earthquake in the City could adversely affect short-term or long-term demand or the ability of Power Enterprise customers to pay for electric service.

The Hetch Hetchy Project is located largely in Yosemite National Park, one of the most stable seismic zone in the State and there are no known major faults in the area in which its large generation facilities are located. The SFPUC therefore considers the risk of either a major earthquake in that region or an earthquake in the San Francisco Bay Area of a magnitude sufficient to have a significant impact on the Hetch Hetchy Project to be low. Many of the Hetch Hetchy Project's generation and transmission facilities were constructed prior to 1980, however, and have not been retrofitted to meet current seismic standards. As the SFPUC continues to upgrade and replace certain generation and transmission assets, including the powerhouse, substation and switchyard, it expects to make modifications designed to make the refurbished assets meet or exceed current seismic standards. The SFPUC has no current plans to retrofit the buildings housing such assets, however.

The SFPUC's in-City assets, including for example certain renewable energy generating facilities and streetlights, along with facilities in other locations in the larger Bay Area, such as substations located near SFO, of the are expected to be subject to greater and more frequent seismic activity than the facilities of the Hetch Hetchy Project as sections of the Hayward Fault, San Andreas Fault and Calaveras Fault are near the City.

With certain minor exceptions, the SFPUC does not maintain commercial earthquake insurance coverage for the Hetch Hetchy Project or other Hetch Hetchy Water and Power facilities. See **FINANCIAL OPERATIONS – Risk Management and Insurance**.

A major seismic event affecting critical operational facilities of the Power Enterprise could result in electrical generation service interruptions necessitating that the Power Enterprise purchase wholesale electricity, based on availability and market price, to replace any generation capacity taken offline by the seismic event. Particularly severe seismic events could also significantly impact the wholesale electricity market, available transmission resources and customer demand.

Construction Related Risks

Construction projects for the Power Enterprise are subject to ordinary construction risks and delays applicable to projects of their kind, such as (i) inclement weather affecting contractor performance and timeliness of completion, which could affect the costs and availability of, or delivery schedule for, equipment, components, materials, labor or subcontractors; (ii) contractor claims or nonperformance; (iii) failure of contractors to execute within contract price; (iv) work stoppages or slowdowns; (v) failure of contractors to meet schedule terms; or (vi) unanticipated project site conditions, including the discovery of hazardous materials on the site or other issues regarding compliance with applicable environmental standards, and other natural hazards or seismic events

encountered during construction. Increased construction costs or delays could impact the Power Enterprise's financial condition in general and the implementation of its capital programs in particular.

Limitations on Rate-Setting

The generation of Revenues sufficient to satisfy the requirements of the Indenture and to pay the principal of and interest on the 2015 Series A Bonds will require the SFPUC to raise the rates payable by its customers. The increase or maintenance of rates is subject to various substantive and procedural requirements and limitations. See **FINANCIAL OPERATIONS – Rate-Setting Process; Rates.**

Raker Act Requirements

The Raker Act, enacted in 1913, granted the City the right to construct the Hetch Hetchy Project, including O'Shaughnessy Dam at Hetch Hetchy Valley in Yosemite National Park and related infrastructure, and to operate the dam and reservoirs to generate electricity and to supply water to the City. The Raker Act further grants the City the right to sell electricity generated by the Hetch Hetchy Project to meet municipal and pumping needs, including without limitation its own needs and the needs of the Districts, and for commercial purposes, provided that such electricity may not be sold for resale to a private corporation or individual. See **THE HETCH HETCHY PROJECT**. Wholesale electricity deliveries to the Districts are on an "as available" basis and are required by the Raker Act only after satisfying the City's own municipal and pumping needs. Any additional excess electricity supplies are sold to certain retail customers and then on the wholesale market to public entities—primarily other POU—consistent with the requirements of the Raker Act. The Raker Act does not restrict the City's purchase, use and sale of non-Hetch Hetchy Project electricity. See **THE POWER ENTERPRISE – Wholesale Electricity Sales.**

Customer Concentration

The Power Enterprise's customer base consists of municipal, public agency, and retail customers and long-term wholesale customers, with excess generation sold on the wholesale short-term markets. The municipal, public agency and retail customers, which include City enterprise department customers and General Fund department customers, together comprise on average approximately 81% of all electricity sales. Power Enterprise department customers made up 41% of all Power Enterprise electricity sales in Fiscal Year 2013-14. General Fund department customers accounted for approximately 26% of all Power Enterprise electricity sales in Fiscal Year 2013-14. Long-term wholesale agreements, including those with the Districts, represent on average approximately 19% of all Power Enterprise electricity sales. The Power Enterprise also enters into short-term wholesale market arrangements to sell excess supply, primarily during the run-off spring season. In Fiscal Year 2013-14, short-term wholesale market sales were approximately 0.2% of all the Power Enterprise's electricity sales.

As the Power Enterprise's retail customers are concentrated primarily in and around the City, changes in the financial condition of, or the health of the economy in, the City and, to a certain extent, the greater Bay Area, may have an amplified impact on the finances of the Power Enterprise. As many customers of the Power Enterprise are municipal and other governmental entities, factors impacting the financial condition of such entities may similarly have significant impact on the finances of the Power Enterprise.

Economic, Political, Social and Environmental Conditions

Prospective investors are encouraged to evaluate current and prospective economic, political, social, and environmental conditions as part of an informed investment decision. Changes in economic political, social, or environmental conditions on a local, state, federal, and/or international level may adversely affect investment risk generally. Such conditional changes may include (but are not limited to) fluctuations in business production, consumer prices, or financial markets, unemployment rates, technological advancements, shortages or surpluses in natural resources or energy supplies, changes in law, social unrest, fluctuations in the crime rate, political conflict, acts of war or terrorism, environmental damage, and natural disasters.

Increased Operation and Maintenance Expenses

There can be no assurance that the operation and maintenance expenses of the SFPUC, such as wages and salaries, pension and other benefits, and purchased power costs, will not increase, perhaps substantially. See **FINANCIAL OPERATIONS – Operation and Maintenance Expenses**.

Changes in Energy Prices

Energy prices have at times been subject to volatile change for numerous reasons, including market forces beyond the control of the SFPUC. See **DEVELOPMENTS IN THE ELECTRICITY MARKETS AND REGULATION**. A portion of the SFPUC's retail electric rates are set with reference to PG&E's customer rates, while a portion are set at lower levels with reference to costs of service. See **FINANCIAL OPERATIONS -- Rate-Setting Process; Rates**. Higher wholesale energy market prices may increase operating costs of the Power Enterprise and reduce Net Revenues.

California's (the "State's") electricity deregulation instituted pricing mechanisms that establish market clearing prices for all electricity not purchased under forward contracts. Electricity prices are set through this auction mechanism designed to account for supply, demand and congestion. When generation supply exceeds demand, electricity prices move lower. Typically, electricity prices are lower in the spring when hydroelectric generation is abundant and demand moderate. Electricity prices tend to be higher in the late summer and fall when statewide generating resources are more limited and demand is highest. In an average year, the Power Enterprise has excess generation to sell in the first half of the year and generally purchases wholesale electricity during the second half of the year to meet its electricity demand. The Power Enterprise accounts for the seasonal differential in electricity price in its budget request for annual electricity purchases and reflects such costs in the rates it charges customers.

The SFPUC generally sets electric rates for enterprise customers at a level competitive with the adopted Pacific Gas & Electric, Company ("PG&E") rates for each customer class. PG&E is an investor-owned utility that provides natural gas and electric service to about 5.1 million electric and gas customers in Northern and Central California. See **THE POWER ENTERPRISE – Power Service in San Francisco – Pacific Gas & Electric Company**. PG&E is regulated by the CPUC for its retail services and by the FERC for its wholesale service. PG&E's rates for retail service to customers in California are established by the CPUC after public review to determine they are "just and reasonable".

See also – **Limitations on Rate Setting** and **DEVELOPMENTS IN THE ELECTRICITY MARKETS AND REGULATION**.

Uncertainties of the Electric Utility Industry

The operations of the Power Enterprise and its financial condition could be adversely affected by developments in the electricity markets and related regulation. See **DEVELOPMENTS IN THE ELECTRICITY MARKETS AND REGULATION**.

Constitutional, Statutory and Charter Limitations

The SFPUC is subject to limitations imposed by the Charter and by the State Constitution and statutes. Such limitations could adversely affect the financial condition of the Power Enterprise. See **CONSTITUTIONAL, STATUTORY AND CHARTER LIMITATIONS**.

Initiative, Referendum, Charter Amendments and Future Legislation and Regulations

Under the State Constitution, the voters of the State have the ability to initiate legislation and require a public vote on legislation passed by the California Legislature through the powers of initiative and referendum, respectively. Under the Charter, the voters of the City can restrict or revise the powers of the SFPUC through the approval of a Charter amendment. The SFPUC is unable to predict whether any such initiatives might be submitted to or approved by the voters, the nature of such initiatives, or their potential impact on the SFPUC or the Power

Enterprise. See **CONSTITUTIONAL, STATUTORY AND CHARTER LIMITATIONS**. See also **THE HETCH HETCHY PROJECT – Proposals to Restore Hetch Hetchy Valley**.

In addition, the SFPUC and its operations are subject to various laws, rules and regulations adopted by the local, State and federal governments and their agencies. The SFPUC is unable to predict the adoption or amendment of any such laws, rules or regulations, or their effect on the operations or financial condition of the Power Enterprise.

Bankruptcy

Impact of a City Bankruptcy

State law permits the City, under certain circumstances, to file for bankruptcy protection under chapter 9 of the United States Bankruptcy Code (the “Bankruptcy Code”). As of the date hereof, there have been no public discussions by any City officials, including the Mayor, the Board of Supervisors or the City Attorney, with respect to any potential chapter 9 filing by the City. Third parties cannot bring involuntary bankruptcy proceedings against the City. A bankruptcy filing by the City could have adverse effects on the payment of, and security for, certain accounts receivable maintained by the SFPUC. Following a bankruptcy filing, the City and one or more of its departments, many of which are customers of the Power Enterprise, might fail to pay or otherwise reduce or delay payments for services provided by the SFPUC prior to the date of such filing; and the Power Enterprise might be unable to recover all or any portion of its claims for such amounts in the bankruptcy case. The City and its departments would be obligated, however, to pay for continuing utility services provided by the SFPUC after the date of any such bankruptcy filing.

The SFPUC, being an enterprise department of the City, cannot itself file for bankruptcy protection. Should the City become a debtor in a bankruptcy proceeding, then Net Revenues collected after the date of the bankruptcy filing should be subject to the lien of the Indenture if they are “special revenues” under the Bankruptcy Code. “Special revenues” are defined under the Bankruptcy Code to include, among other things, receipts by local governments from the ownership, operation or disposition of projects or systems that are primarily used to provide utility services. The SFPUC believes that Net Revenues are “special revenues” within the meaning of the Bankruptcy Code. No assurance can be given that a court would not hold that the Net Revenues are not special revenues. Were the Net Revenues determined not to be “special revenues,” then Net Revenues collected after the commencement of a bankruptcy case would likely not be subject to the lien of the Indenture. The holders of the 2015 Series A Bonds may not be able to assert a claim against any property of the SFPUC or the Power Enterprise other than the Net Revenues, and were these amounts no longer subject to the lien of the Indenture following commencement of a bankruptcy case, then there could thereafter be no amounts from which the holders of the 2015 Series A Bonds are entitled to be paid.

The Bankruptcy Code provides that special revenues can be applied to necessary operating expenses of the project or system from which the special revenues are derived, before they are applied to other obligations. This rule applies regardless of the provisions of the transaction documents. The law is not clear as to whether, or to what extent, Net Revenues would be considered to be “derived” from the projects or utility system of the SFPUC. To the extent that Net Revenues are determined to be both special revenues and derived from such projects or system, the SFPUC may be able to use Net Revenues to pay necessary operating expenses connected such projects or system, before the remaining Net Revenues are turned over to the Trustee to pay amounts owed to the holders of the 2015 Series A Bonds. It is not clear precisely which expenses would constitute necessary operating expenses.

If the City is in bankruptcy, the parties (including the holders of the 2015 Series A Bonds) may be prohibited from taking any action to collect any amount from the SFPUC or to enforce any obligation of the SFPUC, unless the permission of the bankruptcy court is obtained. These restrictions may also prevent the Trustee from making payments to the holders of the 2015 Series A Bonds from funds in the Trustee’s possession.

The City may be able to borrow additional money as a debtor in bankruptcy that is secured by a lien on any of its property (including Net Revenues), which lien could have priority over the lien of the Indenture, or to cause some Net Revenues to be released to it, free and clear of lien of the Indenture, in each case provided that the bankruptcy court determines that the rights of the Trustee and the holders of the 2015 Series A Bonds will be adequately protected. The City may also be able, without the consent and over the objection of the Trustee and the

holders of the 2015 Series A Bonds, to alter the priority, interest rate, payment terms, collateral, maturity dates, payment sources, covenants (including tax-related covenants), and other terms or provisions of the Indenture and the 2015 Series A Bonds, provided that the bankruptcy court determines that the alterations are fair and equitable.

There may be delays in payments on the 2015 Series A Bonds while the court considers any of these issues. There may be other possible effects of a bankruptcy of the City that could result in delays or reductions in payments on the 2015 Series A Bonds, or result in losses to the holders of the 2015 Series A Bonds. Regardless of any specific adverse determinations in a City bankruptcy proceeding, the fact of a City bankruptcy proceeding could have an adverse effect on the liquidity and value of the 2015 Series A Bonds.

Impact of a PG&E Bankruptcy

PG&E provides the Power Enterprise with wholesale services through an agreement regulated by FERC, which terminates July 1, 2015. Under this wholesale agreement, PG&E provides transmission and distribution services to deliver Hetch Hetchy Project and other generation to the Power Enterprise's customers. Rates for these services under the FERC approved contract reflect PG&E's cost of service. After July 1, 2015, the Power Enterprise expects these services to be provided under FERC-adopted open-access tariffs for transmission and distribution service, using the same PG&E-owned facilities. A bankruptcy filing by PG&E could have adverse effects on the payment of, and security for, certain accounts receivable maintained by the SFPUC. Following a bankruptcy filing, PG&E might fail to pay or otherwise reduce or delay payments for services provided by the SFPUC prior to the date of such filing; and the Power Enterprise might be unable to recover all or any portion of its claims for such amounts in the bankruptcy case. PG&E would be obligated, however, to pay for continuing utility services provided by the SFPUC after the date of any such bankruptcy filing.

A PG&E bankruptcy could increase Operation and Maintenance Expenses of the Power Enterprise were the Power Enterprise forced to purchase replacement services. See **THE POWER ENTERPRISE – Power Service in San Francisco – Pacific Gas & Electric Company**.

Limitations on Remedies

The remedies available to the owners of the Bonds upon the occurrence of an event of default under the Indenture in many respects depend upon judicial actions which are themselves often subject to discretion and delay and could prove both expensive and time consuming to obtain. In addition to the limitations on remedies contained in the Indenture, the rights and obligations under the Bonds and the Indenture may be subject to bankruptcy, insolvency, reorganization, arrangement, fraudulent conveyance, moratorium and other laws relating to or affecting creditors' rights, to the application of equitable principles, to the exercise of judicial discretion in appropriate cases and to limitations on legal remedies against charter cities and counties in the State. The opinions to be delivered by Co-Bond Counsel, concurrently with the issuance of the 2015 Series A Bonds, that the 2015 Series A Bonds constitute valid and binding also limited obligations of the SFPUC and the Indenture constitutes a valid and binding obligation of the SFPUC will also be subject to such limitations and the various other legal opinions to be delivered concurrently with the issuance of the 2015 Series A Bonds will be similarly qualified. See **APPENDIX D – PROPOSED FORM OF OPINION OF CO-BOND COUNSEL**.

If the SFPUC fails to comply with its covenants under the Indenture or to pay principal of or interest on the 2015 Series A Bonds, there can be no assurance that the available legal remedies will be adequate to protect the interests of the holders of the 2015 Series A Bonds.

Loss of Tax Exemption/Risk of Tax Audit of Municipal Issuers

As discussed under **TAX MATTERS**, interest with respect to the 2015 Series A Bonds could fail to be excluded from the gross income of the owners thereof for purposes of federal income taxation retroactive to the date of the execution and delivery of the 2015 Series A Bonds as a result of future acts or omissions of the SFPUC in violation of its covenants to comply with requirements of the Internal Revenue Code of 1986, as amended. Should such an event of taxability occur, the 2015 Series A Bonds are not subject to prepayment or any increase in interest rate.

In December 1999, as a part of a larger reorganization of the Internal Revenue Service (“IRS”), the IRS commenced operation of its Tax Exempt and Government Entities Division (the “TE/GE Division”), as the successor to its Employee Plans and Exempt Organizations division. The TE/GE Division has a subdivision that is specifically devoted to tax-exempt bond compliance. Public statements by IRS officials indicate that the number of tax-exempt bond examinations is expected to increase significantly under the new TE/GE Division. There is no assurance that, if an IRS examination of the 2015 Series A Bonds were undertaken, it would not adversely affect the secondary market value of the 2015 Series A Bonds.

Change in Tax Law

As discussed under **TAX MATTERS**, current and future legislative proposals, if enacted into law, clarification of the Code or court decisions may cause interest on the 2015 Series A Bonds to be subject, directly or indirectly, in whole or in part, to federal income taxation or to be subject to or exempted from state income taxation, or otherwise prevent beneficial owners from realizing the full current benefit of the tax status of such interest.

Failure to Maintain Credit Ratings

Certain rating agencies have assigned ratings to the 2015 Series A Bonds. The ratings issued reflect only the views of such rating agencies. Any explanation of the significance of these ratings should be obtained from the respective rating agencies. The SFPUC undertakes no responsibility to maintain its current credit ratings on the 2015 Series A Bonds or to oppose any such downward revision, suspension or withdrawal. See **RATINGS**. There is no assurance current ratings will continue for any given period or that such ratings will not be revised downward or withdrawn entirely by the rating agencies if, in the respective judgment of such rating agencies, circumstances so warrant. Any such downward revision or withdrawal of such ratings could be expected to have an adverse effect on the market price of the 2015 Series A Bonds.

Secondary Market

There can be no guarantee that there will be a secondary market for the 2015 Series A Bonds or, if a secondary market exists, that the 2015 Series A Bonds can be sold for any particular price. Occasionally, because of general market conditions or because of adverse developments or economic prospects connected with a particular issue, secondary trading practices in connection with a particular issue are suspended or terminated. Additionally, prices of issues for which a market is being made will depend upon then prevailing circumstances. Such prices could be substantially different from the original purchase price.

Uncertainties of Projections, Forecasts and Assumptions

Compliance with certain of the covenants contained in the Indenture is based upon assumptions and projections. Projections and assumptions are inherently subject to significant uncertainties. Inevitably, some assumptions will not be realized and unanticipated events and circumstances may occur and actual results are likely to differ, perhaps materially, from those projected. Accordingly, such projections are not necessarily indicative of future performance, and the SFPUC assumes no responsibility for the accuracy of such projections. See **FORWARD-LOOKING STATEMENTS** on the inside front cover of this Official Statement.

Other Risks

The discussion in this section, **CERTAIN RISK FACTORS**, is not meant to be a comprehensive or definitive list of the risks associated with an investment in the 2015 Series A Bonds. There may be other risks inherent in ownership of the 2015 Series A Bonds in addition to those described in this section. Investors are advised to read the entire Official Statement in order to obtain information necessary to make an investment in the 2015 Series A Bonds.

DEVELOPMENTS IN THE ELECTRICITY MARKETS AND REGULATION

Structure of the Energy Market Today

The State's electric system is part of the Western grid, one of three interconnected electric systems that cover the continental United States (the others being the Eastern grid and the Texas Interconnection). In addition to all of the State, the Western grid consists of all or part of 13 other Western states, two Canadian provinces, and Baja California, Mexico. The ability of electricity to flow across this grid, subject to transmission availability, creates a regional market for electricity. The State imports about 1/4th of its energy needs from outside of the State.

Within the Western grid, there are 38 balancing authorities. A balancing authority is an entity responsible for operating a portion of the grid (called a transmission control area). The balancing authority matches electric generation with load and maintains the electric frequency of the grid.

The CAISO is the largest of the balancing authorities in the western interconnection, handling an estimated 35 percent of the electric load in the West. The CAISO manages the flow of electricity across the high-voltage, long-distance electric transmission lines that make up 80 percent of California's and a small part of Nevada's electric grid. The CAISO was created in 1996 as a result of California's restructuring of the electric industry with the adoption of Assembly Bill ("AB") 1890 (Stats. 1996, Ch. 854). AB 1890 encouraged California's three largest investor-owned electric utilities to turn over operational control of their transmission systems to the CAISO. The goal of AB 1890 was that the State's electric transmission system be made available on an open and non-discriminatory basis to all generators and electric consumers. The CAISO is a non-profit public benefit corporation overseen by a five-member board appointed by the Governor of the State and confirmed by the State Senate. It is regulated by the FERC.

In addition to operating and scheduling electricity on its transmission system, the CAISO is the only balancing authority in the Western grid to operate a day-ahead, hour-ahead, and real-time energy market matching buyers and sellers and facilitating over 28,000 market transactions every day. Although the vast majority of the State's electric needs are met through longer-term business relationships (such as ownership or long-term contracts), the CAISO day-ahead and real-time energy markets provide indicators of the current market price of electricity. The market clearing prices reflect limitations in the transmission system; if an expensive generator must operate because there is inadequate transmission capacity to bring cheaper generation into a constrained area, then all the generators in the constrained area get paid the price bid by the most expensive generator that needs to operate within the constrained area.

The CAISO is currently in the process of expanding access to its energy markets to entities outside its boundaries by creating an Energy Imbalance Market ("EIM"). The EIM would allow load-serving entities located outside of the CAISO to access the CAISO's real-time energy market to better balance supply and demand. PacifiCorp and NV Energy have already committed to participate in the EIM market. The EIM market is expected to begin operation in November 2014.

The CAISO also ensures the reliability of its electric system by imposing resource adequacy ("RA") standards upon all load-serving entities ("LSE") within the CAISO. The RA requirements obligate each LSE to procure in advance a specified amount of electricity capacity that can be made available to the CAISO to schedule and dispatch as needed to meet electricity demand. The CAISO currently has three RA obligations that the SFPUC must meet:

- A system-wide obligation to provide capacity sufficient to meet the SFPUC's forecasted peak demand plus a sufficient reserve margin (currently set at 15% of peak demand);
- A flexible capacity obligation to ensure that a pre-determined portion of the capacity used to meet the system-wide obligation is capable of being dispatched and ramping up and down over the course of the day to meet fluctuations between supply and demand; and
- A local capacity requirement ("LCR") to ensure that the CAISO has sufficient capacity in certain sub-regions to ensure reliable service in the event of local reliability issues.

The CAISO also engages in long-term transmission planning, identifying upgrades or expansions that are needed to meet reliability requirements, provide economic benefits, connect new generation to the grid, and/or achieve public policy goals (such as the development of new renewable generation).

The Power Enterprise's Relationship to the CAISO

Almost all of the Power Enterprise's electric loads are located within the footprint of the CAISO. The Power Enterprise uses the CAISO's transmission system to deliver electricity to Power Enterprise load that is not connected to the Power Enterprise's transmission system as well as to buy and sell surplus electricity. The Power Enterprise's high-voltage electric transmission lines are not formally part of the CAISO system, but the Power Enterprise and CAISO have an agreement that coordinates the operation of the Power Enterprise's transmission lines with the CAISO system. The Power Enterprise's transmission lines are also connected to two other balancing authorities that serve the SFPUC's two largest wholesale customers. These are TID, which operates as its own balancing authority, and the Balancing Authority of Northern California, which covers MID.

Expiration of the PG&E Interconnection Agreement

The Power Enterprise currently uses a FERC-approved interconnection agreement with PG&E to provide for the delivery of electricity over the CAISO-operated grid to meet Power Enterprise loads in the City and surrounding region. With the expiration of this agreement on July 1, 2015, the Power Enterprise expects to take transmission service from the CAISO under the CAISO's open access transmission tariffs. See **THE POWER ENTERPRISE – Transmission and Distribution**.

Resource Adequacy Requirements

The Hetch Hetchy Project provides sufficient capacity to meet the SFPUC's system-wide and flexible capacity obligations to the CAISO. The Hetch Hetchy Project is not within any of the CAISO's load capacity requirement zones and thus cannot be used to meet the SFPUC's load capacity requirements. Currently the CAISO requires an load serving entity, such as the SFPUC, to show that it has procured approximately 90% of its needed resource adequacy ("RA") capacity, a level equal to 100% of the SFPUC's total forecast load on a monthly basis plus a 15% reserve, a year in advance and 100 percent of its RA needs a month ahead. The CAISO is now working with stakeholders to develop multi-year RA rules that would require load serving entities to show how they will meet their RA obligations several years in advance.

Load Granularity

For purposes of reliability and to ensure the efficient dispatch of the electric system, the CAISO currently determines electricity prices at almost 3,000 different points ("nodes") within its system. To avoid complexity and to facilitate a liquid energy market, the CAISO aggregates the prices set at each node into a single electricity price for each broad region served by the CAISO. The electricity price paid by the SFPUC for any purchases from the CAISO is therefore based on a regional price for all of Northern California. FERC has directed that the CAISO consider disaggregating prices beyond the regional level potentially through the creation of additional regional zones. As the vast majority of the SFPUC's load is located on the San Francisco peninsula, a transmission-limited area with minimal electric generation, the SFPUC could find itself located in a pricing new zone with potentially higher average electricity prices. The CAISO is currently engaged in a stakeholder process to determine how to respond to FERC's request.

On-Going Market Changes

The CAISO market is continually evolving to reflect changes in business needs, technological changes, and federal law and regulation.

Federal Law and Regulation

Federal Energy Regulatory Commission

The Federal Power Act, as amended, gives FERC the authority to regulate the interstate transmission of electric energy and the sale, at wholesale, of electric energy. FERC is vested with “jurisdiction over all facilities for such transmission or sale” as well as the requirement to ensure that the rates and charges for these services as well as “any rule, regulation, practice, or contract affecting such rate, charge, or classification,” are not “unjust, unreasonable, unduly discriminatory or preferential.”

Under the Federal Power Act, states retain authority over “any other sale of electric energy” and facilities used for “generation of electric energy,” “local distribution,” or “transmission of electric energy in intrastate commerce.” POU’s like the SFPUC are also generally exempt from FERC regulation, except for regulations pertaining to electric system reliability. POU’s are affected by FERC regulation, however, to the extent they rely on FERC-regulated transmission services or energy purchases to meet their needs. Additionally, FERC has adopted a reciprocity requirement, under FERC Order 888, that a POU that benefits from the open-access requirements of a FERC-regulated transmission provider must offer comparable open-access to its own transmission system; however to date none of the Power Facilities or related transmission lines have been subject to a comparable open-access request. In addition, certain FERC regulatory requirements, such as the licensing of dams, are applicable to POU’s, but not to the Hetch Hetchy Project as a result of specific exemptions for such facilities in the Federal Power Act.

FERC is the primary regulatory agency overseeing the rates, rules, and regulations that the CAISO has established for its operation. As noted above, the Power Enterprise relies on the CAISO’s transmission system to deliver energy to its load, and is subject to the CAISO’s resource adequacy requirements which are also FERC-regulated. FERC is also responsible for regulation of the wholesale energy market. This regulation affects the price that the Power Enterprise may pay for energy purchases from FERC-regulated entities, as well as non-Raker Act energy sales. The Power Enterprise’s sales of energy to other POU’s (which includes all sales of electric energy subject to the Raker Act) are not subject to FERC jurisdiction, but the price for such sales is generally influenced by the broader Western energy market which is largely under FERC jurisdiction. Power Enterprise sales to other POU’s may also involve the use of FERC-regulated transmission services to deliver the electricity.

When Congress initially enacted the Federal Power Act in 1935, electric utilities were mostly vertically integrated firms that constructed and operated their own generation, transmission, and distribution facilities. The firms acted as separate, local monopolies, and consumers paid a single “bundled” rate for delivered electricity. Sixty years later, the electric industry had experienced fundamental changes: electric systems had become increasingly interconnected, long- distance transmission had become increasingly economical, and smaller, lower-cost electric generating plants had begun to emerge as competitors to the vertically integrated utilities.

FERC responded to these changes and market conditions by adopting reforms to the electric industry that were designed to promote competition and create a competitive wholesale market for electricity. In FERC Order 888, FERC required each transmission provider subject to FERC regulation to “functional[ly] unbundle” its wholesale generation and transmission services and file an open-access transmission tariff that would allow non-discriminatory access to each utility’s transmission system. The goal of this change was to allow that customers have the benefits of competitively priced generation. To promote development of competitive markets, FERC encouraged the formation of regional transmission organizations and independent system operators such as the CAISO to coordinate the use, operation, and planning of a region’s transmission system.

One of the results of FERC Order 888 is a competitive Western-wide wholesale energy market. FERC has adopted a pro-competition policy of letting prices in these markets to be set by market forces, subject to FERC retaining authority to address instances of market abuse and manipulation.

FERC has also moved to make the market for transmission services more efficient and competitive. FERC Order 890 requires each FERC-regulated transmission provider to establish an open, transparent, and coordinated transmission planning process. The CAISO utilizes a yearly transmission planning process to meet its requirements under FERC Order 890. FERC Order 1000 goes a step further and now requires inter-regional transmission planning, the development of methodologies to allocate the costs of inter-regional transmission facilities as well as

allowing for competition among transmission developers to build new projects identified as needed as a result of the transmission planning process.

North American Electric Reliability Corporation

The Energy Policy Act of 2005 required FERC to certify an Electric Reliability Organization (“ERO”) to develop mandatory and enforceable reliability standards, subject to FERC review and approval. On February 3, 2006, FERC issued Order 672, which certified NERC as the ERO. The reliability standards developed by NERC and adopted by FERC apply to users, owners and operators of transmission elements operated at 100 kilovolts (kV) or higher and real power and reactive power resources connected at 100 kV or higher, as more specifically set forth in each Reliability Standard. Many Reliability Standards have since been approved by FERC.

NERC and its Regional Reliability Organizations (“RRO”) may enforce the Reliability Standards, subject to FERC oversight or FERC may independently enforce the Reliability Standards. The WECC is the RRO for the western region. Potential monetary sanctions include fines of up to \$1 million per violation per day. FERC Order 693 further provided the ERO and RROs 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. On March 18, 2010, FERC issued a Policy Statement on Penalty Guidelines, which appeared to envision the option of more serious penalties than would be imposed by NERC. NERC and a significant part of the industry challenged that Policy Statement and several other orders issued the same day with respect to reliability. FERC suspended the effectiveness of the policy in order to receive comments and, on September 17, 2010, FERC issued a Revised Policy Statement on Penalty Guidelines, which clarified and tempered some of its prior statements, although the revised guidelines maintained that it was appropriate to use the US Criminal Sentencing Guidelines Model as an analytical tool for assessing penalties. FERC further clarified that its Revised Policy Statement on Penalty Guidelines would be applied only to investigations conducted by FERC.

United States Environmental Protection Agency Proposed Clean Power Plan

On June 2, 2014, the United States Environmental Protection Agency (the “EPA”) released its proposed Clean Power Plan. This plan seeks to reduce GHG emissions from existing electric generating plants by 30 percent before 2030. Under the plan, each state is assigned an emission performance goal to be achieved. California’s interim electricity emissions goal set by the EPA is an average of 556 lbs carbon dioxide (“CO₂”)/ MWh for the 2020-2029 period, with a final goal of 537 lbs CO₂/MWh in 2030. The plan proposes to provide each state the flexibility to achieve its goal through the use of a number of different measures including: 1) increasing the efficiency of coal-fired power plants; 2) increasing the effective use of existing natural gas-fired power plants; 3) increasing the use of renewable generation; and 4) expanding state energy efficiency programs.

Under the EPA’s proposed plan, each state would have to submit a state implementation plan (“SIP”) to the EPA by June 2016. For California, the SIP would be developed by the California Air Resources Board (“CARB”), which is working with the CPUC and CAISO to evaluate the proposed targets and develop potential compliance strategies.

CARB has stated that if California achieves its already adopted GHG reduction goals, the state would also meet its emissions goal under the EPA’s proposed plan. See – **California State Law and Regulation**. As all of the SFPUC’s electric generating resources are already GHG-free, the effect of the EPA’s proposal on the SFPUC is expected to be minimal. To the extent that electricity prices rise generally as a result of the plan’s implementation, the SFPUC could potentially benefit, as it is currently a net seller of electricity and GHG-free electricity may attract a price premium relative to fossil-based electric generation. To the extent that California relies on energy efficiency and renewable energy activities to meet the plan’s requirements, there is a potential for increased federal oversight of these activities to ensure that stated GHG reductions are achieved.

FERC Hydroelectric Licensing

Under the Federal Power Act, FERC is also responsible for the licensing of hydroelectric plants within the United States. The Hetch Hetchy Project, however, predates FERC’s authority and is exempt from FERC regulation pursuant to specific “grandfathering” provisions in the Federal Power Act. The Don Pedro Project, owned and

operated by the Districts, is subject to FERC regulation and is currently undergoing re-licensing. See **THE HETCH HETCHY PROJECT -- FERC Proceeding Regarding Relicensing of the Don Pedro Project**.

California State Law and Regulation

State Constitution

Art. XI, Sec. 9(a) of the State Constitution allows municipal corporations, such as the City, to “establish, purchase, and operate public works to furnish its inhabitants with light, water, power, heat, transportation, or means of communication.” As a result, the SFPUC has significant discretion to establish its own rules and procedures for operating its electric utility subject to those areas where either the state has asserted jurisdiction or there is an issue of federal pre-emption.

The following is a listing of state legislation that affects the Power Enterprise’s electric operations and the SFPUC’s compliance with these requirements.

Assembly Bill 32; CARB Scoping Plan; Cap and Trade

State Assembly Bill 32 (“AB 32”), known as the Global Warming Solutions Act of 2006, requires CARB to adopt policies and regulations to reduce GHG emissions to 1990 levels by 2020. On December 11, 2008, CARB adopted a “scoping plan” identifying the market structures, prescriptive regulations, fees and voluntary measures that need to be developed and implemented by CARB and other state agencies to achieve this goal. Among the measures identified in the scoping plan that could potentially affect the SFPUC are proposals to increase energy efficiency, promote renewable energy and distributed generation, and the increased electrification of motor vehicles.

The scoping plan included a cap-and-trade system covering approximately 85% of all GHG emissions in California that was approved by CARB on December 16, 2010 and became enforceable starting on January 1, 2013. In 2015 the program will be expanded to include the province of Quebec, Canada.

The cap-and-trade program covers sources accounting for 85% of California's GHG emissions, the largest program of its type in the United States. The cap-and-trade program will be implemented in phases. The first phase of the program (until December 31, 2014) will introduce a hard emissions cap on electric utilities and large industrial sources emitting more than 25,000 metric tons of carbon dioxide-equivalent greenhouse gases (“CO₂e”) per year. In 2015, the program will be expanded to cover distributors of transportation, natural gas, and other fossil fuels. The cap will decline about 2 percent in 2014, and 3 percent annually from 2015 to 2020. The cap-and-trade program will require covered entities to retire compliance instruments (e.g., allowances) for each metric ton of CO₂e they emit.

For electric utilities, the cap-and-trade compliance obligation is placed on the “first deliverers” of electric energy. First deliverers include those who generate electric energy in state or those who first import energy into California from out-of-state. As the Power Enterprise’s electric generation resources do not emit CO₂ and the Power Enterprise does not, and has a policy not to, purchase electric energy directly from out of state, the Power Enterprise has no compliance obligation under the program and is not a covered entity. GHG emissions from the [Power Enterprise’s] operation of the natural gas system at Treasure Island are also below the 25,000 ton CO₂e level that would trigger a compliance obligation.

As part of a transition process, initially most of the carbon allowances will be distributed for free. As the program matures, the amount of allowances allocated for free will be progressively reduced and covered entities will be required to buy allowances at auction. The cap-and-trade program will also allow covered entities to use offset credits for compliance purposes (not exceeding 8% of a regulated entity's compliance obligation). Offsets must be obtained from certified projects in sectors that are not regulated under the cap-and-trade program. These include urban forest projects, reforestation projects, destruction of ozone-depleting substances, and methane management projects.

Under the cap-and-trade program, electric distribution utilities (“EDU”) such as the SFPUC receive a designated amount of allowances set by regulation through 2020. One purpose of these allowances is to at least partially compensate EDUs for the higher prices they may incur for purchasing electric energy that now has a

compliance obligation. The EDU must either use the allowances to meet its own compliance obligations or put its allowances up for sale at quarterly auctions run by CARB. All allowances provided to electric distribution utilities must be used to benefit the utility's ratepayers. Because the SFPUC does not have a compliance obligation under the program, the SFPUC sells most of its allowances through the auction process and uses the proceeds to benefit ratepayers as required by the cap-and-trade program.

Future AB 32; CARB Scoping Plan; Cap and Trade

AB 32 sets a long-term goal for California to reduce its GHG emissions to 80% below 1990 levels by the year 2050. This would require continuing reductions in GHG emissions beyond 2020 to reach this goal. As required by AB 32, CARB is developing a revised scoping plan identifying potential future measures to reduce GHG emissions. The plan currently identifies a continued "decarbonization" of the electric sector; further electrification of motor vehicles; and continued use of energy efficiency activities as potential sources of further GHG reductions.

Renewable Portfolio Standard

The California Renewable Energy Resources Act (the "CRERA"), effective as of December 10, 2011, establishes requirements for the procurement of eligible renewable resources for California's retail sellers of electricity, including local POU's such as the SFPUC ("Renewable Portfolio Standards" or "RPS"). Eligible renewable resources include wind, solar, geothermal, biomass, wave/tidal energy, and small hydroelectric generation that meets certain criteria.

The CRERA generally requires all electric utilities and energy service providers to procure 33% of their retail energy needs from renewable energy by 2020, with interim targets starting at 20% for the 2011-2013 period and progressively ramping up to 33% by 2020. The CRERA recognizes that imposing such an obligation upon the SFPUC would have resulted in the SFPUC having to displace one zero-GHG energy resource (Hetch Hetchy Project hydroelectric energy) with another zero-GHG resource (eligible renewable resources) without any reduction in GHG emissions and significantly increased costs to the SFPUC. As a result, the Act established an alternative compliance obligation for the SFPUC. Provided that the SFPUC receives greater than 67% of its electricity demands from the Hetch Hetchy Project, the SFPUC is only required to procure eligible renewable energy resources for its electric demands unmet by the Hetch Hetchy Project. Since in most years the SFPUC has historically been able to meet 95% to 100% of its electric demands from its Hetch Hetchy Project generation the SFPUC generally expects to have to procure only small amounts of eligible renewable energy annually to meet its RPS obligations under the Act.

For POU's, the initial responsibility for enforcing the Act's requirements is placed upon the POU. To ensure that the SFPUC is able to meet applicable RPS requirements, the SFPUC adopted an Enforcement Program on December 13, 2011 (Resolution 11-0202), which directed staff to develop a Procurement Plan that was also adopted by the Commission (Resolution 12-0217). The Procurement Plan identifies the SFPUC's requirements under the RPS, identifies the exceptions allowed under the RPS that would allow the SFPUC to defer or delay meeting the RPS requirements, establishes the process for forecasting and procuring any additional RPS-eligible supplies needed to meet the RPS requirements (including unexpected contingencies). The SFPUC's latest adopted Procurement Plan forecasts that the SFPUC will be able to meet its RPS obligations with its own electric generation during years of normal or above-average hydroelectric generation. Only during years of below average hydroelectric generation does the SFPUC anticipate needing to purchase additional eligible renewable energy to meet its RPS obligations. The SFPUC forecasts that such purchases will be small relative to total demand. The cost to procure these resources is expected to be consistent with the SFPUC's annual budgets for purchased energy.

Resource Adequacy Requirements

Public Utilities Code 9620 requires each POU to develop its own resource adequacy requirement and to "prudently plan for and procure resources that are adequate to meet its planning reserve margin and peak demand and operating reserves, sufficient to provide reliable electric service to its customers." This requirement is similar to the resource adequacy requirements established by the CAISO. FERC has authorized the CAISO to apply its own Resource Adequacy rules to any utility that has not adopted a Resource Adequacy program. To comply with Public Utilities Code 9620, on May 23, 2006 the SFPUC adopted, in its Resolution 06-0087, an Interim Utility Resource

Adequacy Plan. The Plan established a 15% reserve margin and established forecasting and reporting requirements to meet the Act's requirements.

Energy Loading Order

State Senate Bill 1037, effective January 1, 2006, requires POU's to first acquire all available energy efficiency, demand reduction and renewable resources that are cost effective, reliable and feasible prior to procuring new energy generation resources. This requirement is similar to the Energy Action Plan adopted jointly by the CPUC, CEC, and California Power Authority to establish an "energy loading order" for California's electric utilities that focuses first on decreasing electricity demand by increasing energy efficiency and demand response, then meeting new generation needs first with renewable and distributed generation resources, and lastly with clean fossil-fueled generation.

In 2008, the Board of Supervisors, in its Resolution 227-08, adopted the policy goals outlined in the Energy Action Plan and energy loading order to guide SFPUC energy procurement. San Francisco's 2011 Updated Electricity Resource Plan (the "2011 Updated Electricity Resource Plan"), approved by the SFPUC in its Resolution 11-0035 and by the Board of Supervisors in its Resolution 349-11, reaffirmed the use of the energy loading order to meet future energy needs.

State Assembly Bill 2021, signed by the Governor on September 29, 2006, requires that POU's establish, report, and explain the basis of their annual energy efficiency and demand reduction targets over a 10-year planning horizon. The SFPUC submits annual reports to the California Energy Commission and submitted its latest report through the California Municipal Utilities Association on March 15, 2014.

Community Choice Aggregation Service

State law allows a local government entity to sell electricity directly to customers within the entity's jurisdiction through a Community Choice Aggregation ("CCA") program. Under a CCA program, a public entity could develop a portfolio of energy supplies that it purchased or produced to meet specific local targets for renewable energy or to meet other policy and service objectives. Transmission and distribution services would continue to be provided by the local utility subject to CPUC tariffs. Customers within a CCA's jurisdiction may choose to opt-out of the program.

The SFPUC developed a CCA program called CleanPowerSF for customers in the City. After many years of study and development, however, the City has not implemented CleanPowerSF. The Power Enterprise anticipates that if the City were to implement a CCA program, few if any current Power Enterprise customers would become CCA customers, since Power Enterprise electric service already offers a clean energy portfolio and cheaper costs than those mandated by the CPUC tariff for CCA service. Funding to develop a CCA program in the future could include some seed funding from the Power Enterprise, though no new funds are currently included in its current capital plan. To date approximately \$9.0 million has been appropriated for CCA Development and Assessment, of which approximately \$3.7 million is currently available for project spending. The Indenture, however, requires that any City-wide retail electric power program be a Separate System. Following initial funding, the CCA program may operate with financial independence using revenues collected from customers. It is possible that a CCA program would purchase excess electricity from the Power Enterprise when available.

California Solar Initiative

State Senate Bill 1 ("SB 1"), adopted in 2006 and effective as of January 1, 2007, established the California Solar Initiative and set a statewide goal to install 3,000 MW of new solar energy systems on California rooftops within ten years, and established requirements to have solar energy systems installed on 50% of new residential developments within 13 years.

SB 1 requires POU's, including the SFPUC, to establish a program that meets the POU obligations under the initiative. Through its municipal solar and GoSolarSF programs, the SFPUC has already exceeded its 2017 targets under SB 1. The SFPUC will continue to file annual reports on the progress of its SB 1 solar programs to the California Energy Commission.

Energy Storage

State Assembly Bill 2514 requires that by October 1, 2014 “the governing board of each local publicly owned electric utility shall determine appropriate targets, if any, for the utility to procure viable and cost-effective energy storage systems to be achieved by December 31, 2016, and December 31, 2020.” In response to this legislative requirement, the SFPUC resolved, in its Resolution 14-0147, that the SFPUC has no near-term need for energy storage services apart from the potential use of energy storage to fulfill Local Resource Adequacy Capacity requirements, which is not cost-effective at this time. The SFPUC also decided to continue to evaluate energy storage as a procurement option going forward and to identify a pilot energy storage project.

State Law Requirements Affecting Investor-Owned Utilities

The California State Constitution (Article XII) gives the CPUC the authority to regulate “Private corporations and persons that own, operate, control, or manage the production, generation, transmission, or furnishing of heat, light, water [or] power directly or indirectly to or for the public.” The CPUC does not have authority over the rates and services offered by publicly-owned utilities such as the SFPUC, but the CPUC’s regulation of investor-owned utilities, particularly PG&E, can affect the SFPUC’s operations. PG&E, Trans Bay Cable and the direct access energy service providers are subject to extensive regulation by FERC with respect to applicable wholesale transactions and electricity transmission.

Almost all of the SFPUC’s electric load is served off of PG&E’s distribution system, and the SFPUC relies on PG&E’s transmission system (albeit under operational control of the CAISO) to deliver Hetch Hetchy Project and other energy supplies to its load. These activities are regulated by FERC. See – **Federal Law and Regulation**. Where SFPUC provides electric service to retail customers in the City (other than municipal load), it does so in competition with PG&E.

Future Regulation and Other Factors

The electric industry has been highly regulated throughout its history and is subject to continuing legislative and administrative regulation and reform. State and federal entities routinely consider changes to the regulations governing the electric industry. Recent proposals have included both those aimed at further deregulating the industry and those proposing additional regulations. The SFPUC is unable to predict at this time the impact any such proposals will have on the operations and finances of the SFPUC or the electric utility industry generally.

The electric utility industry in general has been, and 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) the effects of compliance with rapidly changing environmental, safety, licensing, regulatory and legislative requirements other than those described above; (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) the effects of competition from other electric utilities (including increased competition resulting 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); (e) the development and deployment of new methods of, and new facilities for, producing electricity at competitive prices; (f) the repeal of certain federal statutes that would have the effect of increasing the competitiveness of many investor owned utilities; (g) increased competition from independent power producers and marketers, brokers and federal power marketing agencies; (h) “self-generation” or “distributed generation” (for example, solar power, microturbines and fuel cells) by customers and others; (i) current and future requirements relating to the SFPUC’s ability to issue tax-exempt obligations, including restrictions on sales to non-qualified entities of the electricity from generation projects and transmission service from transmission line projects financed with tax-exempt obligations; (j) the effects of inflation on the operating and maintenance costs of electric utilities and their facilities; (k) actual results that differ from projected future load requirements; (l) increases in costs and uncertain availability of capital; (m) shifts in the availability and relative costs of different fuels (including the cost of natural gas); (n) 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, as occurred, for example, in California’s energy crisis in 2000 and 2001; (o) issues relating to risk management procedures and practices with respect to, among

other things, the purchase and sale of natural gas, energy and transmission capacity; (p) other legislative changes, voter initiatives, referenda and statewide propositions; (q) the effects of changes in the local, State, national or global economy; (r) the effects of possible manipulation of the electric markets; (s) natural disasters or other physical calamities, including, but not limited to, earthquakes and flood; (t) climate change and related regulations; and (u) issues relating to cybersecurity. Any of these factors (as well as other factors) could have an adverse effect on the financial condition of an electric utility, including the Power Enterprise.

This Official Statement includes a brief discussion of certain of the factors identified in the previous paragraph. It 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 2015 Series A Bonds should obtain and review such information. The SFPUC is unable to predict what impact such factors will have on the SFPUC's electric system or the business operations and financial condition of the Power Enterprise, but such impacts could be significant. To the extent described herein, the SFPUC has taken steps to mitigate the potential impacts of a number of these factors.

CONSTITUTIONAL, STATUTORY AND CHARTER LIMITATIONS

Proposition 218 and Proposition 26

Proposition 218, a State ballot initiative known as the "Right to Vote on Taxes Act," was approved by State voters in 1996. The initiative added Articles XIII C and XIII D to the California Constitution. Article XIII D creates additional requirements for the imposition by most local governments (including the SFPUC) of general taxes, special taxes, assessments and "property-related" fees and charges. Article XIII D explicitly exempts fees and charges for the provision of electric service from its provisions.

Article XIII C extends the people's initiative powers 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 in *Bighorn-Desert View Water Agency v. Verjil*, 46 Cal.Rptr.3d 73 (2006) concluded that, under Article XIII C, 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 XIII D. As the terms "fees" and "charges" are not defined in Article XIII C, however, its extension of the initiative powers may apply not only to "property-related" fees and charges, as defined in Article XIII D, but also, for example, to fees and charges for the provision of electric services which are exempted from Article XIII D. The California appellate court suggested as much in *Bock v. City Council of Lompoc*, 109 Cal.App.3d 43 (1980). The SFPUC is unable to determine whether the California courts will hold that rates for electric service are subject to the initiative process or, if they are, what limitations will apply to that process.

On November 2, 2011, the voters approved Proposition 26 ("Proposition 26"), which amended Article XIII C to provide that a "tax" means any levy, charge or exaction of any kind imposed by a local government. Proposition 26, however, excepted from its scope, among other things, (1) 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, and (2) assessments and property-related fees imposed in accordance with the provisions of Article XIII D. 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.

The SFPUC believes that its rates and charges for electric service are not subject to the voter approval requirements under Proposition 26. The SFPUC further believes that its fees and charges for electric service do not exceed the reasonable costs to the Power Enterprise of providing those services. The SFPUC, however, is unable to predict how Proposition 26 will be interpreted by the California courts or what its ultimate impacts on the SFPUC will be.

Charter Limitations

The Charter generally requires that bonds (such as the Bonds) secured by revenues, other than refunding bonds, may be issued only with the assent of a majority of voters. Under the Charter, however, the SFPUC may

issue revenue bonds to finance buildings, fixtures or equipment necessary to comply with an order of a state or federal authority, for the reconstruction or replacement of existing water facilities or electric power facilities or combinations of water and electric power facilities and to finance certain equipment or facilities for renewal energy and energy conservation. See **OBLIGATIONS PAYABLE FROM REVENUES – Authority for Issuance of Revenue Bonds and Other Obligations Payable from Revenues.**

In June 1998 the electorate of the City approved Proposition H which, subject to certain exceptions, including a limited exception to raise rates to pay debt service on voter-approved debt, froze the SFPUC's water rates through July 1, 2006. The SFPUC can give no assurance that the electorate will not seek in the future to freeze or limit rate increases.

Initiative Measures and Charter Amendments

Articles XIII C and XIII D of the California Constitution and Proposition 26 were adopted pursuant to the State's initiative process. From time to time other initiative measures could be adopted by State voters, or by voters of the City, placing additional limitations on the ability of the SFPUC to increase revenues.

The voters could adopt additional Charter amendments in the future that could limit the ability of the SFPUC to issue debt, affect the operation of the Power Enterprise, limit the ability of the SFPUC to enact rate increases, or implement other changes affecting the SFPUC and the Power Enterprise

LITIGATION

The SFPUC is not aware of any litigation pending or threatened questioning the political existence of the City or the SFPUC or contesting the SFPUC's power to fix electric rates and charges, or in any way questioning or affecting:

- (i) the proceedings under which the 2015 Series A Bonds are to be issued;
- (ii) the validity of any provision of the 2015 Series A Bonds or the Indenture;
- (iii) the pledge of Revenues, after payment of Operation and Maintenance Expenses and any Priority R&R Fund Deposits, by the SFPUC under the Indenture; or
- (iv) the titles to office of the present members of the Board of Supervisors and the Commission.

There are a number of suits and claims pending against the City and the SFPUC, which may include personal injury, wrongful death and other suits and claims against which the City may self-insure. The aggregate amount of the self-insured liabilities of the City and the SFPUC which may result from such suits and claims will not, in the opinion of the City Attorney, materially impair the ability of the SFPUC to pay principal of or interest on the 2015 Series A Bonds as they become due. There is no litigation pending, with service of process having been accomplished, against the City or the SFPUC which if determined adversely to the City or the SFPUC would, in the opinion of the City Attorney, materially impair the ability of the SFPUC to pay principal of and interest on the 2015 Series A Bonds as they become due.

TAX MATTERS

In the opinion of Orrick, Herrington & Sutcliffe LLP and Curls Bartling, P.C., Co-Bond Counsel, based on an analysis of existing laws, regulations, rulings and court decisions, and assuming, among other matters, the accuracy of certain representations and compliance with certain covenants, interest on the 2015 Series A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986 (the "Code") and is exempt from State of California personal income taxes. Co-Bond Counsel are further of the opinion that interest on the 2015 Series A Bonds is not a specific preference item for purposes of the federal individual or corporate alternative minimum taxes, although Co-Bond Counsel observe that interest on the 2015 Series A Bonds is included in adjusted current earnings when calculating federal corporate alternative minimum taxable income. A complete copy of the proposed opinion of Co-Bond Counsel is set forth in Appendix C hereto.

The difference between the issue price of any maturity of the 2015 Series A Bonds with an issue price less than par and the amount to be paid at maturity of such 2015 Series A Bonds (excluding amounts stated to be interest and payable at least annually over the term of such 2015 Series A Bonds) constitutes “original issue discount,” the accrual of which, to the extent properly allocable to each owner thereof, is treated as interest which is excluded from gross income for federal income tax purposes and State of California personal income taxes. For this purpose, the issue price of a particular maturity of the 2015 Series A Bonds is the first price at which a substantial amount of such maturity of the 2015 Series A Bonds is sold to the public (excluding bond houses, brokers, or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers). The original issue discount with respect to any maturity of the 2015 Series A Bonds accrues daily over the term to maturity of such 2015 Series A Bonds on the basis of a constant interest rate compounded semiannually (with straight-line interpolations between compounding dates). The accruing original issue discount is added to the adjusted basis of such 2015 Series A Bonds to determine taxable gain or loss upon disposition (including sale, redemption, or payment on maturity) of such 2015 Series A Bonds. Owners of the 2015 Series A Bonds should consult their own tax advisors with respect to the tax consequences of ownership of 2015 Series A Bonds with original issue discount, including the treatment of purchasers who do not purchase such 2015 Series A Bonds in the original offering to the public at the first price at which a substantial amount of such 2015 Series A Bonds are sold to the public.

2015 Series A Bonds purchased, whether at original issuance or otherwise, for an amount greater than their principal amount payable at maturity (or, in some cases, at their earlier call date) (“Premium Bonds”) will be treated as having amortizable bond premium. No deduction is allowable for the amortizable bond premium in the case of obligations, like the Premium Bonds, the interest on which is excluded from gross income for federal income tax purposes. However, the amount of tax exempt interest received, and a purchaser’s basis in a Premium Bond, will be reduced by the amount of amortizable bond premium properly allocable to such purchaser. Owners of Premium Bonds should consult their own tax advisors with respect to the proper treatment of amortizable bond premium in their particular circumstances.

The Code imposes various restrictions, conditions and requirements relating to the exclusion from gross income for federal tax purposes of interest on obligations such as the 2015 Series A Bonds. The SFPUC has made certain representations and has covenanted to comply with certain restrictions designed to assure that the interest on the 2015 Series A Bonds will not be included in federal gross income. Inaccuracy of these representations or failure to comply with these covenants may result in the interest on the 2015 Series A Bonds being included in federal gross income, possibly from the date of issuance of the 2015 Series A Bonds. Bond Counsel has not undertaken to determine (or to inform any person) whether any actions taken (or not taken) or events occurring (or not occurring) after the date of issuance of the 2015 Series A Bonds may affect the tax status of the interest on the 2015 Series A Bonds or the value of the 2015 Series A Bonds.

Although Co-Bond Counsel have rendered an opinion that the interest portion on the 2015 Series A Bonds is excluded from gross income for federal income tax purposes, the ownership or disposition of the 2015 Series A Bonds and the accrual or receipt of amounts treated as interest thereon may otherwise affect a 2015 Series A Bond owner’s tax liability. The nature and extent of these other tax consequences will depend upon each 2015 Series A Bond owner’s particular tax status and the 2015 Series A Bond owner’s other items of income or deduction. Co-Bond Counsel express no opinion regarding any such other tax consequences.

Current and future legislative proposals, if enacted into law, clarification of the Code or court decisions may cause interest on the 2015 Series A Bonds to be subject, directly or indirectly, in whole or in part, to federal income taxation or to be subject to or exempted from state income taxation, or otherwise prevent 2015 Series A Bond owners from realizing the full current benefit of the tax status of such interest. For example, Representative Dave Camp, Chair of the House Ways and Means Committee, released draft legislation that would subject interest on the 2015 Series A Bonds to a federal income tax at an effective rate of 10% or more for individuals, trusts, and estates in the highest tax bracket, and the Obama Administration proposed legislation that would limit the exclusion from gross income of interest on the 2015 Series A Bonds to some extent for high-income individuals. The introduction or enactment of any such future legislative proposals, clarification of the Code or court decisions may also affect, perhaps significantly, the market price for, or marketability of, the 2015 Series A Bonds. Prospective purchasers of the 2015 Series A Bonds should consult their own tax advisors regarding the potential impact of any pending or proposed federal or state tax legislation, regulations or litigation, as to which Co-Bond Counsel express no opinion.

The opinion of Co-Bond Counsel is based on current legal authority, covers certain matters not directly addressed by such authorities, and represents Co-Bond Counsel's judgment as to the proper treatment of the 2015 Series A Bonds for federal income tax purposes. It is not binding on the Internal Revenue Service ("IRS") or the courts. Furthermore, Co-Bond Counsel cannot give and have not given any opinion or assurance about the future activities of the SFPUC, or about the effect of future changes in the Code, the applicable regulations the interpretation thereof or the enforcement thereof by the IRS. The SFPUC has covenanted, however, to comply with the requirements of the Code.

Co-Bond Counsel's engagement with respect to the 2015 Series A Bonds ends with the issuance of the 2015 Series A Bonds, and, unless separately engaged, Co-Bond Counsel are not obligated to defend the SFPUC or the owners of the 2015 Series A Bonds regarding the tax-exempt status of the 2015 Series A Bonds in the event of an audit examination by the IRS. Under current procedures, parties other than the SFPUC, and its appointed counsel, including the owners of the 2015 Series A Bonds, would have little, if any, right to participate in the audit examination process. Moreover, because achieving judicial review in connection with an audit examination of tax-exempt bonds is difficult, obtaining an independent review of IRS positions with which the SFPUC legitimately disagrees, may not be practicable. Any action of the IRS, including but not limited to selection of the 2015 Series A Bonds for audit, or the course or result of such audit, or an audit of bonds presenting similar tax issues may affect the market price for, or the marketability of, the 2015 Series A Bonds, and may cause the SFPUC or the owners of the 2015 Series A Bonds to incur significant expense.

CERTAIN LEGAL MATTERS

The validity of the 2015 Series A Bonds and certain other legal matters are subject to the approving opinion of Orrick, Herrington & Sutcliffe LLP, San Francisco, California, and Curls Bartling P.C., Oakland, California, Co-Bond Counsel. Complete copies of the proposed form of Bond Counsel opinion is contained in Appendix D hereto. Certain legal matters will be passed upon for the SFPUC by the City Attorney and by Orrick, Herrington & Sutcliffe LLP, Disclosure Counsel to the SFPUC. Certain legal matters will be passed upon for the Underwriter by Nossaman LLP. None of Co-Bond Counsel, Disclosure Counsel or Underwriter's Counsel undertakes any responsibility for the accuracy, completeness or fairness of this Official Statement.

Orrick, Herrington & Sutcliffe LLP has served as disclosure counsel to the SFPUC and in such capacity has advised the SFPUC with respect to applicable securities laws and participated with responsible SFPUC officials and staff in conferences and meetings where information contained in this Official Statement was reviewed for accuracy and completeness. Disclosure Counsel is not responsible for the accuracy or completeness of the statements or information presented in this Official Statement and has not undertaken to independently verify any of such statements or information. Rather, the SFPUC is solely responsible for the accuracy and completeness of the statements and information contained in this Official Statement. Upon the issuance of the 2015 Series A Bonds, Disclosure Counsel will deliver a letter to the SFPUC which advises the SFPUC, subject to the assumptions, exclusions, qualifications and limitations set forth therein, that no facts came to attention of the attorneys at such firm rendering legal services in connection with such firm's role as Disclosure Counsel which caused them to believe that this Official Statement as of its date and as of the date of issuance of the 2015 Series A Bonds contained or contains any untrue statement of a material fact or omitted or omits to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading. No purchaser or holder of the Series 2013 Bonds, or other person or party other than the SFPUC, will be entitled to or may rely on such letter of Orrick, Herrington & Sutcliffe LLP's having acted in the role of Disclosure Counsel to the SFPUC.

RATINGS

The 2015 Series A Bonds have been rated "[]" by Fitch, Inc. ("Fitch"), One State Street Plaza, New York, New York, and "[]" by Standard & Poor's Ratings Services, a Standard & Poor's Financial Services LLC business, 55 Water Street, New York, New York ("Standard & Poor's"). The ratings assigned by Fitch and Standard & Poor's express only the views of the rating agencies. The explanation of the significance of the ratings may be obtained from Fitch and Standard & Poor's, respectively. There is no assurance such ratings will continue for any given period of time or that such ratings will not be revised downward or withdrawn entirely by the rating agencies, if in the judgment of such rating agencies, circumstances so warrant. Any such downward revision or withdrawal of such ratings may have an adverse effect on the market price of the 2015 Series A Bonds.

UNDERWRITING

The 2015 Series A Bonds are being purchased by Wells Fargo Bank, National Association (the “Underwriter”). The Underwriter has agreed to purchase the 2015 Series A Bonds at a purchase price of \$_____ (comprised of the principal amount of the 2015 Series A Bonds, plus a reoffering premium on the 2015 Series A Bonds of \$_____, less an underwriter’s discount in the amount of \$_____).

The purchase contract pursuant to which the 2015 Series A Bonds are being sold provides that the Underwriter will purchase all of the 2015 Series A Bonds if any 2015 Series A Bonds are purchased, and the obligation to make such purchase is subject to certain terms and conditions set forth in such purchase contract, the approval of certain legal matters by counsel and certain other conditions. The Underwriter may offer and sell the 2015 Series A Bonds to certain dealers and others at a price lower than the offering prices stated on the inside cover page hereof. The offering prices may be changed from time to time by the Underwriter.

Wells Fargo Securities is the trade name for certain securities-related capital markets and investment banking services of Wells Fargo & Company and its subsidiaries, including Wells Fargo Bank, National Association.

Wells Fargo Bank, National Association (“WFBNA”), the underwriter of the 2015 Series A Bonds, has entered into an agreement (the “Distribution Agreement”) with its affiliate, Wells Fargo Advisors, LLC (“WFA”), for the distribution of certain municipal securities offerings, including the 2015 Series A Bonds. Pursuant to the Distribution Agreement, WFBNA will share a portion of its underwriting or remarketing agent compensation, as applicable, with respect to the 2015 Series A Bonds with WFA. WFBNA also utilizes the distribution capabilities of its affiliates, Wells Fargo Securities, LLC (“WFSLLC”) and Wells Fargo Institutional Securities, LLC (“WFIS”), for the distribution of municipal securities offerings, including the 2015 Series A Bonds. In connection with utilizing the distribution capabilities of WFSLLC, WFBNA pays a portion of WFSLLC's expenses based on its municipal securities transactions. WFBNA, WFSLLC, WFIS, and WFA are each wholly-owned subsidiaries of Wells Fargo & Company.

FINANCIAL STATEMENTS

Audited Financial Statements of the SFPUC’s Power Enterprise (the “Financial Statements”) for the Fiscal Year ended June 30, 2014 are attached as Appendix B. See **APPENDIX B – SFPUC POWER ENTERPRISE FINANCIAL STATEMENTS**. Such financial statements have been audited by KPMG LLP (the “Auditor”), independent certified public accountants.

The SFPUC has not requested nor did the SFPUC obtain permission from the Auditor to include the audited financial statements as an Appendix to this Official Statement. Accordingly, the Auditor has made no representation in connection with inclusion of the audits herein that there has been no material change in the financial condition of the SFPUC since the most recent audit was concluded. The Auditor has not been engaged to perform and has not performed, since the date of its report included herein, any procedures on the financial statements addressed in that report. The Auditor also has not performed any procedures relating to this Official Statement.

CONTINUING DISCLOSURE

The SFPUC has covenanted for the benefit of the Owners of the 2015 Series A Bonds to provide certain financial information and operating data not later than 270 days after the end of the SFPUC’s Fiscal Year (which currently ends on June 30), commencing with the report for Fiscal Year 2013-14 (the “Annual Report”) and to provide notices of the occurrence of certain enumerated events, if material. The Annual Report will be filed by the SFPUC with the MSRB through EMMA.

The specific nature of the information to be contained in the Annual Report or the notices of material events is summarized in **APPENDIX D – FORM OF CONTINUING DISCLOSURE CERTIFICATE**. These covenants have been made in order to assist the Underwriter in complying with Securities and Exchange Commission Rule 15c2-12(b)(5) (the “Rule”). The SFPUC is not in default with respect to any previous undertaking made with regard to said Rule.

Due to administrative oversight, the SFPUC failed to file through EMMA until June 4, 2013, audited financial statements for the Water Enterprise and Wastewater Enterprise for the Fiscal Year ended June 30, 2012. The balance of the annual reports for such Fiscal Year were filed in a timely manner and the audited financial statements were publicly available prior to the filing deadline. The SFPUC has not otherwise failed to comply in all material respects with its previous undertakings under the Rule within the last five years.

FINANCIAL ADVISORS

Public Financial Management, Inc., San Francisco, California, and Kitahata & Company, San Francisco, California, are acting as financial advisors to the SFPUC with respect to the 2015 Series A Bonds (the “Co-Financial Advisors”). The Co-Financial Advisors have assisted the SFPUC in the preparation of this Official Statement and in other matters relating to the planning, structuring, execution and delivery of the 2015 Series A Bonds. The Co-Financial Advisors have not independently verified any of the data contained herein or conducted a detailed investigation of the affairs of the SFPUC to determine the accuracy or completeness of this Official Statement. Because of its limited participation, the Co-Financial Advisors assume no responsibility for the accuracy or completeness of any of the information contained herein. The Co-Financial Advisors will not purchase or make a market in any of the 2015 Series A Bonds.

A portion of the compensation to be received by the Co-Financial Advisors from the SFPUC for services provided in connection with the planning, structuring, execution and delivery of the 2015 Series A Bonds is contingent upon the sale and delivery of the 2015 Series A Bonds.

MISCELLANEOUS

References made herein to certain documents and reports are brief summaries thereof that do not purport to be complete or definitive, and reference is made to such documents and reports for full and complete statements of the contents thereof.

The appendices to this Official Statement are integral parts of this Official Statement. Investors must read the entire Official Statement, including the appendices, to obtain information essential to making an informed investment decision.

Any statements in this Official Statement involving matters of opinion, whether or not expressly so stated, are intended as such and not as representations of fact. This Official Statement is not to be construed as a contract or agreement between the SFPUC and the purchasers or owners of any of the Bonds. The preparation and distribution of this Official Statement has been authorized by the SFPUC.

APPROVAL AND EXECUTION

The execution and delivery of this Official Statement has been authorized by the Board of Commissioners of the SFPUC.

PUBLIC UTILITIES COMMISSION OF THE CITY AND
COUNTY OF SAN FRANCISCO

By: _____
General Manager

APPENDIX A

SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE

APPENDIX B

SFPUC POWER ENTERPRISE FINANCIAL STATEMENTS

APPENDIX C

PROPOSED FORM OF OPINION OF CO-BOND COUNSEL

APPENDIX D

FORM OF CONTINUING DISCLOSURE CERTIFICATE

§ _____
**Public Utilities Commission
of the
City and County of San Francisco
Power Revenue Bonds,
2015 Series A**

This Continuing Disclosure Certificate (the “Disclosure Certificate”) is executed and delivered by the Public Utilities Commission of the City and County of San Francisco (the “SFPUC”) in connection with the issuance of the power revenue bonds captioned above (the “2015 Series A Bonds”). The 2015 Series A Bonds are being issued pursuant to an authority granted by Sections 9.107(6) and 9.107(8) of the Charter of the City and a First Supplemental Trust Indenture, dated as of March 1, 2015, by and between the SFPUC and _____, as trustee (the “Trustee”), which supplements a Trust Indenture, dated as of March 1, 2015 (collectively, the “Indenture”), by and between the SFPUC and the Trustee.

The SFPUC covenants and agrees as follows:

SECTION 1. Purpose of the Disclosure Certificate. This Disclosure Certificate is being executed and delivered by the SFPUC for the benefit of the Holders and Beneficial Owners of the 2015 Series A Bonds and in order to assist the Participating Underwriter in complying with Securities and Exchange Commission (the “S.E.C.”) Rule 15c2-12(b)(5).

SECTION 2. Definitions. In addition to the definitions set forth in the Indenture, which apply to any capitalized term used in this Disclosure Certificate unless otherwise defined in this Section 2, the following capitalized terms shall have the following meanings:

“Annual Report” shall mean any Annual Report provided by the SFPUC pursuant to, and as described in, Sections 3 and 4 of this Disclosure Certificate.

“Beneficial Owner” shall mean any person that: (a) has or shares the power, directly or indirectly, to make investment decisions concerning ownership of any 2015 Series A Bonds (including persons holding 2015 Series A Bonds through nominees, depositories or other intermediaries) including, but not limited to, the power to vote or consent with respect to any 2015 Series A Bonds or to dispose of ownership of any 2015 Series A Bonds; or (b) is treated as the owner of any 2015 Series A Bonds for federal income tax purposes.

“Dissemination Agent” shall mean the SFPUC, acting in its capacity as Dissemination Agent under this Disclosure Certificate, or any successor Dissemination Agent designated in writing by the SFPUC and which has filed with the SFPUC a written acceptance of such designation.

“Holder” shall mean either the registered owners of the 2015 Series A Bonds, or, if the 2015 Series A Bonds are registered in the name of The Depository Trust Company as its nominee or another recognized depository, any applicable participant in such depository system.

“Listed Events” shall mean any of the events listed in Section 5(a) of this Disclosure Certificate.

“MSRB” shall mean the Municipal Securities Rulemaking Board or any other entity designated or authorized by the Securities and Exchange Commission to receive continuing disclosure filings pursuant to the Rule. Until otherwise designated by the MSRB or the Securities and Exchange Commission, filings with the MSRB are to be made through the Electronic Municipal Market Access (EMMA) website of the MSRB currently located at <http://emma.msrb.org>.

“Official Statement” shall mean the final Official Statement, dated March __, 2015, prepared in connection with the sale and offering of the 2015 Series A Bonds.

“Participating Underwriter” shall mean any of the original underwriters or purchasers of the 2015 Series A Bonds required to comply with the Rule in connection with the offering of the 2015 Series A Bonds.

“Rule” shall mean Rule 15c2-12(b)(5) adopted by the S.E.C. under the Securities Exchange Act of 1934, as the same may be amended from time to time.

SECTION 3. Provision of Annual Reports.

(a) The SFPUC shall, or shall cause the Dissemination Agent to, not later than 270 days after the end of the SFPUC’s fiscal year (which currently ends June 30), commencing March __, 2016 with the report for the 2014-15 Fiscal Year, provide to the MSRB an Annual Report which is consistent with the requirements of Section 4 of this Disclosure Certificate. If the Dissemination Agent is not the SFPUC, the SFPUC shall provide the Annual Report to the Dissemination Agent not later than 15 days prior to said date. The Annual Report must be submitted in electronic format and accompanied by such identifying information as is prescribed by the MSRB, and may cross-reference other information as provided in Section 4 of this Disclosure Certificate. However, if the audited financial statements of the SFPUC are not available by the date required above for the filing of the Annual Report, the SFPUC shall submit unaudited financial statements and submit the audited financial statements as soon as they are available. If the SFPUC’s Fiscal Year changes, it shall give notice of such change in the same manner as for a Listed Event under Section 5(c).

(b) If the SFPUC is unable to provide to the MSRB an Annual Report by the date required in subsection (a), the SFPUC shall send a notice to the MSRB in substantially the form attached as Exhibit A.

(c) The Dissemination Agent shall (if the Dissemination Agent is other than the SFPUC), file a report with the SFPUC certifying the date that the Annual Report was provided to the MSRB pursuant to this Disclosure Certificate.

SECTION 4. Content of Annual Reports. SFPUC’s Annual Report shall contain or incorporate by reference the following information:

(a) the audited general purpose financial statements of the SFPUC’s power enterprise for the prior fiscal year prepared in accordance with generally accepted accounting principles applicable to governmental entities;

(b) an update of the information contained in the following tables:

Any or all of the items listed above may be set forth in a document or set of documents, or may be included by specific reference to other documents, including official statements of debt issues of the SFPUC or related public entities, which are available to the public on the MSRB website. If the document included by reference is a final official statement, it must be available from the MSRB. The SFPUC shall clearly identify each such other document so included by reference.

SECTION 5. Reporting of Significant Events.

(i) The SFPUC shall give, or cause to be given, notice of the occurrence of any of the following events numbered 1-9 with respect to the 2015 Series A Bonds not later than ten business days after the occurrence of the event:

1. Principal and interest payment delinquencies;

2. Unscheduled draws on debt service reserves reflecting financial difficulties;
3. Unscheduled draws on credit enhancements reflecting financial difficulties;
4. Substitution of credit or liquidity providers, or their failure to perform;
5. Issuance by the Internal Revenue Service of proposed or final determination of taxability or of a Notice of Proposed Issue (IRS Form 5701 TEB) or adverse tax opinions;
6. Tender offers;
7. Defeasances;
8. Rating changes; or
9. Bankruptcy, insolvency, receivership or similar event of the obligated person.

Note: for the purposes of the event identified in subparagraph (9), the event is considered to occur when any of the following occur: the appointment of a receiver, fiscal agent or similar officer for an obligated person in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under State or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the obligated person, or if such jurisdiction has been assumed by leaving the existing governmental body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the obligated person.

(ii) The SFPUC shall give, or cause to be given, notice of the occurrence of any of the following events numbered 10-16 with respect to the 2015 Series A Bonds not later than ten business days after the occurrence of the event, if material:

10. Unless described in paragraph 5(a)(5), other material notices or determinations by the Internal Revenue Service with respect to the tax status of the Bonds or other material events affecting the tax status of the 2015 Series A Bonds;
11. Modifications to rights of 2015 Series A Bond holders;
12. Unscheduled or contingent 2015 Series A Bond calls;
13. Release, substitution, or sale of property securing repayment of the 2015 Series A Bonds;
14. Non-payment related defaults;
15. The consummation of a merger, consolidation, or acquisition involving an obligated person or the sale of all or substantially all of the assets of the obligated person, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant - to its terms; or
16. Appointment of a successor or additional trustee or the change of name of a trustee.

(iii) The SFPUC shall give, or cause to be given, in a timely manner, notice of a failure to provide the annual financial information on or before the date specified in Section 3, as provided in Section 3(b).

(iv) Whenever the SFPUC obtains knowledge of the occurrence of a Listed Event described in Section 5(b), the SFPUC shall determine if such event would be material under applicable federal securities laws.

(v) If the SFPUC learns of the occurrence of a Listed Event described in Section 5(a), or determines that knowledge of a Listed Event described in Section 5(b) would be material under applicable federal securities laws, the SFPUC shall within ten business days of occurrence file a notice of such occurrence with the MSRB in electronic format, accompanied by such identifying information as is prescribed by the MSRB. Notwithstanding the foregoing, notice of the Listed Event described in subsection 5(b)(12) need not be given under this subsection any earlier than the notice (if any) of the underlying event is given to Holders of affected 2015 Series A Bonds pursuant to the Indenture.

SECTION 6. Termination of Reporting Obligation. The SFPUC's obligations under this Disclosure Certificate shall terminate upon the legal defeasance, prior redemption or payment in full of all of the 2015 Series A Bonds. If such termination occurs prior to the final maturity of the 2015 Series A Bonds, the SFPUC shall give notice of such termination in the same manner as for a Listed Event under Section 5(c).

SECTION 7. Dissemination Agent. The SFPUC may, from time to time, appoint or engage a Dissemination Agent to assist it in carrying out its obligations under this Disclosure Certificate, and may discharge any such Dissemination Agent, with or without appointing a successor Dissemination Agent. The Dissemination Agent shall have only such duties as are specifically set forth in this Disclosure Certificate.

SECTION 8. Amendment; Waiver. Notwithstanding any other provision of this Disclosure Certificate, the SFPUC may amend or waive this Disclosure Certificate or any provision of this Disclosure Certificate, provided that the following conditions are satisfied:

(a) If the amendment or waiver relates to the provisions of Sections 3(a), 3(b), 4 or 5(a), it may only be made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature or status of an obligated person with respect to the 2015 Series A Bonds or the type of business conducted;

(b) The undertaking, as amended or taking into account such waiver, would, in the opinion of the City Attorney of the City and County of San Francisco or nationally recognized bond counsel, have complied with the requirements of the Rule at the time of the original issuance of the 2015 Series A Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

(c) The amendment or waiver either (i) is approved by the owners of a majority in aggregate principal amount of the 2015 Series A Bonds or (ii) does not, in the opinion of the City Attorney or nationally recognized bond counsel, materially impair the interests of the Holders.

In the event of any amendment or waiver of a provision of this Disclosure Certificate, the SFPUC shall describe such amendment in the next Annual Report, and shall include, as applicable, a narrative explanation of the reason for the amendment or waiver and its impact on the type (or in the case of a change of accounting principles, on the presentation) of financial information or operating data being presented by the SFPUC. In addition, if the amendment relates to the accounting principles to be followed in preparing financial statements: (i) notice of such change shall be given in the same manner as for a Listed Event under Section 5; and (ii) the Annual Report for the year in which the change is made should present a comparison (in narrative form and also, if feasible, in quantitative form) between the financial statements as prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles.

SECTION 9. Additional Information. Nothing in this Disclosure Certificate shall be deemed to prevent the SFPUC from disseminating any other information, using the means of dissemination set forth in this Disclosure Certificate or any other means of communication, or including any other information in any Annual Report or notice of occurrence of a Listed Event, in addition to that which is required by this Disclosure Certificate. If the SFPUC chooses to include any information in any Annual Report or notice of occurrence of a Listed Event in addition to that which is specifically required by this Disclosure Certificate, the SFPUC shall have no obligation under this Disclosure Certificate to update such information or include it in any future Annual Report or notice of occurrence of a Listed Event.

SECTION 10. Default. In the event of a failure of the SFPUC to comply with any provision of this Disclosure Certificate, any Participating Underwriter, Holder or Beneficial Owner of the 2015 Series A Bonds may take such actions as may be necessary and appropriate, including seeking mandate or specific performance by court order, to cause the SFPUC to comply with its obligations under this Disclosure Certificate; provided that any such action may be instituted only in a federal or State court located in the City and County of San Francisco, State of California. Failure by the SFPUC to comply with any provision of this Disclosure Certificate shall not be deemed an Event of Default under the Indenture and the sole remedy under this Disclosure Certificate in the event of any failure of the SFPUC to comply with this Disclosure Certificate shall be an action to compel performance.

SECTION 11. Beneficiaries. This Disclosure Certificate shall inure solely to the benefit of the SFPUC, the Dissemination Agent, the Participating Underwriter and Holders and Beneficial Owners from time to time of the 2015 Series A Bonds, and shall create no rights in any other person or entity.

Date: _____, 2015.

PUBLIC UTILITIES COMMISSION OF THE
CITY AND COUNTY OF SAN FRANCISCO

By _____
Harlan L. Kelly, Jr.
General Manager

Approved as to Form:

DENNIS J. HERRERA
CITY ATTORNEY

By: _____
Deputy City Attorney

CONTINUING DISCLOSURE CERTIFICATE EXHIBIT A

**FORM OF NOTICE TO THE
MUNICIPAL SECURITIES RULEMAKING BOARD
OF FAILURE TO FILE ANNUAL REPORT**

Name of Issuer: PUBLIC UTILITIES COMMISSION OF THE
CITY AND COUNTY OF SAN FRANCISCO

Name of Issue: PUBLIC UTILITIES COMMISSION OF THE
CITY AND COUNTY OF SAN FRANCISCO
SAN FRANCISCO POWER REVENUE BONDS,
2015 SERIES A

Date of Issuance: _____, 2015

NOTICE IS HEREBY GIVEN that the SFPUC has not provided an Annual Report with respect to the above-named Bonds as required by Section 3 of the Continuing Disclosure Certificate of the Public Utilities Commission of the City and County of San Francisco, dated _____, 2015. The SFPUC anticipates that the Annual Report will be filed by _____.

Dated: _____, 2015

PUBLIC UTILITIES COMMISSION OF THE CITY AND
COUNTY OF SAN FRANCISCO

By: _____ [to be signed only if filed]
Title _____

APPENDIX E

SECURITIES DEPOSITORY AND THE BOOK-ENTRY SYSTEM

The information in this **APPENDIX E** has been provided by DTC for use in securities offering documents, and the SFPUC takes no responsibility for the accuracy or completeness thereof. The SFPUC cannot and does not give any assurances that DTC, DTC Participants or Indirect Participants will distribute to the beneficial owners either (a) payments of interest, principal or premium, if any, with respect to the Bonds or (b) certificates representing ownership interest in or other confirmation of ownership interest in the Bonds, or that they will so do on a timely basis or that DTC, DTC Participants or DTC Indirect Participants will act in the manner described in this Official Statement. The current “Rules” applicable to DTC are on file with the Securities and Exchange Commission and the current “Procedures” of DTC to be followed in dealing with DTC Participants are on file with DTC.

As used in this Appendix, “Securities” means the 2015 Series A Bonds, “Issuer” means the SFPUC, and “Agent” means the Trustee.

1. The Depository Trust Company (“DTC”), New York, NY, will act as securities depository for the securities (the “Securities”). The Securities 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 certificate will be issued for each issue of the Securities, each in the aggregate principal amount of such issue, and will be deposited with DTC. If, however, the aggregate principal amount of any issue exceeds \$500 million, one certificate will be issued with respect to each \$500 million of principal amount, and an additional certificate will be issued with respect to any remaining principal amount of such issue.

2. 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 its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com. The information contained on this Internet site is not incorporated herein by reference.

3. Purchases of Securities under the DTC system must be made by or through Direct Participants, which will receive a credit for the Securities on DTC’s records. The ownership interest of each actual purchaser of each Security (“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 Securities 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 Securities, except in the event that use of the book-entry system for the Securities is discontinued.

4. To facilitate subsequent transfers, all Securities 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 Securities 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 Securities; DTC's records reflect only the identity of the Direct Participants to whose accounts such Securities 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.

5. 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 Securities may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Securities, such as redemptions, tenders, defaults, and proposed amendments to the Security documents. For example, Beneficial Owners of Securities may wish to ascertain that the nominee holding the Securities 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 registrar and request that copies of notices be provided directly to them.

6. Redemption notices shall be sent to DTC. If less than all of the Securities within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

7. Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to Securities unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to Issuer 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 Securities are credited on the record date (identified in a listing attached to the Omnibus Proxy).

8. Redemption proceeds, distributions, and dividend payments on the Securities 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 Issuer or Agent, on payable date in accordance with their respective holdings shown on DTC's records. Payments by 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, Agent, or Issuer, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds, distributions, and dividend payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of Issuer or Agent, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

9. DTC may discontinue providing its services as depository with respect to the Securities at any time by giving reasonable notice to Issuer or Agent. Under such circumstances, in the event that a successor depository is not obtained, Security certificates are required to be printed and delivered.

10. Issuer may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, Security certificates will be printed and delivered to DTC.

11. The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that Issuer believes to be reliable, but Issuer takes no responsibility for the accuracy thereof.