

CITY AND COUNTY OF SAN FRANCISCO
BOARD OF SUPERVISORS
BUDGET AND LEGISLATIVE ANALYST

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TO: Budget and Finance Sub-Committee

FROM: Budget and Legislative Analyst

SUBJECT: April 24, 2013 Budget and Finance Sub-Committee Meeting

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Item 3
File 13-0224

Department:
Public Utilities Commission

EXECUTIVE SUMMARY

Legislative Objectives

The proposed ordinance would authorize the Public Utilities Commission (PUC) to enter into a new interconnection agreement with Pacific Gas and Electric (PG&E) for the interconnection of a City-owned renewable energy generating plant, the University Mound Reservoir Facility, to PG&E's distribution system to transmit and distribute the generated electricity to another City load.

Background

- The University Mound Reservoir Facility is a small renewable hydroelectric project adjacent to the existing McLaren Pumping Plant. Construction of the project is expected to be completed in November 2014 and fully operational by March 2015. The project is estimated to generate approximately 1,600,000 kilowatt-hours (kWh) of renewable energy per year.

Key Points

- The proposed new interconnection agreement between PUC and PG&E is for ten years, after which it is subject to automatic renewal every year. Under the agreement, PUC would pay PG&E one-time costs for the interconnection of the University Mound Reservoir Facility to PG&E's distribution system.
- PUC has an existing Hetch Hetchy Interconnection Agreement with PG&E through July 2015 for the transmission and distribution of Hetch Hetchy electricity over PG&E's distribution system to City loads. Once the University Mound Reservoir Facility is operational, PUC would pay annual costs to PG&E under the Hetch Hetchy Interconnection Agreement for transmitting the generated electricity to another City load, such as City Hall.
- The proposed ordinance waives the City's standard contracting requirements, pursuant to the City's Administrative Code because the proposed interconnection agreement is based on a Small Generator Interconnection Agreement (SGIA), which is a standard agreement between PG&E and a generation facility interconnecting with PG&E's distribution system. The SGIA has been approved by the Federal Energy Regulatory Commission (FERC) and as such, there is limited ability to modify the agreement to include the City's standard contracting requirements. According to PUC, the City's contracting requirements must be waived to conform to FERC's approved agreement.

Fiscal Impact

- The total estimated maximum cost of the proposed interconnection agreement is \$86,765, which includes (a) one-time costs of \$49,500 for network upgrades, and (b) a one-time charge of \$37,265 to cover PG&E's long term cost of ownership of these upgrades.
- Additionally PUC would pay annual costs to PG&E to transmit and distribute the electricity generated by the University Mound Reservoir Facility over PG&E's distribution system under an existing Hetch Hetchy Interconnection Agreement. The net estimated annual cost to transmit and distribute an estimated 1,600,000 kWh of electricity generated by the University Mound Reservoir Facility ranges from \$8,713 to \$16,553.

Recommendation

- Approval of the proposed ordinance is a policy matter for the Board of Supervisors.

MANDATE STATEMENT / BACKGROUND**Mandate Statement**

Pursuant to San Francisco Charter Section 9.118, agreements of \$10,000,000 or more, or for a term of more than ten years, are subject to Board of Supervisors approval.

Background

The Hetch Hetchy Water and Power (HHWP) system is a consortium of dams, hydroelectric plants, reservoirs, pipelines, and transmission lines operated by the San Francisco Public Utilities Commission (PUC), which provides drinking water, wastewater, hydroelectric power, and other municipal services to San Francisco. Section 2828 of the California Public Utilities Code allows the PUC to designate all renewable electric generation facilities to be eligible for a unique arrangement where the Pacific Gas and Electric Company (PG&E) is required to take electricity from the generator and offset the City's municipal load.

The City's Renewable Energy Project at University Mound Reservoir

The University Mound Reservoir Renewable Hydroelectric Facility (University Mound Reservoir Facility) is a small renewable hydroelectric project located in the Portola neighborhood, at Woolsey and Bowdoin Streets, adjacent to the existing McLaren Pumping Plant. File 11-1192, as previously approved by the Board of Supervisors on November 22, 2011, authorized the PUC to issue Renewable Energy Bonds for a not-to-exceed amount of \$6,600,000 to finance the costs of acquiring and installing solar energy facilities at the City Hall Solar Energy Facility, the Davies Symphony Hall Solar Energy Facility and the University Mound Reservoir Facility. Of the not-to-exceed amount of \$6,600,000, \$2,500,000 was allocated for the University Mound Reservoir Facility for the installation of a non-hydroelectric dam facility.

In contrast to the City Hall Solar Energy Facility and the Davies Symphony Hall Solar Energy Facility projects, which will install solar energy systems, the University Mound Reservoir Facility will produce electricity derived solely from excess hydraulic energy in the water that is already flowing in the PUC's water pipelines that deliver water from Crystal Springs Reservoir to the University Mound Reservoir. The electricity generated from this facility would be exported via the existing McLaren Pumping Plant to serve other off-site City municipal loads. The project is estimated to generate approximately 1,600,000 kilowatt-hours (kWh) of renewable energy per year.

According to Mr. John Doyle, PUC Energy Infrastructure Manager, the expected completion date of the University Mound Reservoir Facility is November 25, 2014 and its anticipated commercial operation date is March 2, 2015. Mr. Doyle reports that the University Mound Reservoir Facility project is currently in the final design stage and the total estimated cost for the project, as previously approved by the Board of Supervisors in the PUC capital budget, is \$4,290,687 of which \$2,500,000 is to be funded from Renewable Energy Bonds with the remainder financed from Hetch Hetchy Power Enterprise revenues.

DETAILS OF PROPOSED LEGISLATION

The proposed ordinance would authorize PUC to enter into a new interconnection agreement with PG&E for a maximum cost of \$86,765 to connect a small renewable energy project at University Mound Reservoir to the City's electric system.

The proposed ordinance would waive specific requirements of the City's municipal codes, including the Environment Code, Administrative Code, and Campaign and Governmental Conduct Code. Under the proposed ordinance, the University Mound Reservoir Facility project would be categorically exempt from environmental review under the California Environmental Quality Act (CEQA) as determined by the Planning Department.

Under the proposed ordinance, standard contracting requirements, pursuant to the City's Administrative, Environment, and Campaign and Government Conduct Codes, would be waived as follows:

- (a) Administrative Code Section 21.35, which requires every contract to include a statement regarding liability of claimants for submitting false claims to the City;
- (b) Administrative Code Section 21.19, which bars automatic renewal provisions in City contracts;
- (c) Administrative Code Chapter 12 O, which requires City contractors to provide Earned Income Credit Information to their employees;
- (d) Administrative Code Chapter 83, the First Source Hiring Program;
- (e) Administrative Code Chapter 12F - the MacBride Principles;
- (f) Environment Code Chapter 5 - the San Francisco Resource Conservation Ordinance;
- (g) Administrative Code, Chapter 12G - Political Activity with City Funds; and
- (h) Campaign and Governmental Conduct Code Section 1.126 - Contribution Limits- Contractors Doing Business with the City

These requirements would be waived because the proposed interconnection agreement is based on a Small Generator Interconnection Agreement (SGIA), which is a standard agreement signed between PG&E and the generation facility that is interconnecting with PG&E's distribution system. The SGIA has been approved by the Federal Energy Regulatory Commission (FERC) and as such, there is limited ability to alter the agreement to modify the terms. According to Mr. Russell Stepp, PUC Power Enterprise, City Administrative Code requirements must be waived to be in accordance with the FERC-approved interconnection agreement.

The proposed interconnection agreement between the PUC and PG&E provides for (a) the interconnection of a City-owned renewable generating plant, the University Mound Reservoir Facility, to PG&E's electrical system to transmit the generated electricity to another City load

such as City Hall, a City pumping plant or school, (b) PG&E's oversight and analysis of the PUC final design to ensure that the interconnection is safe and electrically compliant, (c) PG&E supplying special and necessary physical features (the electric metering equipment), and (d) PG&E's continued maintenance of their special features.

According to Mr. Doyle, the expected effective date of the proposed new PUC agreement with PG&E is May 24, 2013, pending approval by the Board of Supervisors. Mr. Doyle reports that after the initial ten year term of the agreement between the PUC and PG&E, the agreement would automatically be renewed on a year-by-year basis for as long as the hydroelectric plant at the University Mound Reservoir Facility exists. The PUC estimates that the plant will have an effective lifespan of 50 plus years. According to Mr. Stepp, PUC wants to execute the proposed interconnection agreement approximately 18 months prior to the completion of the University Mound Reservoir Facility, which is expected in November 2014, in order to reserve the City's right to this distribution line capacity.

PUC has an existing Hetch Hetchy Interconnection Agreement with PG&E through July 1, 2015, which was previously approved by the Board of Supervisors. Under that Hetch Hetchy Interconnection Agreement, the City transmits electricity generated by PUC's Hetch Hetchy facility over PG&E's distribution system to the City's power grid.

The University Mound Reservoir Facility is expected to generate 1,600,000 kilowatt/hours annually. Mr. Doyle reports that the renewable electricity generated by the University Mound Reservoir Facility will be transmitted over PG&E lines to other City-owned facilities since the University Mound Reservoir Facility cannot utilize all the electricity that will be produced. PUC will pay PG&E for transmitting electricity generated by the University Mound Reservoir Facility under the existing Hetch Hetchy Interconnection Agreement.

FISCAL IMPACT

According to Mr. Doyle and as shown in Table 1 below, the total estimated cost to be paid by PUC to PG&E under the proposed interconnection agreement is a maximum of \$86,765, which includes (a) one-time costs of \$49,500 for network upgrades, and (b) a one-time charge of \$37,265 cover PG&E's long term cost of ownership of these upgrades. The proposed interconnection agreement includes base costs plus a 50% margin applied to PG&E cost estimates, which, according to Mr. Doyle, is standard with PG&E in order to cover the highest potential cost of the proposed agreement. PG&E can only charge PUC for actual costs, which are expected to be less than the \$86,765 maximum cost of the proposed agreement.

Funds for the proposed agreement cost of \$86,765 are available in the PUC's FY 2012-13 budget as previously appropriated by the Board of Supervisors.

**Table 1. Interconnection One-Time Estimated Costs at the
University Mound Reservoir Facility**

	One-Time Network Upgrades	One-Time Charge, Cost of Ownership	Total Interconnection Costs
Base Costs of the Agreement			
Installation of PG&E Revenue Metering	\$18,000		
Engineering Costs	5,000		
Pre-Parallel Inspection ¹	10,000		
Subtotal	\$33,000	\$24,843	\$57,843
50% Margin	\$16,500	\$12,422	\$28,922
Total	\$49,500	\$37,265	\$86,765

In addition to the one-time maximum costs of \$86,765 under the proposed agreement, the PUC will pay PG&E for the transmission and distribution of the expected 1,600,000 kw/h of renewable energy generated by the University Mound Reservoir Facility under the existing Hetch Hetchy Interconnection Agreement with PG&E. Under the existing Hetch Hetchy Interconnection Agreement, PUC is charged by PG&E for all electric loads for transmission and distribution. All electric loads are charged (a) a transmission fee of \$0.0059756 per kilowatt-hour; and (b) an additional distribution fee of \$0.00747 per kilowatt-hour for delivery to a primary service site; or (c) an additional distribution fee of \$0.01237 per kilowatt-hours for delivery to a secondary service site². However, per the existing Hetch Hetchy Interconnection Agreement, renewable energy generation designated to serve specific load within 20 miles of the plant is credited \$0.008 per kilowatt-hour to offset the transmission and distribution fees.

As shown in Table 2 below, based on the expected 1,600,000 kilowatt-hours of renewable energy produced per year from the University Mound Reservoir Facility, the PUC would pay PG&E between an estimated \$21,513 to \$29,353 annually for the transmission and delivery of electricity generated to a City service site. The actual cost to deliver the expected 1,600,000 kilowatt-hours of renewable energy will be dependent on the delivery of the renewable energy to the primary or the secondary service sites, which has not been determined at the writing of this report.

As also shown in Table 2 below, the annual cost would be offset by the estimated \$12,800 credit from PG&E for a net cost of between \$8,713 to \$16,553 annually for the delivery and transmission of the expected 1,600,000 kilowatt-hours of renewable energy produced from the University Mound Reservoir Facility.

¹ This is PG&E's on-site inspection of the generating equipment and electrical protection equipment at the time of plant start-up to be sure it is safe to interconnect with the PG&E electric system.

² Primary service sites include large high schools or pumping plants like the Alemany Pumping Plant. Secondary service sites include small elementary schools or playgrounds.

Table 2. Estimated Annual Cost of the Expected 1,600,000 kilowatt-hours of Renewable Energy Generated from the University Mound Reservoir Facility

	Primary Service Site		Secondary Service Site	
	Cost/kWh	Total for 1,600,000 kWh	Cost/kWh	Total for 1,600,000 kWh
Transmission Fee	\$0.005976	\$9,561	\$0.0059756	\$9,561
Delivery Fee (Range)	\$0.007470	11,952	\$0.012370	\$19,792
Subtotal		21,513		29,353
Renewable Energy Credit	\$0.008000	(12,800)	\$0.008000	(12,800)
Net Cost (Range)		\$8,713		\$16,553

PUC paid PG&E \$13,457,656 in FY 2011-12 for services under the existing Hetch Hetchy Interconnection Agreement. Of the total \$13,457,656 paid in Fiscal Year 2011-12, the total estimated annual cost up to \$16,553 for the transmission and distribution of the expected 1,600,000 kilowatt-hours of renewable energy produced from the University Mound Reservoir Facility would be approximately 0.1 percent of PUC's total annual payments to PG&E under the existing agreement.

As noted above, the existing Hetch Hetchy Interconnection Agreement expires on July 1, 2015. According to Mr. Stepp, the PUC is currently working on a new interconnection agreement, which will be subject to future approval by the Board of Supervisors, which the PUC expects to be in place prior to the termination of the existing Hetch Hetchy Interconnection Agreement. According to Mr. Stepp, because PUC expects that PG&E's current obligation under California Public Utilities Code Section 2828 to distribute electricity generated by renewable sources will not change, PUC does not anticipate significant changes in the cost to deliver renewable energy in the City.

POLICY CONSIDERATION

Waiver of Standard City Contracting Requirements

The proposed ordinance waives the City's standard contracting requirements, pursuant to the City's Administrative Code, as noted above, because the proposed interconnection agreement is a standard agreement between PG&E and the generation facility that is interconnecting with PG&E's distribution system, which in this instance is the PUC's University Mound Reservoir Facility. Because the proposed interconnection agreement has been approved by the Federal Energy Regulatory Commission (FERC), there is limited ability to alter the agreement to modify the terms. Therefore, according to Mr. Stepp, various City Administrative Code standard contracting requirements must be waived to be in accordance with the FERC-approved proposed interconnection agreement. Because the proposed ordinance waives the City's standard contracting requirements, including, for example, a waiver of the contribution limits of contractors doing business with the City, approval of the proposed ordinance is a policy matter for the Board of Supervisors.

RECOMMENDATION

Approval of the proposed ordinance is a policy matter for the Board of Supervisors.