



San Francisco  
Water Power Sewer

Services of the San Francisco Public Utilities Commission

525 Golden Gate Avenue, 4th Floor  
San Francisco, CA 94102

February 3, 2023

Angela Calvillo  
Clerk of the Board  
1 Dr. Carlton B. Goodlett Place  
City Hall, Room 244  
San Francisco, CA 94102-4689

Dear Ms. Calvillo,

Please see the enclosed Certificates as required under 2002 Proposition E related to the following authorizing legislation:

- Power Enterprise: File No. 220499 and Board of Supervisors Ordinance No. 109-22

Should you have any questions, please do not hesitate to contact me.

Sincerely,

Nikolai J. Sklaroff  
Capital Finance Director  
San Francisco Public Utilities Commission  
Office: (415) 551-2973

**London N. Breed**  
Mayor

**Newsha K. Ajami**  
President

**Sophie Maxwell**  
Vice President

**Tim Paulson**  
Commissioner

**Anthony Rivera**  
Commissioner

**Kate H. Stacy**  
Commissioner

**Dennis J. Herrera**  
General Manager

**OUR MISSION:** To provide our customers with high-quality, efficient and reliable water, power and sewer services in a manner that values environmental and community interests and sustains the resources entrusted to our care.





**Certificate of City and County of San Francisco Planning Department Regarding Proposed  
Sale of Power Revenue Bonds and Other Forms of Indebtedness in an amount not to exceed \$140,889,875 for  
Capital Projects budgeted in Fiscal Year 2022-23**

I, Lisa M. Gibson, Environmental Review Officer of the Planning Department of the City and County of San Francisco (the Planning Department), hereby certify as follows:

1. As the Environmental Review Officer (ERO) of the Planning Department, I am authorized to certify as to the compliance of the San Francisco Public Utilities Commission (SFPUC) with applicable requirements of the California Environmental Quality Act (CEQA).
2. After consultation with the SFPUC, I understand that the SFPUC proposes to sell Power Revenue Bonds and Other Forms of Indebtedness. The improvements proposed for financing include those projects described in the following document, attached to this Certificate as Exhibit A.
3. I understand that Section 8B.124 of the City Charter grants authority to the City's Board of Supervisors to approve the issuance of indebtedness, including revenue bonds, by ordinance upon two-thirds vote of its members and under certain conditions. The ordinance relating to the Bonds is attached hereto as Exhibit B (the Ordinance).
4. I understand that one of the conditions to the Board of Supervisor's authorization of such indebtedness is the delivery of a certificate of the Planning Department regarding the additional projects to be financed.
5. The San Francisco Planning Commission certifies Environmental Impact Reports as they are completed pursuant to CEQA. In addition, the Planning Department approves Initial Study/Mitigated Negative Declarations, and the ERO approves Categorical Exemptions.
6. Based on a preliminary review of the additional Projects and discussions with the SFPUC regarding the requirements for undertaking such additional Projects, I certify that the Projects under the jurisdiction of the SFPUC to be funded with proceeds of the Bonds, as described in the Ordinance, (a) are not considered to be projects under CEQA, (b) are projects under CEQA and a CEQA determination has already been issued, or (c) are projects under CEQA and will undergo CEQA review prior to approval. Pursuant to the provisions of Chapter 31 of the San Francisco Administrative Code, any additional Project to be financed will comply with applicable requirements of CEQA prior to any draw on the Revenue Bonds funds to finance the acquisition or construction of such facilities.

In witness whereof, the undersigned has executed this certification as of this 2nd day of August, 2022.

Lisa M. Gibson  
Environmental Review Officer

EXHIBIT A  
POWER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS  
FY 2022-2023 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number	Project Title	CEQA Compliance
Hetch Hetchy Capital Improvement	TBD	Moccasin Switchyard Rehabilitation	The project scope is currently being defined; environmental review will proceed once the project scope has been identified
Hetch Hetchy Capital Improvement	CUH102 N01	R&R Water Conveyance Life Extension (Power)	The project scope is currently being defined; environmental review will proceed once the project scope has been identified
Hetch Hetchy Capital Improvement	10037352	Priest Condition Assessment and Monitoring Project	The project scope is currently being defined; environmental review will proceed once the project scope has been identified.
Hetch Hetchy Capital Improvement	10036810	Kirkwood Powerhouse Bypass Upgrades	The project scope is currently being defined; environmental review will proceed once the project scope has been identified
Hetch Hetchy Capital Improvement	10036809	Moccasin Powerhouse Bypass Upgrades	The project scope is currently being defined; environmental review will proceed once the project scope has been identified.
Hetch Hetchy Capital Improvement	10036265	R&R Power Transmission Life Extension Program	The Reliable Power Project Final Mitigated Negative Declaration (MND) was issued on March 21, 2019 (Case No. 2016-006868ENV).
Hetch Hetchy Capital Improvement	10035721	Transmission Lines 7/8 Upgrades	An Addendum to the San Joaquin Pipeline Rehabilitation Project MND was issued on November 10, 2021 (Case No. 2007.1129E; Case No. 2020-007415ENV)
Hetch Hetchy Capital Improvement	10036104	R&R Powerhouse	A Categorical Exemption determination was issued on January 14, 2022 (Case No. 2021-0123319ENV) for the Moccasin Low Head Powerhouse Repairs Project.  Future projects under this program will undergo CEQA review prior to approval.
Hetch Hetchy Capital Improvement	10014086	Moccasin Powerhouse and GSU Rehabilitation	A Categorical Exemption determination was issued on August 4, 2014 (Case No. 2014.1184E) for Phase 1 Generator Rehabilitation and Phase 2 - GSU Replacement.  The project scope for Phase 3 (Power Plant Systems Upgrades) is currently being defined; environmental review will proceed once the project scope has been identified.

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POWER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS  
FY 2022-2023 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number	Project Title	CEQA Compliance
Hetch Hetchy Capital Improvement	10014087	Warnerville Substation Rehabilitation Project	A Categorical Exemption determination was issued on March 31, 2016 (Case No. 2016-004225ENV) for Phase 1.  The project scope for Phase 2 is currently being defined; environmental review will proceed once the project scope has been identified.
Hetch Hetchy Capital Improvement	10014091	EI Switchyard Slope Hazard Mitigation	A Categorical Exemption determination was issued on December 19, 2017 (Case No. 2017-015850ENV).
Hetch Hetchy Capital Improvement	10014089	R&R Transmission Lines Clearance Mitigation	The Reliable Power Project Final Mitigated Negative Declaration (MND) was issued on March 21, 2019 (Case No. 2016-006868ENV).
Hetch Hetchy Capital Improvement	10014092	Project Development Account	The individual projects are projects under CEQA and will undergo CEQA review prior to approval
Hetch Hetchy Capital Improvement	TBD	Cherry-Eleanor Pumps	The project scope is currently being defined; environmental review will proceed once the project scope has been identified.
Hetch Hetchy Capital Improvement	TBD	Holm Bridge Rehabilitation	The project scope is currently being defined; environmental review will proceed once the project scope has been identified.
Hetch Hetchy Capital Improvement	TBD	R&R Power Distribution Line High Risk Fire Reduction	The individual projects will undergo CEQA review prior to approval.
Hetch Hetchy Capital Improvement	HHW N02	Wildfire Mitigation (Power)	The project scope is currently being defined; environmental review will proceed once the project scope has been identified.
Hetch Hetchy Capital Improvement	10033822 10033821	UH Distribution Services Retail	SFO Substation Improvements The project scope is currently being defined; environmental review will proceed once the project scope has been identified. Intervening Facilities – Future projects under this program will undergo CEQA review prior to approval.

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POWER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS  
FY 2022-2023 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number	Project Title	CEQA Compliance
			<p>Affordable Housing Transmission and Distribution. The project scope is currently being defined; environmental review will proceed once the project scope has been identified.</p> <p>Grid Connections The project scope is currently being defined; environmental review will proceed once the project scope has been identified.</p>
Hetch Hetchy Capital Improvement	10014325 10014324 10014326 10014327 10014328	UH Streetlight Replacement	<p>10014325 HHP-Pedestrian Lighting Project The project scope is currently being defined; environmental review will proceed once the project scope has been identified.</p> <p>10014324 HHP-Holiday and Festivity Pole Use The project scope is currently being defined; environmental review will proceed once the project scope has been identified.</p> <p>10014326 HHP-Street and Pedestrian Light Pole Assessment The project scope is currently being defined; environmental review will proceed once the project scope has been identified.</p> <p>10014327 HHP-Streetlights Pole Rehabilitation Several projects are included: Categorical Exemption determinations were issued on March 7, 2016 (Case No 2016-000632ENV), on October 5, 2015 (Case No 2015-013285ENV), on September 22, 2015 (Case No 2015-012305ENV), on June 15, 2015 (Case No 2015-007519ENV), and on October 5, 2015 (Case No 2015-012965ENV).</p> <p>10014328 Distributed Antenna Services A Certificate of Appropriateness was issued on August 6, 2021 (Case No. 2021-0004233COA).</p>
Hetch Hetchy Capital Improvement	15391	UH Treasure Island Capital Imp	<p>New Underground 12 kV Distribution System - TI&amp;YBI The Planning Commission certified the Treasure Island and Yerba Buena Island Redevelopment Plan Final Environmental Impact Report (EIR) on April 21, 2011 (Case No 2007.0903E).</p>
Hetch Hetchy Capital Improvement	10014646	UH Renewable- generation - Small	<p>Renewable/Generation - Small Renewables; Feasibility and project development only. This is not a project under CEQA §15378.</p>

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FY 2022-2023 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number	Project Title	CEQA Compliance
Hetch Hetchy Capital Improvement	10014665	UH Hetchy Cap and Trade Allowance	Energy Efficiency General Fund; Feasibility and project development only. This is not a project under CEQA §15378.
Hetch Hetchy Capital Improvement	10034512	UH Alternative Transmission Project/ PG&E Power Asset Acquisition	Environmental review is underway (Case No. 2019-017272ENV).
		Joint Projects	<p>Joint Water/Power Projects (also listed with the Water Enterprise Capital Improvement Projects)</p> <p>CUWTBD/10037306; Early Intake Dam Interim Improvement – The project scope is currently being defined; environmental review will proceed once the project scope has been identified.</p> <p>CUWTBD/TBD; Early Intake Dam-Long term – The project scope is currently being defined; environmental review will proceed once the project scope has been identified.</p> <p>CUWTBD/10014095; R&amp;R Hetch Hetchy Facilities The project scope is currently being defined; environmental review will proceed once the project scope has been identified.</p> <p>CUWTBD/10014096; R&amp;R Dam/Reservoir Cond Assmt &amp; Rehab (Joint) Future projects under this program will undergo CEQA review prior to approval.</p> <p>10014102; R&amp;R Road &amp; Bridge Improvements Future projects under this program will undergo CEQA review prior to approval.</p> <p>10014104; R&amp;R Facilities Security Project The project scope is currently being defined; environmental review will proceed once the project scope has been identified.</p> <p>10014106; R&amp;R Communications Systems Upgrades The project scope is currently being defined; environmental review will proceed once the project scope has been identified.</p> <p>CUWTBD/10014110; Moccasin Wastewater Treatment Plant The project scope is currently being defined; environmental review will proceed once the project scope has been identified.</p> <p>CUWTBD/10014115; Cherry Dam Spillway - Short Term Improvements</p>

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POWER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS  
FY 2022-2023 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number	Project Title	CEQA Compliance
			<p>The project scope is currently being defined; environmental review will proceed once the project scope has been identified.  CUH102-PD/10014116; Joint Project Development</p> <p>The individual projects are projects under CEQA and will undergo CEQA review prior to approval  CUWTBD/10030759; Eleanor Dam Rehabilitation –</p> <p>The project scope is currently being defined; environmental review will proceed once the project scope has been identified.  R&amp;R Power Distribution Improvements</p> <p>Future projects under this program will undergo CEQA review prior to approval.  10037077; Moccasin Old Powerhouse Hazard Mitigation</p> <p>The project scope is currently being defined; environmental review will proceed once the project scope has been identified.  CUH10116/10014088; Moccasin Penstocks Rehabilitation</p> <p>A Categorical Exemption determination was issued on April 3, 2017 (Case No 201-004072ENV).  10037351; Moccasin Dam Long Term Improvement –</p> <p>The project scope is currently being defined; environmental review will proceed once the project scope has been identified.  10037305; R&amp;R HH Reservoir Boat Ramp &amp; Access Improvement –</p> <p>The project scope is currently being defined; environmental review will proceed once the project scope has been identified.  10032903; O'Shaughnessy Dam Outlet Works Phase 1 –</p> <p>The project scope is currently being defined; environmental review will proceed once the project scope has been identified.  CUH102 N02; Moccasin Engineering and Records Building</p> <p>The project scope is currently being defined; environmental review will proceed once the project scope has been identified.  CUH102 N01; HHW-R&amp;R Water Conveyance Life Extension (Joint)</p> <p>The project scope is currently being defined; environmental review will proceed once the project scope has been identified.  HHW N01; Wildfire Mitigation</p> <p>The project scope is currently being defined; environmental review will proceed once</p>

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POWER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS  
FY 2022-2023 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number	Project Title	CEQA Compliance
			the project scope has been identified.



1 [SFPUC Power Revenue Bond Issuance - Various Capital Projects Benefitting the Power  
2 Enterprise - Not to Exceed \$140,889,875]

3 **Ordinance authorizing the issuance and sale of tax-exempt or taxable Power Revenue**  
4 **Bonds and other forms of indebtedness (as described below) by the San Francisco**  
5 **Public Utilities Commission (SFPUC) (“Commission”) in an aggregate principal amount**  
6 **not to exceed \$140,889,875 to finance the costs of various capital projects benefitting**  
7 **the Power Enterprise under the Charter, including amendments to the Charter enacted**  
8 **by the voters on June 5, 2018, commonly referred to as Proposition A; authorizing the**  
9 **issuance of Power Revenue Refunding Bonds; declaring the Official Intent of the**  
10 **Commission to Reimburse Itself with one or more issues of tax-exempt or taxable**  
11 **bonds or other forms of indebtedness; and ratifying previous actions taken in**  
12 **connection therewith, as defined herein.**

13 **NOTE:** **Unchanged Code text and uncodified text** are in plain Arial font.  
14 **Additions to Codes** are in *single-underline italics Times New Roman font*.  
15 **Deletions to Codes** are in ~~*strikethrough italics Times New Roman font*~~.  
16 **Board amendment additions** are in double-underlined Arial font.  
17 **Board amendment deletions** are in ~~strikethrough Arial font~~.  
18 **Asterisks (\* \* \* \*)** indicate the omission of unchanged Code  
19 subsections or parts of tables.

20 Be it ordained by the People of the City and County of San Francisco:

21 Section 1. Findings. The Board of Supervisors (“Board”) of the City hereby finds  
22 and declares as follows:

23 A. On June 5, 2018, the voters of the City and County of San Francisco (“City”)  
24 approved Proposition A (“Proposition A”), which among other things, authorized the  
25 Commission to issue revenue bonds, including notes, commercial paper or other forms of

1 indebtedness, when authorized by ordinance approved by a two-thirds vote of the Board of  
2 Supervisors, for the purpose of reconstructing, replacing, expanding, repairing or improving  
3 water facilities, clean water facilities or power facilities or combinations of water, clean water  
4 facilities and power facilities under the jurisdiction of the Commission, or for any lawful  
5 purpose of the water, clean water and power facilities; and

6 B. The Commission adopted the Indenture dated as of May 1, 2015, as further  
7 amended and supplemented from time to time ("Indenture"), between the Commission and U.  
8 S. Bank National Association and in connection therewith, has from time to time issued power  
9 revenue bonds to finance projects benefitting the Power Enterprise; and

10 C. By Resolution 22-0030, adopted by the Commission on February 8, 2022  
11 ("Commission Resolution") the Commission has determined to issue Power Revenue Bonds  
12 ("Power Revenue Bonds") and other forms of indebtedness (including without limitation state  
13 and federal loan programs as described below), as well as interim funding vehicles such as  
14 commercial paper, revolving credit agreements, bond anticipation notes or other forms of  
15 notes, which interim funding vehicles will be issued in advance of being paid off by either  
16 Power Revenue Bonds and other forms of indebtedness (including without limitation state and  
17 federal loan programs) to finance the costs of various capital projects benefitting the Power  
18 Enterprise (the "Capital Improvement Projects" such projects being more fully described in the  
19 Commission Resolution), pursuant to Proposition A, and has formally requested this Board to  
20 authorize the issuance and sale of Power Revenue Bonds and other forms of indebtedness  
21 for such purposes, such Commission Resolution being on file with the Clerk of the Board in  
22 File No. 220499; and

23 D. In order to finance the costs of the Capital Improvement Projects, the Board now  
24 desires to authorize the issuance and sale of Power Revenue Bonds and other forms of  
25 indebtedness, as described above, for such purposes, including obtaining SRF Loans and/or

1 grants from the State Water Resources Control Board, or other loans under other federal loan  
2 programs;

3 E. This Board, on behalf of the Commission, adopts this Ordinance as official  
4 action of the Commission in order to comply with Treasury Regulation §1.150-2 and any other  
5 regulations of the Internal Revenue Service relating to the qualification for reimbursement of  
6 Commission expenditures incurred prior to the date of issue of the Power Revenue Bonds and  
7 other forms of indebtedness (including, without limitation and for illustrative purposes only,  
8 SRF Loans, commercial paper, revolving credit agreements, and bond anticipation notes).

9 Section 2. Authorization to Issue Power Revenue Bonds and other forms of  
10 indebtedness. The Board hereby authorize the issuance and sale of taxable or tax-exempt  
11 Power Revenue Bonds in one or more series from time to time by the Commission pursuant  
12 the Charter, including Proposition A, in an aggregate principal amount not to exceed  
13 \$140,889,875 (inclusive of financing costs), at a maximum rate or rates of interest of not to  
14 exceed twelve percent (12%) per annum to finance a portion of the costs of the design,  
15 acquisition and construction of the Capital Improvement Projects.

16 Section 3. Authorization to Issue Power Revenue Refunding Bonds; Commercial  
17 Paper Retirement. The Board further authorizes and approves the issuance by the  
18 Commission of Power Revenue Refunding Bonds ("Refunding Bonds") without limitation as to  
19 principal amount, in one or more series on one or more dates, at a maximum interest rate or  
20 rates of interest not to exceed twelve percent (12%) per annum, provided that each such  
21 Refunding Bond issue is permitted under the applicable policies and procedures of the City  
22 and authorized by Section 9.109 of the Charter (including related ordinances and resolutions  
23 of the Board). The Refunding Bonds may be issued as taxable or tax-exempt obligations, or  
24 any combination thereof. Refunding Bonds s authorized hereunder shall be subject to the  
25 further following conditions, that: (i) three percent (3%) net present value debt service savings

1 or greater is achieved to ensure ratepayer savings (exclusive of any issuance to refund  
2 commercial paper, revolving credit notes, or bond anticipation notes); (ii) that the maturity of  
3 the refunded bonds is not extended; (iii) this authorization is subject to a 5-year term through  
4 June 30, 2027, at which time this Board may consider an extension; principal payments and  
5 term may be adjusted, where permitted under federal and state tax law, only if and when the  
6 underlying capital asset funded through said refunded bonds has a useful life not in excess of  
7 any limit permitted under federal and state tax law than the refunded term; and (iv) the  
8 Commission shall within 30 days of any executed refunding transaction provide a refunding  
9 savings report ("Bond Refunding Savings Report") prepared by its financial advisors (that  
10 reflects at least a three percent (3%) net present value debt service savings) to the Board for  
11 inclusion in Board File No. 220499, together with a copy of the final Official Statement (if any)  
12 with respect to such series of Refunding Bonds, provided that the failure to deliver such Bond  
13 Refunding Savings Report shall in no way affect the validity of any Refunding Bonds.

14 Notwithstanding the foregoing, the Commission is authorized to issue Refunding Bonds for  
15 non-economic factors, including by way of illustration, eliminating onerous covenants and  
16 obsolete provisions contained in the Commission's indenture or other security documents.

17 The Commission shall request a waiver of the savings requirement for any Refunding Bonds  
18 issued for non-economic reasons. In furtherance of the purpose of managing the Commission  
19 outstanding indebtedness, the General Manager is hereby authorized and directed, in  
20 consultation the City Attorney, from Available Power Enterprise Revenues to retire  
21 outstanding Power Enterprise Commercial Paper at such times and in such amounts  
22 advantageous to the Commission.

23 Section 4. Declaration of Official Intent. The Board, on behalf of the Commission,  
24 hereby declares the official intent of the Commission to reimburse the Commission with  
25 proceeds of the Power Revenue Bonds or other forms of indebtedness (including SRF Loans

1 or other federal loans, commercial paper, revolving credit notes, or bond anticipation notes)  
2 for the Expenditures with respect to the Capital Improvement Projects made on and after a  
3 date that is no more than 60 days prior to the adoption of this Ordinance. The Commission  
4 reasonably expects on the date hereof that it will reimburse the Expenditures with proceeds of  
5 the Power Revenue Bonds or other forms of indebtedness (including, without limitation and for  
6 illustrative purposes only, SRF Loans, commercial paper, revolving credit notes or bond  
7 anticipation notes). Each said Expenditure was and will be either (A) of a type properly  
8 chargeable to a capital account under general federal income tax principles (determined in  
9 each case as of the date of the Expenditure), (B) a cost of issuance with respect to such  
10 obligations, (C) a nonrecurring item that is not customarily payable from current revenues, or  
11 (D) a grant to pay a party that is not related to or an agent of the issuer so long as such grant  
12 does not impose any obligation or condition (directly or indirectly) to repay any amount to or  
13 for the benefit of the Commission. The Commission will make a reimbursement allocation,  
14 which is a written allocation by the Issuer that evidences the Commission's use of proceeds of  
15 the Power Revenue Bonds or other forms of indebtedness to reimburse an Expenditure, no  
16 later than 18 months after the later of the date on which the Expenditure is paid or the  
17 component of the Capital Improvement Projects is placed in service or abandoned, but in no  
18 event more than three years after the date on which the Expenditure is paid. The  
19 Commission recognizes that exceptions are available for certain "preliminary expenditures,"  
20 costs of issuance, certain de minimis amounts, expenditures by "small issuers" (based on the  
21 year of issuance and not the year of expenditure) and expenditures for construction projects  
22 of at least 5 years.

23 Section 5. General Authority. The Controller, Treasurer, the City Attorney and other  
24 officers of the City and their duly authorized deputies and agents are hereby authorized and  
25 directed, jointly and severally, to take such actions and to execute and deliver such

1 certificates, agreements, requests or other documents, as they may deem necessary or  
2 desirable to facilitate the issuance, sale and delivery of the Power Revenue Bonds, Refunding  
3 Bonds, to obtain bond insurance or other credit enhancements with respect to such  
4 obligations, to obtain surety, to obtain title and other insurance with respect to the facilities to  
5 be financed, and otherwise to carry out the provisions of this Ordinance. The Commission is  
6 hereby directed to provide the final form to the Clerk of the Board of any disclosure document  
7 prepared in connection with the execution of any Power Revenue Bonds or Refunding Bonds,  
8 and the final executed Installment Sale Agreement or other document reflecting the  
9 incurrence of an SRF Loan or loan under eligible federal program, within 30 days of the  
10 closing of such transactions.

11 Section 6. Ratification of Prior Actions. All actions authorized and directed by this  
12 Ordinance in connection with the issuance of the Power Revenue Bonds or other forms of  
13 indebtedness, Refunding Bonds, and heretofore taken are hereby ratified, approved and  
14 confirmed by this Board.

15 Section 7. File Documents. All documents referred to as on file with the Clerk of the  
16 Board are in File Nos. 220499.

17 Section 8. Effective Date. Pursuant to Charter Section 8B.124, this Ordinance shall  
18 take effect thirty (30) days after its adoption.

19  
20 APPROVED AS TO FORM:  
21 DAVID CHIU, City Attorney

22  
23 By: /s/ Mark D. Blake  
24 Mark D. Blake  
25 Deputy City Attorney  
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# City and County of San Francisco

## Tails Ordinance

City Hall  
1 Dr. Carlton B. Goodlett Place  
San Francisco, CA 94102-4689

**File Number:** 220499

**Date Passed:** June 14, 2022

Ordinance authorizing the issuance and sale of tax-exempt or taxable Power Revenue Bonds and other forms of indebtedness (as described below) by the San Francisco Public Utilities Commission (SFPUC) ("Commission") in an aggregate principal amount not to exceed \$140,889,875 to finance the costs of various capital projects benefitting the Power Enterprise under the Charter, including amendments to the Charter enacted by the voters on June 5, 2018, commonly referred to as Proposition A; authorizing the issuance of Power Revenue Refunding Bonds; declaring the Official Intent of the Commission to Reimburse Itself with one or more issues of tax-exempt or taxable bonds or other forms of indebtedness; and ratifying previous actions taken in connection therewith, as defined herein.

May 25, 2022 Budget and Appropriations Committee - AMENDED, AN AMENDMENT OF THE WHOLE BEARING SAME TITLE

May 25, 2022 Budget and Appropriations Committee - RECOMMENDED AS AMENDED

June 07, 2022 Board of Supervisors - PASSED ON FIRST READING


Ayes: 11 - Chan, Dorsey, Mandelman, Mar, Melgar, Peskin, Preston, Ronen, Safai, Stefani and Walton


June 14, 2022 Board of Supervisors - FINALLY PASSED


Ayes: 10 - Chan, Dorsey, Mandelman, Mar, Melgar, Peskin, Preston, Ronen, Safai and Walton  
Excused: 1 - Stefani

File No. 220499

I hereby certify that the foregoing  
Ordinance was FINALLY PASSED on  
6/14/2022 by the Board of Supervisors of  
the City and County of San Francisco.

  
\_\_\_\_\_  
Angela Calvillo  
Clerk of the Board

  
\_\_\_\_\_  
London N. Breed  
Mayor

  
\_\_\_\_\_  
Date Approved





**Stantec Consulting Services Inc.**  
1340 Treat Blvd, Suite 300, Walnut Creek, CA 94597

**Certificate of the Consulting Engineers  
in connection with Section 8B.124 of the Charter of the City and County of San Francisco and  
the Indenture of the San Francisco Public Utilities Commission (SFPUC)  
authorizing the Sale of Revenue Bonds and / or Other Forms of Indebtedness, including  
Commercial Paper**

This Certificate has been prepared by Stantec Consulting Services, Inc., (Stantec), an independent consulting firm, at the request of the San Francisco Public Utilities Commission (SFPUC) in connection with the issuance by the SFPUC of its Revenue Bonds and/or other forms of Indebtedness, including Commercial Paper and State and Federal loans.

The City of San Francisco's Public Utilities Commission (PUC) Power Enterprise (PE) manages bond-funded capital projects. Section 8B.124 of the City Charter requires:

...the Board of Supervisors may take any and all actions necessary to authorize, issue and repay such bonds, including, but not limited to, modifying schedules of rates and charges to provide for the payment and retirement of such bonds, subject to the following conditions:

- (a) Certification by an independent engineer retained by the Public Utilities Commission that:
  - (1) the projects to be financed by the bonds, including the prioritization, cost estimates and scheduling, meet utility standards.

This review was performed for Hetch Hetchy Water and Power to provide the required independent evaluation to comply with the City Charter and to access bond issuances for the following capital projects:

- TBD - Moccasin Switchyard Rehabilitation
- CUH102 N01 - R&R Water Conveyance Life Extension (Power)
- 10037352 - Priest Condition Assessment and Monitoring Project
- 10036810 - Kirkwood Powerhouse Bypass Upgrades
- 10036809 - Moccasin Powerhouse Bypass Upgrades
- 10036265 - R&R Power Transmission Life Extension Program
- 10035721 - Transmission Lines 7/8 Upgrades
- 10036104 - R&R Powerhouse
- 10014086 - Moccasin Powerhouse and GSU Rehabilitation
- 10014087 Warnerville Substation Rehabilitation Project
- 10014091 EI Switchyard Slope Hazard Mitigation
- 10014089 R&R Transmission Lines Clearance Mitigation
- 10014092 Project Development Account
- TBD - Cherry-Eleanor Pumps
- TBD - Holm Bridge Rehabilitation
- TBD - R&R Power Distribution Line High Risk Fire Reduction
- HHW N02 - Wildfire Mitigation (Power)
- 10033822/10033821 - UH Distribution Services Retail

**Reference: Engineer's Certificate for Bond Financed Project**

- 10014325 - HHP-Pedestrian Lighting Project
- 10014324 - HHP-Holiday and Festivity Pole Use
- 10014326 - HHP-Street and Pedestrian Light Pole Assessment
- 10014327 - HHP-Streetlights Pole Rehabilitation
- 10014328 - Distributed Antenna Services
- 15391 - UH Treasure Island Capital Imp
- 10014646 - UH Renewable generation – Small
- 10014665 - UH Hetchy Cap and Trade Allowance
- 10034512 - UH Alternative Transmission Project/PG&E Power Asset Acquisition
- Joint Water/Power Projects:
  - CUWTBD/10037306 - Early Intake Dam Interim Improvement –
  - CUWTBD/TBD - Early Intake Dam-Long term –
  - CUWTBD/10014095 - R&R Hetch Hetchy Facilities
  - CUWTBD/10014096 - R&R Dam/Reservoir Cond Assmt & Rehab (Joint)
  - 10014102 - R&R Road & Bridge Improvements
  - 10014104 - R&R Facilities Security Project
  - 10014106 - R&R Communications Systems Upgrades
  - CUWTBD/10014110 - Moccasin Wastewater Treatment Plant
  - CUWTBD/10014115 - Cherry Dam Spillway - Short Term Improvements
  - CUH102-PD/10014116 - Joint Project Development
  - CUWTBD/10030759 - Eleanor Dam Rehabilitation – R&R Power Distribution Improvements
  - 10037077 - Moccasin Old Powerhouse Hazard Mitigation
  - CUH10116/10014088 - Moccasin Penstocks Rehabilitation
  - 10037351 - Moccasin Dam Long Term Improvement
  - 10037305 - R&R HH Reservoir Boat Ramp & Access Improvement
  - 10032903 - O'Shaughnessy Dam Outlet Works Phase 1
  - CUH102 N02 - Moccasin Engineering and Records Building
  - CUH102 N01- HHW-R&R Water Conveyance Life Extension (Joint)
  - HHW N01 - Wildfire Mitigation

Reference: Engineer's Certificate for Bond Financed Project

The findings and conclusions in this Certificate are based on solely Stantec's review of the pertinent portions of following Documents and information provided by the SFPUC:

- Hetchy Power Capital Plan and Project Pages – Hetch Hetchy Enterprise FY 2023-2032 Capital Plan Summary
  - Hetchy Power Capital Plan and Project Pages – Hetch Hetchy Enterprise Fiscal Years 2023-2032 Ten Year CIP Capital Projects 1/20/22
  - Water Enterprise FY 2023-2032 Capital Plan Summary
  - Water Capital Datasheet
  - Hetch Hetchy Capital Datasheet
  - Hetch Hetchy Capital Improvement Program Quarterly Report 3rd Quarter / Fiscal Year 2021-2022
  - HHW\_CIP Project List by Authority 7-7-22
  - HHW\_CIP Project List by Authority \_rev071922
  - Water Enterprise Revenue Bonds and Other Forms of Indebtedness FY 2022-2023 Capital Improvement Projects
  - Power Enterprise Revenue Bonds and Other Forms of Indebtedness FY 2022-2023 Capital Improvement Projects
1. Based upon our review of the Documents and information noted above and upon conversations and representations of SFPUC staff, the undersigned certifies that the Projects, including prioritization, cost estimates, and scheduling, appear to meet generally accepted utility standards.

While developing this Certificate, Stantec reviewed the pertinent portions of the Documents (listed above) and consulted with SFPUC staff. This Certification is based on the information provided by the SFPUC. The conclusions and observations contained herein constitute only the opinion of Stantec. The various background documents, statements, and other information supplied by the SFPUC, its employees, and other consultants have been relied upon as being accurate in the performance of these analyses; however, no assurances are given nor warranties implied by Stantec as to the accuracy of such information. Stantec makes no certification and gives no assurances except as explicitly set forth in this document.

Dated this 2nd day of September, 2022.

Stantec Consulting Services Inc.



By: \_\_\_\_\_  
W. Anthony Zavanelli, PE, CEM, LEED AP  
Principal

Design with community in mind



**Stantec Consulting Services Inc.**  
1340 Treat Blvd, Suite 300, Walnut Creek, CA 94597

**Certificate of the Consulting Engineers  
in connection with Section 8B.124 of the Charter of the City and County of San Francisco and  
the Indenture of the San Francisco Public Utilities Commission (SFPUC)  
authorizing the Sale of Revenue Bonds and / or Other Forms of Indebtedness, including  
Commercial Paper**

This Certificate has been prepared by Stantec Consulting Services, Inc., (Stantec), an independent consulting firm, at the request of the San Francisco Public Utilities Commission (SFPUC) in connection with the issuance by the SFPUC of its Revenue Bonds and/or other forms of Indebtedness, including Commercial Paper and State and Federal loans.

The City of San Francisco's Public Utilities Commission (PUC) Power Enterprise (PE) manages bond-funded capital projects. Section 8B.124 of the City Charter requires:

...the Board of Supervisors may take any and all actions necessary to authorize, issue and repay such bonds, including, but not limited to, modifying schedules of rates and charges to provide for the payment and retirement of such bonds, subject to the following conditions:

- (a) Certification by an independent engineer retained by the Public Utilities Commission that:
  - (1) the projects to be financed by the bonds, including the prioritization, cost estimates and scheduling, meet utility standards; and
  - (2) that estimated net revenue after payment of operating and maintenance expenses will be sufficient to meet debt service coverage and other indenture or resolution requirements, including debt service on the bonds to be issued, and estimated repair and replacement costs.

This review was performed for Hetch Hetchy Power to provide the required independent evaluation to comply with the City Charter and to access bond issuances for the following capital projects:

- 10014576 - Treasure Island Capital Improv
- 10033821 - Intervening Facilities
- 10033822 - SFO Substation
- 10034512 - Power Asset Acquisition Analysis
- Affordable Housing Transmission and Distribution
- BCTD Grid Connections

The findings and conclusions in this Certificate are based on solely Stantec's review of the pertinent portions of following Documents and information provided by the SFPUC:

- Hetchy Power Capital Plan and Project Pages – Hetch Hetchy Enterprise FY 2023-2032 Capital Plan Summary

**Reference: Engineer's Certificate for Bond Financed Project**

- Hetchy Power Capital Plan and Project Pages – Hetch Hetchy Enterprise Fiscal Years 2023-2032 Ten Year CIP Capital Projects 1/20/22
  - BCTD DistSysMap\_2021-05-12\_PotreroHop Update\_May2022
  - Bay Corridor Transmission & Distribution -200 Marin St, AAR/CER Presentation 7/26/2022
  - SFO Substation Capacity Upgrade Update 12/21/2020, (Status Update 7/25/22)
  - Report1658868092673 – Intervening Facilities Status
  - Project Revenue Projections FYE 2023 - FYE 2032, Power Enterprise Finance and Administration
  - Project Budget and Actuals, Power Enterprise Finance and Administration
  - Power Loads and Rate Basis for Revenue Projections, Power Enterprise Finance and Administration
  - Grid Connections Status Update 7/26/22, Power Enterprise Finance and Administration
1. Based upon our review of the Documents and information noted above and upon conversations and representations of SFPUC staff, the undersigned certifies that the Projects, including prioritization, cost estimates, and scheduling, appear to meet generally accepted utility standards.
  2. Further, the estimated net revenue will be sufficient to meet debt service coverage and other indenture or resolution requirements.

While developing this Certificate, Stantec reviewed the pertinent portions of the Documents (listed above) and consulted with SFPUC staff. This Certification is based on the information provided by the SFPUC. The conclusions and observations contained herein constitute only the opinion of Stantec. The various background documents, statements, and other information supplied by the SFPUC, its employees, and other consultants have been relied upon as being accurate in the performance of these analyses; however, no assurances are given nor warranties implied by Stantec as to the accuracy of such information. Stantec makes no certification and gives no assurances except as explicitly set forth in this document.

Dated this 19<sup>th</sup> day of August, 2022.

Stantec Consulting Services Inc.



By: \_\_\_\_\_  
W. Anthony Zavanelli, PE, CEM, LEED AP  
Principal



**Stantec Consulting Services Inc.**  
1340 Treat Blvd, Suite 300, Walnut Creek, CA 94597

**Certificate of the Consulting Engineers  
in connection with Section 8B.124 of the Charter of the City and County of San Francisco and  
the Indenture of the San Francisco Public Utilities Commission (SFPUC)  
authorizing the Sale of Revenue Bonds and / or Other Forms of Indebtedness, including  
Commercial Paper**

This Certificate has been prepared by Stantec Consulting Services, Inc., (Stantec), an independent consulting firm, at the request of the San Francisco Public Utilities Commission (SFPUC) in connection with the issuance by the SFPUC of its Revenue Bonds and/or other forms of Indebtedness, including Commercial Paper and State and Federal loans.

The City of San Francisco's Public Utilities Commission (PUC) Power Enterprise (PE) manages bond-funded capital projects. Section 8B.124 of the City Charter requires:

...the Board of Supervisors may take any and all actions necessary to authorize, issue and repay such bonds, including, but not limited to, modifying schedules of rates and charges to provide for the payment and retirement of such bonds, subject to the following conditions:

- (a) Certification by an independent engineer retained by the Public Utilities Commission that:
  - (1) the projects to be financed by the bonds, including the prioritization, cost estimates and scheduling, meet utility standards; and
  - (2) that estimated net revenue after payment of operating and maintenance expenses will be sufficient to meet debt service coverage and other indenture or resolution requirements, including debt service on the bonds to be issued, and estimated repair and replacement costs.

This review was performed for Hetch Hetchy Power to provide the required independent evaluation to comply with the City Charter and to access bond issuances for the following capital project:

- Transmission Lines 7/8 Upgrades

The findings and conclusions in this Certificate are based on solely Stantec's review of the pertinent portions of following Documents and information provided by the SFPUC:

- 10035721Transmission Lines 7/8 Upgrades – JUN-2022 Q4 REPORT – REV2 7.26.22
  - SFPUC Schedule of Bid Price HH-1007 Transmisson Line 7/8 Upgrades 3-24-22
  - City Charter Section 8B.124 of the City Charter – Water, Clean Water, and Revenue Bonds
  - HHW\_CIP Project List by Authority dated 7-7-22
  - Status Update: CCSF Affected System, email, Margaret Hannaford 8/2/2022
  - Discussions with SFPUC staff
1. Based upon our review of the Documents and information noted above and upon conversations and representations of SFPUC staff, the undersigned certifies that the Projects, including prioritization, cost estimates, and scheduling, appear to meet generally accepted utility standards.

**Reference: Engineer's Certificate for Bond Financed Project**

2. Further, the estimated net revenue will be sufficient to meet debt service coverage and other indenture or resolution requirements.

While developing this Certificate, Stantec reviewed the pertinent portions of the Documents (listed above) and consulted with SFPUC staff. This Certification is based on the information provided by the SFPUC. The conclusions and observations contained herein constitute only the opinion of Stantec. The various background documents, statements, and other information supplied by the SFPUC, its employees, and other consultants have been relied upon as being accurate in the performance of these analyses; however, no assurances are given nor warranties implied by Stantec as to the accuracy of such information. Stantec makes no certification and gives no assurances except as explicitly set forth in this document.

Dated this 4<sup>th</sup> day of August, 2022.

Stantec Consulting Services Inc.



By: \_\_\_\_\_  
W. Anthony Zavanelli, PE, CEM, LEED AP  
Principal



San Francisco  
**Water**  
**Power**  
**Sewer**



# Power Financial Projections

August 10, 2022



**BARTLE WELLS ASSOCIATES**  
INDEPENDENT PUBLIC FINANCE ADVISORS





**BARTLE WELLS ASSOCIATES**  
INDEPENDENT PUBLIC FINANCE ADVISORS

2625 Alcatraz Avenue, #602  
Berkeley, CA 94705  
Tel 510 653 3399  
www.bartlewells.com

TO: San Francisco Public Utilities Commission

DATE: August 10, 2022

ATTN: Edward Kwong, Senior Administrative Analyst

FROM: Alex Handlers & Douglas Dove, P.E.

RE: Power Financial Projections for Compliance with Propositions E & A

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## **Background**

Bartle Wells Associates (BWA) was retained by the San Francisco Public Utilities Commission (SFPUC) to develop financial projections in support of San Francisco Charter Article VIII B, Section 8B.124, as established by Proposition E which was approved by the voters of the City and County of San Francisco on November 5, 2002 and subsequently amended by Proposition A by voter approval on June 5, 2018. This section of the Charter a) authorizes the SFPUC to issue revenue bonds and other forms of indebtedness and b) authorizes the Board of Supervisors to take actions necessary for the issuance and repayment of such debt subject to various conditions including *“that estimated net revenue after payment of operating and maintenance expenses will be sufficient to meet debt service coverage and other indenture or resolution requirements, including debt service on the bonds to be issued, and estimated repair and replacement costs.”*

## **Financial Projections**

BWA developed financial projections based on data provided by the SFPUC as well as a number of independent calculations and assumptions which constitute such examination or investigation as is necessary to enable BWA to express an informed opinion as to whether the requirements of Proposition E have been satisfied. Based on the projections, the Power Enterprise will generate net revenues (as defined per the Indenture securing the SFPUC’s outstanding Power Revenue Bonds) that are at least 1.25 times Annual Debt Service in each fiscal year from Fiscal Years 2022-23 through 2031-32. In accordance with the requirements of Propositions E and A, BWA certifies that estimated net revenue after payment of operating and maintenance expenses will be sufficient to meet debt service coverage and other indenture or resolution requirements, including debt service on projected bonds to be issued, and estimated repair and replacement costs.

## Attached Tables

The attached tables include:

- **Table 1 - SFPUC Power Cash Flow Projections** – This table was developed by Bartle Wells Associates based on information provided by the SFPUC and a number of independent assumptions, and includes projections of future fund balances, revenues, operating and maintenance expenses, debt service, other non-operating expenses, net revenues, and debt service coverage.
- **Table 2 - Cash Flow Assumptions** – This table describes assumptions used in developing the financial projections.
- **Table 3 - 10-Year Capital Improvement Program & Funding Sources** – This table shows projected SFPUC power capital improvements and anticipated sources of funding.
- **Table 4 - Estimated Debt Service** – This table estimates annual debt service on future bonds per each \$100 million of project funding.
- **Table 5 - Projected Bond Issues** – This table shows projected debt issued by fiscal year and calculates annual debt service for each bond issue.
- **Table 6 - Projected Debt Service on Future Financings** – This table projects debt service by fiscal year for each water debt issue and shows a schedule of projected debt payments.
- **Table 7 - Outstanding Debt** – This table shows debt service due on outstanding debt issues.

The tables are based on information provided by the SFPUC as well as a number of independent calculations and assumptions. BWA takes no responsibility for the accuracy of information provided by the SFPUC, nor for any errors or omissions in information provided.

Submitted by: BARTLE WELLS ASSOCIATES



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Alex Handlers  
Principal/Vice President



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Douglas R. Dove, P.E.  
President



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## **SFPUC Power Financial Projections**

### **List of Tables**

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Table 1 - SFPUC Power Cash Flow Projections

Table 2 - Cash Flow Assumptions

Table 3 - 10-Year Capital Improvement Program & Funding Sources

Table 4 - Estimated Bond Debt Service

Table 5 - Projected Bond Issues: Power

Table 6 - Projected Debt Service on Future Financings: Power

Table 7 - Outstanding Debt: Power

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**Table 1 - SFPUC Power Cash Flow Projections**

Years 1-5

	Esc/Basis	2022/23	2023/24	2024/25	2025/26	2026/27
<b>Beginning Power Fund Reserves</b>		75,074,000	73,055,593	86,502,511	103,768,791	120,528,365
<b>Revenues</b>						
Power Sales: Muni General Fund	SFPUC	38,004,000	42,434,000	45,887,000	49,463,000	53,033,000
Power Sales: GUSE Additional	SFPUC	6,492,000	13,295,000	13,265,000	13,265,000	13,265,000
Power Sales: Airport	SFPUC	49,242,000	54,745,000	59,338,000	65,988,000	71,196,000
Power Sales: Non-Airport Enterprise	SFPUC	46,167,000	53,317,000	55,037,000	65,352,000	67,312,000
Power Sales: Retail Other	SFPUC	11,722,000	23,881,000	27,917,000	36,495,000	49,398,000
Subtotal Retail Power Sales		151,627,000	187,672,000	201,444,000	230,563,000	254,204,000
Power Sales: Wholesale	SFPUC	18,302,000	15,058,000	15,860,000	13,087,000	11,235,000
Natural Gas & Steam Sales	SFPUC	13,324,000	13,724,000	14,136,000	14,560,000	14,997,000
Interest Income (1% of Beginning Rsrvs)		375,000	731,000	865,000	1,038,000	1,205,000
Other Miscellaneous Income	SFPUC	3,292,000	3,452,000	3,559,000	3,669,000	3,783,000
Programmatic Revenues	SFPUC	4,811,000	5,019,000	5,231,000	5,360,000	5,495,000
Capital Revenues (Non-Debt)	SFPUC	4,923,000	5,380,000	5,611,000	5,729,000	5,852,000
Operating Transfer: Hetchy Assessment	SFPUC	49,507,000	49,105,000	52,559,000	54,145,000	55,783,000
Operating Transfer: CleanPwrSF Loan Repymt	SFPUC	0	0	0	0	0
<i>Less Water Share of Revenues</i>	SFPUC	(50,581,000)	(50,232,000)	(53,747,000)	(55,405,000)	(57,113,000)
BABs Interest Subsidies (Net of Sequest.)	SFPUC	149,000	126,000	103,000	79,000	55,000
Subtotal		195,729,000	230,035,000	245,621,000	272,825,000	295,496,000
<b>Operation &amp; Maintenance Expenses</b>						
<u>Upcountry</u>						
Personnel	3%	35,216,000	36,718,000	37,820,000	38,955,000	40,124,000
Non-Personal Services	3%	30,157,000	30,257,000	31,165,000	32,100,000	33,063,000
Other Upcountry	3%	21,402,000	20,496,000	21,111,000	21,744,000	22,396,000
<i>Less Water Share of Upcountry O&amp;M</i>	3%	(47,800,000)	(47,368,000)	(48,789,000)	(50,253,000)	(51,761,000)
<u>Downcountry</u>						
Personnel	3%	19,417,000	20,587,000	21,205,000	21,841,000	22,496,000
Non-Personal Services	3%	10,877,000	15,077,000	15,529,000	15,995,000	16,475,000
Power Purchases	SFPUC	16,504,000	15,974,000	14,004,000	17,390,000	17,583,000
Transmission & Distribution Charges	SFPUC	60,188,000	68,831,000	74,099,000	83,379,000	91,285,000
Natural Gas & Steam Purchases	3%	13,324,000	13,724,000	14,136,000	14,560,000	14,997,000
Other Downcountry	3%	20,260,000	21,781,000	22,434,000	23,107,000	23,800,000
<i>Less Water Share of Downcountry O&amp;M</i>	3%	(1,364,000)	(1,446,000)	(1,489,000)	(1,534,000)	(1,580,000)
Carryforwards & Scenarios	3%	(1,912,000)	(1,969,000)	(2,028,000)	(2,089,000)	(2,152,000)
Subtotal		176,269,000	192,662,000	199,197,000	215,195,000	226,726,000
<b>Power Debt Service, Net of Capitalized Interest</b>						
Outstanding Debt: Senior Lien	Debt Sched	2,566,550	2,566,350	9,615,750	9,617,525	9,612,650
Outstanding Debt: Junior Lien	Debt Sched	1,338,857	892,732	867,970	842,901	817,523
Projected Future Debt: Senior Lien	BWA Est.	0	0	337,000	6,293,000	6,293,000
Subtotal		3,905,407	3,459,082	10,820,720	16,753,426	16,723,173
<b>Non-Operating Expenses</b>						
Programmatic Expenses	SFPUC	14,068,000	14,305,000	13,975,000	14,663,000	15,385,000
<i>Less Water Share of Expenses</i>	SFPUC	(1,418,000)	(1,418,000)	(3,449,000)	(3,575,000)	(3,706,000)
Power Projects	SFPUC	4,923,000	7,580,000	7,811,000	13,029,000	20,665,000
Subtotal		17,573,000	20,467,000	18,337,000	24,117,000	32,344,000
<b>Total Expenses: Power</b>		197,747,407	216,588,082	228,354,720	256,065,426	275,793,173
<b>Power Revenues Less Expenses</b>		(2,018,407)	13,446,918	17,266,280	16,759,574	19,702,827
Add Water Share of Revenues Less Expenses		<u>(1,000)</u>	<u>0</u>	<u>20,000</u>	<u>43,000</u>	<u>66,000</u>
<b>Total Revenues Less Expenses</b>		(2,019,407)	13,446,918	17,286,280	16,802,574	19,768,827
Plus Fund Reserve Adjustments (per SFPUC)		-	-	-	-	-
<b>Ending Power Fund Reserves</b>		73,055,593	86,502,511	103,768,791	120,528,365	140,231,192
<b>Annual Revenues</b>		195,729,000	230,035,000	245,621,000	272,825,000	295,496,000
Add Back Water Share of Revenues		50,581,000	50,232,000	53,747,000	55,405,000	57,113,000
Less Revs Excluded from Coverage Calc		<u>(19,347,000)</u>	<u>(19,953,000)</u>	<u>(20,577,000)</u>	<u>(21,130,000)</u>	<u>(21,699,000)</u>
Revenues for Coverage Calculation		226,963,000	260,314,000	278,791,000	307,100,000	330,910,000
Plus Reserves Budgeted as Revenues		0	0	0	0	0
Adjusted Revenues for Coverage Calculation		226,963,000	260,314,000	278,791,000	307,100,000	330,910,000
<b>Operating &amp; Maintenance Expenses</b>		176,269,000	192,662,000	199,197,000	215,195,000	226,726,000
Add Back Water Share of O&M Expenses		49,164,000	48,814,000	50,278,000	51,787,000	53,341,000
Less Expenses Excluded from Coverage Calc		(13,324,000)	(13,724,000)	(14,136,000)	(14,560,000)	(14,997,000)
Plus Programmatic Expenses in Coverage Calc		8,601,000	8,633,000	8,092,000	8,652,000	9,243,000
Expenses for Coverage Calculation		220,710,000	236,385,000	243,431,000	261,074,000	274,313,000
<b>Net Revenues (Current Basis)</b>		<b>6,253,000</b>	<b>23,929,000</b>	<b>35,360,000</b>	<b>46,026,000</b>	<b>56,597,000</b>
Plus Beginning Fund Rsrvs (Excl Budgeted Reserves)		75,074,000	73,055,593	86,502,511	103,768,791	120,528,365
<b>Net Revenues (Indenture Basis with Reserves)</b>		<b>81,327,000</b>	<b>96,984,593</b>	<b>121,862,511</b>	<b>149,794,791</b>	<b>177,125,365</b>
Annual Debt Service		3,905,407	3,459,082	10,820,720	16,753,426	16,723,173
Debt Service Coverage, Current Basis without Rsrvs		1.60	6.92	3.27	2.75	3.38
Debt Service Covg on Senior Debt, Indenture Basis		31.69	37.79	12.24	9.41	11.14

Table 1 - SFPUC Power Cash Flow Projections

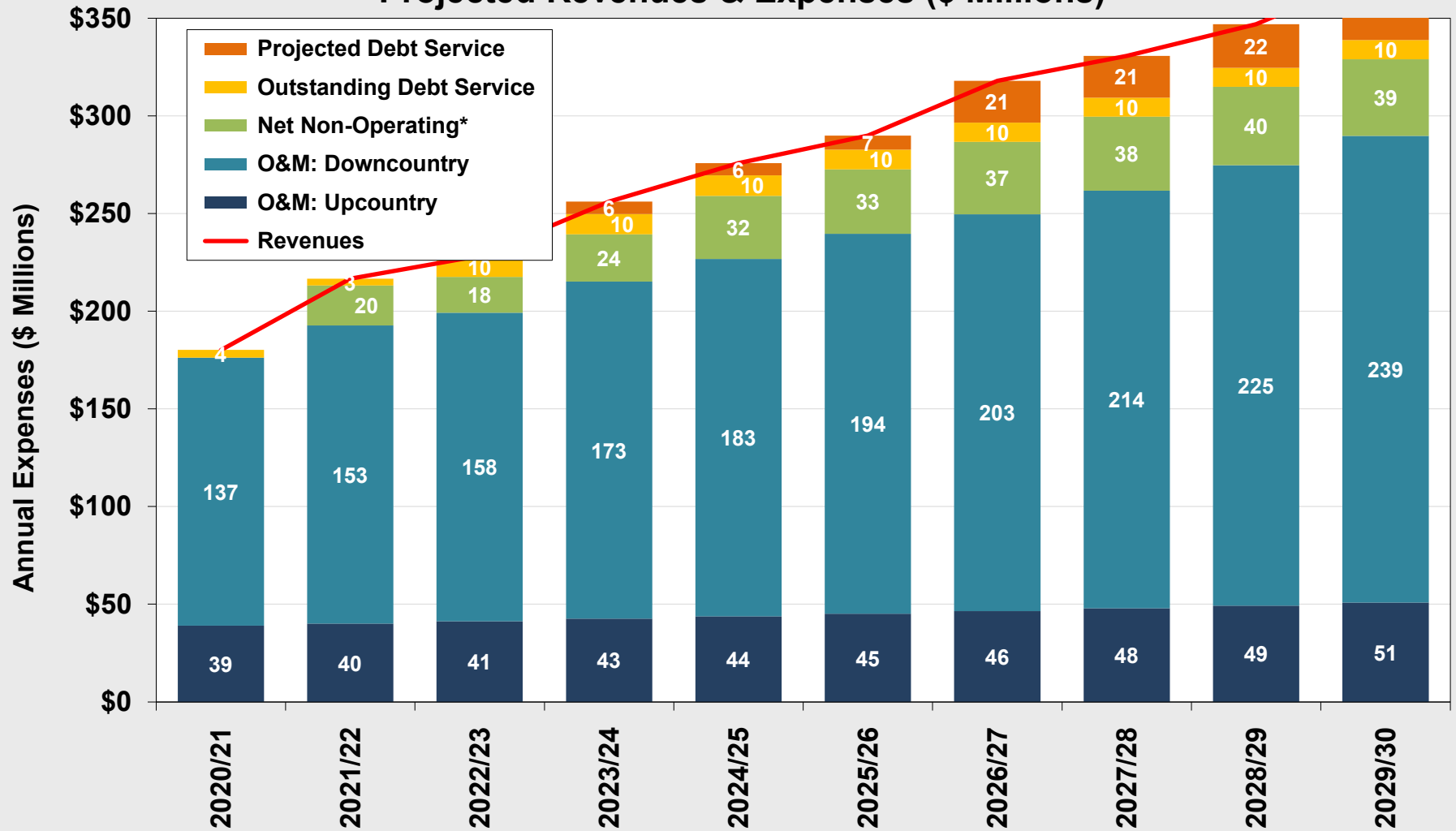
Years 6-10

	2027/28	2028/29	2029/30	2030/31	2031/32
<b>Beginning Fund Reserves</b>	140,231,192	157,826,161	156,899,754	158,406,738	161,298,761
<b>Revenues</b>					
Power Sales: Muni General Fund	56,603,000	60,173,000	63,743,000	67,313,000	70,883,000
Power Sales: GUSE Additional	13,265,000	13,265,000	13,265,000	13,265,000	13,265,000
Power Sales: Airport	76,783,000	79,835,000	84,624,000	90,052,000	94,196,000
Power Sales: Non-Airport Enterprise	69,331,000	71,411,000	73,554,000	75,760,000	78,033,000
Power Sales: Retail Other	49,910,000	50,393,000	54,338,000	60,350,000	61,981,000
Subtotal Retail Power Sales	265,892,000	275,077,000	289,524,000	306,740,000	318,358,000
Power Sales: Wholesale	10,626,000	10,100,000	10,033,000	9,692,000	10,017,000
Natural Gas & Steam Sales	15,447,000	15,910,000	16,387,000	16,879,000	17,385,000
Interest Income (1% of Beginning Rsrvs)	1,402,000	1,578,000	1,569,000	1,584,000	1,613,000
Other Miscellaneous Income	3,900,000	4,018,000	4,141,000	4,265,000	4,392,000
Programmatic Revenues	5,634,000	5,775,000	5,920,000	6,070,000	6,213,000
Capital Revenues (Non-Debt)	5,980,000	6,113,000	6,252,000	6,396,000	6,396,000
Operating Transfer: Hetchy Assessment	57,374,000	59,107,000	60,951,000	62,649,000	64,595,000
Operating Transfer: CleanPwrSF Loan Repymt	0	0	0	0	0
<i>Less Water Share of Revenues</i>	<i>(58,876,000)</i>	<i>(60,694,000)</i>	<i>(62,568,000)</i>	<i>(64,501,000)</i>	<i>(66,494,000)</i>
BABs Interest Subsidies (Net of Sequest.)	31,000	21,000	16,000	11,000	6,000
Subtotal	307,410,000	317,005,000	332,225,000	349,785,000	362,481,000
<b>Operation &amp; Maintenance Expenses</b>					
<u>Upcountry</u>					
Personnel	41,328,000	42,568,000	43,845,000	45,160,000	46,515,000
Non-Personal Services	34,055,000	35,077,000	36,129,000	37,213,000	38,329,000
Other Upcountry	23,068,000	23,760,000	24,473,000	25,207,000	25,963,000
<i>Less Water Share of Upcountry O&amp;M</i>	<i>(53,314,000)</i>	<i>(54,913,000)</i>	<i>(56,560,000)</i>	<i>(58,257,000)</i>	<i>(60,005,000)</i>
<u>Downcountry</u>					
Personnel	23,171,000	23,866,000	24,582,000	25,319,000	26,079,000
Non-Personal Services	16,969,000	17,478,000	18,002,000	18,542,000	19,098,000
Power Purchases	20,717,000	21,240,000	22,614,000	24,412,000	25,782,000
Transmission & Distribution Charges	97,490,000	103,386,000	110,249,000	117,624,000	127,345,000
Natural Gas & Steam Purchases	15,447,000	15,910,000	16,387,000	16,879,000	17,385,000
Other Downcountry	24,514,000	25,249,000	26,006,000	26,786,000	27,590,000
<i>Less Water Share of Downcountry O&amp;M</i>	<i>(1,627,000)</i>	<i>(1,676,000)</i>	<i>(1,726,000)</i>	<i>(1,778,000)</i>	<i>(1,831,000)</i>
Power & Joint O&M Adjustments	(2,217,000)	(2,284,000)	(2,353,000)	(2,424,000)	(2,497,000)
Subtotal	239,601,000	249,661,000	261,648,000	274,683,000	289,753,000
<b>Debt Service, Net of Capitalized Interest</b>					
Outstanding Debt: Senior Lien	9,605,800	9,606,050	9,597,800	9,604,975	9,593,150
Outstanding Debt: Junior Lien	496,231	190,357	185,216	180,003	174,717
Projected Future Debt	7,132,000	21,395,000	21,395,000	22,276,000	36,322,000
Subtotal	17,234,031	31,191,407	31,178,016	32,060,978	46,089,867
<b>Non-Operating Expenses</b>					
Programmatic Projects	16,157,000	16,949,000	17,770,000	18,035,000	17,279,000
<i>Less Adjustments to Water</i>	<i>(3,842,000)</i>	<i>(3,983,000)</i>	<i>(4,130,000)</i>	<i>(4,282,000)</i>	<i>(4,439,000)</i>
Power Projects	20,665,000	24,113,000	24,252,000	26,396,000	26,396,000
Subtotal	32,980,000	37,079,000	37,892,000	40,149,000	39,236,000
<b>Total Expenses</b>	289,815,031	317,931,407	330,718,016	346,892,978	375,078,867
<b>Power Revenues Less Expenses</b>	17,594,969	(926,407)	1,506,984	2,892,022	(12,597,867)
Plus Water Share of Revenues Less Expenses	<u>93,000</u>	<u>122,000</u>	<u>152,000</u>	<u>184,000</u>	<u>219,000</u>
<b>Total Revenues Less Expenses</b>	17,687,969	(804,407)	1,658,984	3,076,022	(12,378,867)
Plus Fund Reserve Adjustments (per SFPUC)	-	-	-	-	-
<b>Ending Fund Reserves</b>	157,826,161	156,899,754	158,406,738	161,298,761	148,700,893
Annual Revenues	307,410,000	317,005,000	332,225,000	349,785,000	362,481,000
Add Back Water Share of Revenues	58,876,000	60,694,000	62,568,000	64,501,000	66,494,000
Less Revs Excluded from Coverage Calc	<u>(22,285,000)</u>	<u>(22,889,000)</u>	<u>(23,511,000)</u>	<u>(24,153,000)</u>	<u>(24,812,000)</u>
Revenues for Coverage Calculation	344,001,000	354,810,000	371,282,000	390,133,000	404,163,000
Plus Reserves Budgeted as Revenues	0	0	0	0	0
Adjusted Revenues for Coverage Calculation	344,001,000	354,810,000	371,282,000	390,133,000	404,163,000
Operating & Maintenance Expenses	239,601,000	249,661,000	261,648,000	274,683,000	289,753,000
Add Back Water Share of O&M Expenses	54,941,000	56,589,000	58,286,000	60,035,000	61,836,000
Less Expenses Excluded from Coverage Calc	<u>(15,447,000)</u>	<u>(15,910,000)</u>	<u>(16,387,000)</u>	<u>(16,879,000)</u>	<u>(17,385,000)</u>
Plus Programmatic Projects in Coverage Calc	<u>9,879,000</u>	<u>10,531,000</u>	<u>11,208,000</u>	<u>11,311,000</u>	<u>10,389,000</u>
Expenses for Coverage Calculation	288,974,000	300,871,000	314,755,000	329,150,000	344,593,000
<b>Net Revenues (Current Basis)</b>	<b>55,027,000</b>	<b>53,939,000</b>	<b>56,527,000</b>	<b>60,983,000</b>	<b>59,570,000</b>
Plus Beginning Fund Rsrvs (Excl Budgeted Reserves)	140,231,192	157,826,161	156,899,754	158,406,738	161,298,761
<b>Net Revenues (Indenture Basis with Reserves)</b>	<b>195,258,192</b>	<b>211,765,161</b>	<b>213,426,754</b>	<b>219,389,738</b>	<b>220,868,761</b>
Annual Debt Service	17,234,031	31,191,407	31,178,016	32,060,978	46,089,867
Debt Service Coverage, Current Basis w/ Rsrvs	3.19	1.73	1.81	1.90	1.29
Debt Service Coverage, Indenture Basis	11.67	6.83	6.89	6.88	4.81

**Table 2**  
**SFPUC Hetch Hetchy Water & Power**  
**Cash Flow Assumptions**

SFPUC Model Basis	Financial projections are based on SFPUC's <i>Hetch Hetchy Water &amp; Power 10 Year Plan</i> dated June 17, 2022.
Beginning Fund Reserves	Beginning fund reserves based on SFPUC estimates.
Revenues	Revenues are based on SFPUC projections with the exception of interest earnings, which are based on 1% of beginning fund reserves starting FY 2023/24.
Operation & Maintenance Expenses	Most Operation & Maintenance Expenses are based on SFPUC projections for the first two years and subsequently escalate at the annual rate of 3.0% thereafter. Expenses for Power Purchases, Transmission & Distribution, and Programmatic Projects are based on SFPUC projections.
Water Share of Revs & Expenses	Based on SFPUC projections.
Capital Projects	Capital Project expenses and sources of funding are based on SFPUC projections.
Debt Service Assumptions	Debt assumptions are shown on Table 4, which calculates debt service per \$100 million of project funding. Future debt service projections are based on SFPUC projections of annual financing requirements and BWA projections of debt service as shown on Table 5, with a schedule of projected debt service by fiscal year shown on Table 6.
Outstanding Debt Service	Outstanding debt service is based on debt service schedules for each issue, as provided by SFPUC, and is shown on a fiscal year basis.
Debt Service Payments	Note that pursuant to the Indenture, as a procedural requirement the SFPUC is required to make monthly prepayments to the trustee of 1/12th principal and 1/6th semi-annual debt service toward each upcoming bond payment. Debt service payments in the cash flow projections reflect the amount coming due each fiscal year; not the amounts procedurally required to be paid each fiscal year.
Net Revenues	Pursuant to the Indenture, Net Revenues are defined as Annual Revenues (excluding interest earnings on any bond funds including the reserve fund, capitalized interest fund, and improvement fund; but including fund reserves available to pay debt service assuming the Commission determined such reserves should be "Revenues" under the Indenture) less Operation and Maintenance Expenses.
Debt Service Coverage, Current Basis	Coverage based on annual Net Revenues for coverage calculation (including fund reserves budgeted as revenues) divided by Annual Debt Service.
Debt Service Coverage, Indenture Basis	Coverage based on annual Net Revenues for coverage calculation including Beginning Fund Reserves but not those budgeted as revenues, divided by Senior Debt Service.

## SFPUC Hetch Hetchy Power Projected Revenues & Expenses (\$ Millions)



\* Net Non-Operating expenses in 2020/21 are negative due a substantial SFPUC adjustment and are not included on the chart.  
Note: Chart shows Power revenues and expenses excluding allocations to Water.

Table 3

## SFPUC Hetch Hetchy Water &amp; Power

New Projects

## 10-Year Capital Improvement Program &amp; Funding Sources

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32
<b>HETCH HETCHY WATER PROJECTS</b>										
Water Infrastructure	45,723,000	47,144,000	65,720,000	18,258,000	12,491,000	7,921,000	6,140,000	5,659,000	5,679,000	5,699,000
Power Infrastructure	44,140,000	17,716,000	36,357,000	18,536,000	10,549,000	14,476,000	13,474,000	11,747,000	13,655,000	12,601,000
Joint Infrastructure	40,142,000	65,891,000	106,426,000	111,678,000	58,561,000	48,525,000	40,887,000	25,066,000	40,107,000	23,474,000
Subtotal	130,005,000	130,751,000	208,503,000	148,472,000	81,601,000	70,922,000	60,501,000	42,472,000	59,441,000	41,774,000
<b>HETCH HETCHY POWER PROJECTS</b>										
Distribution Services Retail	57,032,000	21,643,000	72,743,000	75,418,000	75,418,000	67,968,000	41,163,000	35,978,000	33,293,000	30,223,000
Streetlight Replacement	2,265,000	2,815,000	3,815,000	3,815,000	3,815,000	3,815,000	3,815,000	3,815,000	3,815,000	3,815,000
Treasure Island Capital Improvements	1,483,000	1,483,000	1,483,000	1,483,000	1,204,000	1,204,000	1,204,000	1,204,000	1,204,000	1,204,000
Renewable-Generation - Small	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Hetchy Cap and Trade Allowance	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Alternative Transmission Project	3,406,000	4,747,000	3,053,000	2,888,000	2,888,000	2,888,000	2,888,000	2,888,000	2,888,000	2,888,000
Subtotal	66,186,000	32,688,000	83,094,000	85,604,000	85,325,000	77,875,000	51,070,000	45,885,000	43,200,000	40,130,000
<b>TOTAL</b>	<b>196,191,000</b>	<b>163,439,000</b>	<b>291,597,000</b>	<b>234,076,000</b>	<b>166,926,000</b>	<b>148,797,000</b>	<b>111,571,000</b>	<b>88,357,000</b>	<b>102,641,000</b>	<b>81,904,000</b>
<b>FUNDING SOURCES</b>										
<b>Debt</b>										
Power Bonds	127,480,000	72,054,000	149,158,000	132,272,000	89,367,000	82,405,000	55,393,000	41,127,000	47,826,000	35,412,000
Water Bonds	63,787,000	76,795,000	113,612,000	68,513,000	38,844,000	29,757,000	24,539,000	16,939,000	23,727,000	16,262,000
Subtotal	191,267,000	148,849,000	262,770,000	200,785,000	128,211,000	112,162,000	79,932,000	58,066,000	71,553,000	51,674,000
<b>Revenues</b>										
Power Revenue	-	2,200,000	2,200,000	7,300,000	14,813,000	14,685,000	18,000,000	18,000,000	20,000,000	20,000,000
Distributed Antenna System	2,738,000	2,847,000	2,961,000	3,080,000	3,203,000	3,331,000	3,464,000	3,602,000	3,746,000	3,746,000
Power: Cap & Trade Auction Revenue	886,000	1,233,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000
Low Carbon Fuel Standard	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000
Subtotal	4,924,000	7,580,000	7,811,000	13,030,000	20,666,000	20,666,000	24,114,000	24,252,000	26,396,000	26,396,000
<b>TOTAL</b>	<b>196,191,000</b>	<b>156,429,000</b>	<b>270,581,000</b>	<b>213,815,000</b>	<b>148,877,000</b>	<b>132,828,000</b>	<b>104,046,000</b>	<b>82,318,000</b>	<b>97,949,000</b>	<b>78,070,000</b>
Funding Difference	-	(7,010,000)	(21,016,000)	(20,261,000)	(18,049,000)	(15,969,000)	(7,525,000)	(6,039,000)	(4,692,000)	(3,834,000)

Note: Amounts shown reflect capital improvements projected to be budgeted, but not necessarily funded or financed, each year.

Totals may not match due to rounding.



Table 4  
 SFPUC Hetch Hetchy Water & Power  
 Estimated Bond Debt Service  
 Per \$100 Million of Project Funding

		<b>Power Bonds 30 Years 3.75%</b>	<b>Power Bonds 30 Years 4.00%</b>	<b>Power Bonds 30 Years 4.50%</b>
<b>Funding Target</b>		Year 1 Per each \$100,000,000	Years 2 - 4 Per each \$100,000,000	Years 5 - 10 Per each \$100,000,000
<b>Assumed Issuance &amp; Payment Dates</b>				
Bond Issuance Date		Oct-1	Oct-1	Oct-1
Principal Payment		Nov-1	Nov-1	Nov-1
<b>Total Debt Issue</b>		\$111,100,000	\$111,850,000	\$113,450,000
<b>Project Funding</b>		\$100,000,000	\$100,000,000	\$100,000,000
<b>Issuance Costs &amp; Reserve Requirement</b>				
Underwriter Discount	0.30%	\$333,000	\$336,000	\$340,000
Issuance Costs	Est.	300,000	300,000	300,000
Reserve Requirement		0	0	0
Capitalized Interest	2.50 Years	10,415,000	11,185,000	12,763,000
Rounding/Contingency		<u>52,000</u>	<u>29,000</u>	<u>47,000</u>
Total		11,100,000	11,850,000	13,450,000
<b>Financing Terms</b>				
Term (Years)		30	30	30
Interest Only (Years)		2.50	2.50	2.50
Principal Amortization (Years)		28	28	28
Est. Average Interest Rate		3.75%	4.00%	4.50%
<b>Annual Debt Service</b>				
Interest Only Period		4,166,000	4,474,000	5,105,000
Principal Amortization Period		6,477,000	6,712,000	7,206,000
<i>Financing costs and interest rates estimated for financial planning purposes.</i>				

Table 5  
 SFPUC Hetch Hetchy Water & Power  
 Projected Bond Issues: Power

Debt Issuance by FY	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32
<b>Bond Funding Projections</b>										
Project Fund - CP Redemption	97,166,000	-	-	225,000,000	-	-	207,140,000	-	-	-
Project Fund - New Money	-	-	-	-	-	-	-	-	-	-
Total	97,166,000			225,000,000			207,140,000			
<b>Financing Terms</b>										
CIP Project Funding	97,166,000			225,000,000			207,140,000			
Total Issue Size	107,950,000			249,980,000			230,130,000			
Issuance Date	Oct-1			Oct-1			Oct-1			
Issuance Year	2020			2023			2026			
Interest Payments	May-1 & Nov-1			May-1 & Nov-1			May-1 & Nov-1			
Principal Payments (Year 3+)	Nov-1			Nov-1			Nov-1			
Average Interest Rate	3.75%			4.00%			4.50%			
Repayment Term (Years)	30.50			30.50			30.50			
Capitalized Interest (Years)	2.50			2.50			2.50			
<b>Debt Service per \$100M</b>										
Interest Only Period (2.5 Yrs)	4,166,000			4,474,000			5,105,000			
Principal Amort Period (28 Yrs)	6,477,000			6,712,000			7,206,000			
<b>Annual Debt Service</b>										
Interest Only Period	4,048,000			10,067,000			10,574,000			
Principal Amort Period	6,293,000			15,102,000			14,927,000			
<b>Cumulative MADS</b>										
	6,293,000			21,395,000			36,322,000			



Table 7  
 SFPUC Hetch Hetchy Water & Power  
 Outstanding Debt: Power

Fiscal Year Ending June 30	Senior Lien Bonds					Junior Lien Bonds						Total Outstanding Debt
	2015A Bonds	2015B Bonds	2021A Bonds	2021B Bonds	Senior Bond Total	2008 CREBs	2011 QECBs	2012 NCREBs	2015 NCREBs	2009 C&D COPs	Junior Bond Total	
2023	1,592,950	973,600	0	0	2,566,550	421,667	697,432	0	219,758	Excluded Debt service included in	1,338,857	3,905,407
2024	1,592,950	973,400	0	0	2,566,350	0	677,707	0	215,025		892,732	3,459,082
2025	1,592,950	972,000	4,435,425	2,615,375	9,615,750	0	657,743	0	210,227		867,970	10,483,720
2026	1,592,950	969,900	4,434,425	2,620,250	9,617,525	0	637,539	0	205,362		842,901	10,460,426
2027	2,406,350	153,000	4,434,800	2,618,500	9,612,650	0	617,094	0	200,429		817,523	10,430,173
2028	2,554,250	0	4,431,425	2,620,125	9,605,800	0	300,803	0	195,428		496,231	10,102,031
2029	2,556,875	0	4,434,050	2,615,125	9,606,050	0	0	0	190,357		190,357	9,796,407
2030	2,551,875	0	4,432,425	2,613,500	9,597,800	0	0	0	185,216		185,216	9,783,016
2031	2,554,125	0	4,435,850	2,615,000	9,604,975	0	0	0	180,003		180,003	9,784,978
2032	2,548,500	0	4,435,025	2,609,625	9,593,150	0	0	0	174,717		174,717	9,767,867
2033	2,549,875	0	4,435,700	2,606,800	9,592,375	0	0	0	85,354		85,354	9,677,729
2034	2,548,000	0	4,432,700	2,616,500	9,597,200	0	0	0	0		0	9,597,200
2035	2,542,875	0	4,431,400	2,624,400	9,598,675	0	0	0	0		0	9,598,675
2036	2,544,250	0	4,431,600	2,630,500	9,606,350	0	0	0	0		0	9,606,350
2037	2,541,875	0	4,433,100	2,639,700	9,614,675	0	0	0	0		0	9,614,675
2038	2,540,625	0	4,430,800	2,642,000	9,613,425	0	0	0	0		0	9,613,425
2039	2,535,375	0	4,434,500	2,647,400	9,617,275	0	0	0	0		0	9,617,275
2040	2,535,875	0	4,434,000	2,645,900	9,615,775	0	0	0	0		0	9,615,775
2041	2,531,875	0	4,434,200	2,652,400	9,618,475	0	0	0	0		0	9,618,475
2042	2,528,250	0	4,434,900	2,651,800	9,614,950	0	0	0	0		0	9,614,950
2043	2,529,625	0	4,431,000	2,654,100	9,614,725	0	0	0	0		0	9,614,725
2044	2,525,750	0	4,432,300	2,659,100	9,617,150	0	0	0	0		0	9,617,150
2045	2,521,500	0	4,433,500	2,661,700	9,616,700	0	0	0	0		0	9,616,700
2046	2,521,500	0	4,434,400	2,661,900	9,617,800	0	0	0	0		0	9,617,800
2047	0	0	4,434,800	5,183,200	9,618,000	0	0	0	0		0	9,618,000
2048	0	0	4,434,500	5,183,400	9,617,900	0	0	0	0		0	9,617,900
2049	0	0	4,433,300	5,181,700	9,615,000	0	0	0	0		0	9,615,000
2050	0	0	4,431,000	5,187,700	9,618,700	0	0	0	0		0	9,618,700
2051	0	0	4,432,300	5,186,100	9,618,400	0	0	0	0		0	9,618,400
2052	0	0	4,431,900	5,186,700	9,618,600	0	0	0	0		0	9,618,600