COUNCIL AGENDA: 10-19-10
ITEM: 7.1

REPLACEMENT

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: John Stufflebean

SUBJECT: SEE BELOW

DATE: 10-12-10

Approved

Date 10/12/10

COUNCIL DISTRICT: City-Wide

SUBJECT: REPORT ON REQUEST FOR PROPOSALS FOR A POWER PURCHASE AGREEMENT TO FINANCE, ENGINEER, INSTALL, COMMISSION, AND MAINTAIN A TURNKEY BIO-GAS FUEL CELL CO-GENERATION SYSTEM AT THE SAN JOSE/SANTA CLARA WATER POLLUTION CONTROL PLANT (PLANT).

REASON FOR REPLACEMENT

This memo, replaces the previous memo dated September 16, 2010. Most of the original memo has remained unchanged except for the alternatives analysis section which has been revised.

RECOMMENDATION

It is recommended that the City Council accept the report on the Request for Proposals for a Power Purchase and Site Lease Agreement for Fuel Cell System Power Production and adopt a resolution authorizing the Director of Finance to execute a Power Purchase Agreement, Site Lease and other necessary documents, with UTS SJ-1, LLC (UTS) (Encinitas, CA) to purchase fuel cell energy at the Plant for a 20 year term.

OUTCOME

Execution of the Power Purchase Agreement (PPA) with UTS will result in a fuel cell system with the capacity of generating 1.4 megawatts (MW) of electrical power at the Plant providing clean, renewable and reliable power at a cost comparable to projected PG&E costs. The system will advance the Plant's energy self sufficiency goal and also advance the City's Green Vision renewable energy goal of receiving 100% of electrical power from clean renewable sources.

EXECUTIVE SUMMARY

The Plant relies on self generation of power to provide reliable supply of electricity to run its critical equipment. The generation systems are 30 to 53 years old and are in need of replacement. City staff has pursued an option of obtaining this equipment through a 20 year PPA using newer, renewable fuel cell technology that uses the Plant's digester gas. Under the PPA, UTS will design, build, own, operate and maintain a 1.4 MW fuel cell, and the Plant will purchase all power generated by the fuel cell at the agreed upon price. In addition, the Plant will construct the concrete pad the fuel cell will be installed on and the interconnection between the Plant and fuel cell (water, gas, electrical). The Plant's capital investment is estimated at $1,500,000. City staff looked at other more traditional generation systems such as Internal Combustion (IC) engine generators and concluded that fuel cell has higher cost but significant environmental benefits. This recommendation accomplishes several of the Plants and the City's goals:

- Reliable power generation to replace aging engine generators
- Greater regulatory certainty by elimination of air permit requirements for this system
- Environmental stewardship through lower green house gas emissions
- Advances the goal of Plant energy self sufficiency by 2022
- Comparable costs to anticipated future PG&E rates.
- Additional energy source of hot water as a by-product of the system
- Reduces monthly peak demand from PG&E.

The planned completion date of the project is January 20, 2012.

BACKGROUND

The electrical generation and distribution system is the lifeline of Plant operation, without which, the plant would not function. As with much of the infrastructure at the Plant, the engine generators are 30 - 53 years old and are at a high-risk of failure. Of the eight originally installed engine generators at the plant, representing an installed capacity of 13 mega-watts (MW), two generators equaling 2.5 MW have been retired due to age, and three of the remaining six generators with a combined capacity of 3.4 MW need replacement due to lack of reliability, high maintenance costs, and difficulty in obtaining spare parts.

The Plant uses an average of 7.6 MW of electricity for its daily operations, with peak loads reaching 11 MW on occasion. On average, 5.2 MW is produced on-site using engine generators fueled by a blend of natural gas purchased from PG&E, landfill gas purchased from Newby Island Landfill, and digester gas produced on-site as part of the waste water treatment process. The remaining 2.4 MW of electricity is purchased from PG&E. Although current Plant generation capacity is 10.5 MW, generation frequently falls short of demand due to the unavailability of generators down for maintenance and other operability factors. Even though the plant can purchase all of its electricity needs from PG&E, the ability to generate electricity

in-house is critical for reliable plant operations in the event of a PG&E power failure caused by an earthquake, bird strike, or other blackout. Lack of reliable in-house electrical generation during PG&E power failures can have disastrous consequences with significant damage to critical equipment and facilities, and potential discharge of untreated sewage into the bay. The Plant needs to maintain a minimum of 8 MW of very reliable on-site generation to meet current critical power demands. This minimum power requirement is expected to increase over next 20 years as the Plant is modernized through implementation of the Plant Master Plan. The need to replace aging engine generators is critical.

Along with the need to replace aging generators, is the need for increased efficiency and environmental sustainability. Concerns over climate change and environmental responsibility have prompted the City of San Jose, and the State of California to establish policies and programs aimed at addressing these issues. In addition to the City's adopted Green Vision goals and Strategic Energy Plan, other key policies include:

- The City signing the Urban Environmental Accords (November 2005)
- The City signing the U.S. Conference of Mayor's Climate Protection Agreement with a goal of reducing greenhouse gas emission by 80% of 1990 levels (March 2007)
- The State of California, through the California Public Utility Commission (CPUC) started the Self Generation Incentive Program (SGIP) which offers substantial rebates towards the implementation of renewable self-generation technologies, such as Photovoltaic Cells (solar), fuel cells, and wind turbines.

Aging engine generators and the need to move toward increased efficiency and environmental sustainability led staff to evaluate options for replacement of the generators, which would meet the Plant's goals and at the same time take advantage of the rebate incentives offered by the CPUC. Staff has evaluated the cost benefits and applicability associated with these renewable technologies and identified fuel cell electrical generation as a cost effective technology that would yield the greatest resource and environmental benefit to the Plant.

Fuel cells convert natural gas or biogas to electricity electrochemically like a battery. But unlike a battery which eventually goes dead as the chemicals in the battery are depleted, the fuel cell is continuously fed new chemicals so it can produce electricity for up to 5 years before the cell needs to be rebuilt. Fuel cells require very clean fuel to prevent early failure so the biogas from the Plant must first be cleaned and conditioned through a gas cleaning system to remove most of the contaminants. The gas is then delivered to the fuel cell along with oxygen where the gas is converted to electricity, hot water and a residual gas stream of mainly carbon dioxide. The heat from the fuel cell is recovered and used in Plant operations.

Fuel cells have one of the highest financial incentives because they use renewable biogas as fuel. They are highly efficient, and have very low air emissions compared to more traditional generation systems like Internal Combustion (IC) engines or turbine generators. Fuel cells generate approximately 20% less greenhouse gases compared to internal combustion engines and

near zero air pollutant emissions. As a result, fuel cells only require a simple air permit to operate with minimal requirements.

Based on the recent successes with the City's Solar PPA process, City staff looked at a PPA as a way to procure a fuel cell instead of funding and constructing one through the capital program. The PPA option uses a private entity to fund, own and operate the fuel cell. The private entity can take advantage of the Investment Tax Credit (ITC) program funded by the American Recovery and Reinvestment Act (ARRA). The ITC program allows private companies who build own and operate fuel cells (as well as solar and wind power systems) to take a 30% tax credit or grant on their net capital expenditures. This is in addition to the rebate offered through the SGIP. Government agencies are ineligible for the tax credit because they do not pay taxes. The PPA allows the project developer to capture the SGIP incentive along with the ITC, making the project viable with significantly less upfront City funding.

In order to capture the SGIP rebate incentive, City Staff submitted an application for reservation of the rebate for the installation of up to a 2.8 MW fuel cell and received a conditional reservation letter dated July 20, 2010 from PG&E for a maximum rebate amount of $7.4 million. For a 1.4 MW fuel cell, the rebate amount is $5.4 million. The remaining two important milestones of the conditional reservation are:

- Execution of a contract of the Power Purchase Agreement by March 17, 2011
- Submit proof of installation and operation of fuel cell by January 20, 2012

ANALYSIS

On June 29, 2010, the City released a Power Purchase & Site Lease Agreement for Fuel Cell Power Production Request for Proposal (RFP) for the Plant on the City e-procurement system. Under the provisions of the RFP, the Fuel cell provider will fund the construction of the gas cleaning system, fuel cell, hot water transfer system, and electricity monitoring/distribution system as well as operate and maintain the fuel cell a for period of 20 years. The Plant will pay for the construction of the interconnections between the fuel cell and the existing plant utilities (water, gas, electric) including the concrete pad the fuel cell will be installed on. The City's capital investment is estimated at $1.5 million.

Forty-nine companies viewed the RFP, sixteen companies downloaded the RFP, and the following two companies/teams submitted technical proposals by the July 28, 2010 deadline:

- Chevron Energy Solutions/UTC Bio Energy (San José, CA)
- UTS Bio-Energy (Encinitas, CA)

In accordance with the evaluation process set forth in the RFP, a three person evaluation team from within the Environmental Services Department evaluated the written proposals on August 16, 2010. Proposals were evaluated against the following criteria: Experience (30%), Technical

Capability (30%), Financial/Business Strength (30%) and Local/Small Business Preference (10%). The final scores and rankings are summarized in the table below:

Team Name	Experience (30 pts)	Technical Capability (30 pts)	Financial / Business Strength (30 pts)	Local/ Small (10 pts)	Total (100 pts)	Rank
UTS Bio-Energy	25	25	30	0	80	I
UTC/Chevron	22	8	30	5*	65	**

*UTC/ Chevron qualified for the City's Local Business Enterprise preference as they have an office with at least one employee located in San Jose
** See paragraph below

A key element of the Technical Capability review was the combined heat and power output of the proposed systems. The evaluation team determined that the proposal submitted by UTC/Chevron shows a lower combined heat and power output than the existing system in the plant which did not meet the City's goal for conversion of biogas to electricity and hot water. The evaluation criteria established in the RFP required that, with the exception of the local and small business preference, Proposers must score at least 50% of the total available points for each category. Because the UTC/Chevron proposal did not meet this requirement in the Technical Capability category, their proposal was dropped from further consideration.

UTS submitted their Best and Final Offer (BAFO) on August 31, 2010 with a price of 11.5 cents/kWh and an annual escalation of 3.25 percent. The quoted price of 11.5 cents/kWh did not include renewable energy credits which UTS valued at 0.5 cent/kWh. If the City allows UTS to keep the renewable energy credits (RECs), the power purchase price is 11 cents/kWh. City staff is recommending that UTS keep the RECs and accept the starting price of 11 cents/kWh.

This Agreement is subject to the City's Prevailing Wage Policy and the Office of Equality Assurance will ensure compliance.

Given the age and declining reliability of the Plant's older engine generators, additional or replacement capacity must be secured. Therefore, the primary motivation in this proposed PPA is to secure clean, on-site generation of electricity at the best price with the least capital investment, in order to have backup power in the event of a PG&E power failure or other loss of electricity. The starting price of 11 cents/kWh is consistent with other fuel cell PPA projects within the State. The escalator of 3.25% per year is lower than the range of expected PG&E rate increases (4-6%) over the term of the agreement.

To secure the additional generator capacity, City staff considered a traditional generation system like IC engines as well as the fuel cell. For the IC engine generator, staff would not recommend a PPA approach since the Plant has skilled employees familiar with IC engine operation and

maintenance. For the fuel cell, staff is recommending a PPA in order to qualify for the ITC credit, reduce City risk to a new technology, and to secure a firm that has the skills and abilities to operate and maintain the system. The table below compares the cost of a similar size (1.4 MW) IC engine generator without a PPA, with the fuel cell PPA, and concluded that the fuel cell PPA will cost more per year ($387K) even with the current high SGIP incentives and ITC tax credit (see table below). However, the fuel cell comes with significant environmental advantages over the IC engine generator such as lower GHG emissions, no air permit requirements, greater regulatory certainty, improved efficiency, and a very reliable base load generator.

Cost Comparison 1.4 MW Fuel Cell vs. 1.4 MW IC Engine vs. PG&E

	Fuel Cell PPA[1]	**ICE non-PPA[1]**	**PG&E @ 4%[2]**	**PG&E @ 6%[2]**
Annual cost - City provided capital (@ 3% interest)	$100,824	$608,302	NA	NA
Annual cost - PPA electricity	$1,639,870	NA	NA	NA
Annual cost - City provided O&M	NA	$622,827	NA	NA
Annual cost – fuel	$624,888	$784,509	NA	NA
Value of hot water and reduction in peak demand	-$355,444	-$355,444	NA	NA
Average annual cost over 20 year term [3]	**$2,010,137**	**$1,623,248**	**$1,852,129**	**$2,287,981**
Average cents per kWh over 20 year term[4]	**18.6**	**15.0**	**17.1**	**21.2**
Difference between Fuel cell, ICE and PG&E		(-$386,889)	(-$158,008)	$277,844

1. Assumes FC operates 90% of time and has 2% parasitic load. Assumes ICE operates 90% of time and has 3% parasitic load.
2. Assumes PG&E rate increase at noted % per year for 20 years. At 3% PG&E annual rate increase the delta is -$339K. At 4.8% PG&E annual rate increase, the fuel cell breaks even.
3. Average annual cost to produce or purchase 10,817,000 kWh.
4. ICE costs reflect 0.5 cent discount for renewable energy credits (RECs). For fuel cell, PPA provider keeps RECs.

The cost presented in the table above, reflect 20 year average annual costs with escalation factors applied. For example, it was assumed that O&M costs (materials and labor) as well as fuel would increase at 3% per year, and fuel cell purchased electricity would escalate at 3.25% per the agreement. The $387K/yr difference (or $7.74M over the 20 year PPA term) in cost between the fuel cell PPA and ICE is based on a minimum specified runtime of 90%. If the fuel cell is able to achieve 95% runtime as planned, then the cost difference will go up 5%. The

difference in cost reflects the additional cost of operating and maintaining the fuel cell, which is typically more expensive than an ICE. The increased costs mainly results from the higher level of digester gas cleaning needed to protect the fuel cell, and from the cost to replace the fuel cell stack every 5 years, which is more expensive than overhauling an ICE. The high degree of gas cleaning required as an essential feature of the fuel cell, is part of the reason why fuel cells put out almost no pollutants.

The difference in cost also represents the risk and responsibility being taken by UTS as the PPA provider. For example, UTS is taking the risk that Fuel Cell Energy, the manufacturer of the fuel cell, will stay in business for the next 20 years, and that the gas cleaning system, which is critical to the successful operation of the fuel cell performs as required. UTS, takes risk by providing the capital funding and all other labor and resources necessary to produce the power. The City's exposure resulting from new technology are therefore, reduced. If UTS can't produce power for reasons other than not having the required quantity and quality of digester gas provided by the Plant, then the City does not pay.

The fuel cell will cost the Plant more than purchasing the same amount of power from PG&E if average PG&E rate increases are lower 4.8% over the life of the fuel cell. If actual PG&E rate increases are lower or higher than 4.8%, the relative cost of energy from the fuel cell may be greater or the project could result in a savings. Although future increases in electrical prices are uncertain, market indicators point to average increases over the next 20 years in the range of 4 – 6% with higher increases in the early years, as PG&E renews its infrastructure and increases it renewable energy generation portfolio to include more solar, wind and other capital intensive technologies. From 1970 to 2006, PG&E rates increased at an average annual rate of 6% (see attachment 1). The rate increases for the past 5 years have not been as high and have averaged roughly 3%. In PG&Es recent rate increase request to the CPUC for years 2011-2013, PG&E asked for a 19.7%, 4.1,% and 4.9% rate increase respectively. It is unlikely that PG&E will get the requested increases, but they are likely to receive something in the middle. The fuel cell PPA will cap future energy costs by locking in a reasonable fixed escalator of 3.25% over the 20 year term.

Although higher in cost, the fuel cell PPA provides the following advantages over an ICE.

- Results in almost zero regulated air pollutants with simple to comply air permit.
- Results in 20% less GHG compared to ICE, which is the equivalent of taking 192 medium sized cars off the road or planting 26,000 trees.
- Provides new, but developed technology for the Plant to learn from and minimizes risk in that technology.
- Provides a higher efficiency generator (45% vs. ICE 37%) that uses less fuel to operate.
- Provides a slightly more stable generator than an ICE (fuel cell won't fall off- line during a power outage like ICE or turbines can).
- Quieter than ICE.

- Provides greater regulatory certainty. The ICE estimate contains some costs for future and more stringent air regulation changes, but may not cover all the costs which are hard to predict. The fuel cell is not expected to require any modification to meet emissions standards through the life of the project.
- Provides the Plant with an more environmentally friendly and diverse generation portfolio.
- Places almost all risk onto PPA provider. City pays for power, not for the cost to operate and maintain.
- Frees up City capital to be used on other critical projects.
- Begins replacing ICE sooner since the fuel cell will be on line by January 2012, but it will take 2-4 years to get an ICE in place and operational.
- Property taxes generated to local schools, cities and districts.
- Provides insurance for the fuel cell and the Plant in the event of property damage or personal injury to others as result of system operation.

The fuel cell also provides the following advantages in common with a new ICE.

- Reliable power generation to replace aging engine generators
- Advances the goal of Plant energy self sufficiency by 2022
- Stabilizes cost compared to PG&E.
- Reduces monthly peak demand (highest 15 minute electrical demand from PG&E) charges by approximately $221,000 per year.
- Produces approximately 0.6 MW equivalent of hot water to be recovered and reused in Plant operations at no additional cost to the City. The hot water is valued at $134K per year.
- Heat from the fuel cell, along with heat from current engine generators may eventually allow the Plant to stop using low efficiency, 1960 vintage, engine blowers to produce process air and hot water. Instead, the Plant will use higher efficiency electric blowers. This is estimated to save the Plant about 0.8 MW of electric demand valued at around $350K per year. This is a future benefit not currently included in the rate analysis.

The current completion date per the SGIP Conditional Acceptance letter is January 20, 2012. The SGIP recognizes a longer execution time for government entities and has a provision for an extension of the completion date by a maximum of 180 days. If Council approves moving forward with this project, City staff will submit a letter to PG&E to request extension for the completion date, if needed, in accordance with the program guidelines, two months before the said date as per PG&E requirement.

Key Business Terms

Agreement Term: The Power Purchase Agreement will be for a term of 20 years that will begin upon completion of construction of the fuel cell facilities and generation of electrical power. The initial price per kilowatt hour will be eleven cents that will escalate as described below.

System Construction: The City will pay for the construction of the interconnections between the fuel cell and existing plant utilities including gas, water, and electric. The City will also construct the concrete pad that the fuel cell will be installed on per the design of the fuel cell manufacturer. These costs are estimated at $1.5 million.

UTS will construct, at its expense, the fuel cell system including the gas cleaning system and power conditioning equipment. UTS will provide a performance and payment bond. The PPA requires UTS to pay the prescribed prevailing wage rates. The City is not obligated to make any payment until power becomes available from the completed system. At the end of the term, UTS must remove the Fuel Cell System from the site and return the Plant premises to its original state if the PPA is terminated at any point in time even if the project is terminated before completion. UTS is also obligated to indemnify the City against any claims arising out of its construction activities at the site. The estimated time to install and commission the system is approximately twelve months after notice to proceed.

System Ownership: UTS will own, operate and maintain the system throughout the term of the Agreement. As part of the Agreement, UTS is requesting that any entity holding a leasehold interest in the property where the system is installed acknowledge UTS's ownership interest and right to give security interests in the system to other providers of financing.

Payment Terms: Under the PPA, the City must pay for all the energy that the fuel cell system produces at the agreed upon price. If the system is down for maintenance and not producing electricity the City does not pay. The initial price for the first year of the PPA is set at $0.11/kWh and UTS keeps the energy credits. The annual escalation will be 3.25% per year for the first 10 years of the PPA. At the start of the second 10 year period, the actual average core-CPI (consumer price index minus food and energy) for the first 10 year period will be compared to the 3.25% escalator. If the average core-CPI is higher than 3.25%, the escalation rate will be increased to match the average core-CPI with a maximum of escalation rate of 4% for the second 10 year period. The contract pricing contemplates full benefit from the SGIP grant of $5.4M offered by PG&E and an ITC offered by the IRS, which is based on 30% of UTS's net capital costs invested in the project.

The PPA also provides that UTS will adjust the rate down by 10% on the power generated from the fuel cell, for power produced in excess of 90% (11,000,000 kWh) of the system capacity.

Termination of PPA: UTS has the right to terminate the PPA without penalty prior to the City beginning construction of the interconnections and pad, if there are material changes to law or regulations which make the project economically unfeasible (like SGIP rebate being reduced) or if the City can't provide at least 75% biogas for the fuel cell to operate.

Quality of Fuel: The City has committed to provide digester gas with a hydrogen sulfide, methane, carbon dioxide content the does not exceed a maximum set forth in the PPA. The City has also agreed to set maximum limits for volatile organic compounds (VOCs) and total

Siloxanes. VOC and Siloxane limits will be determined prior to start up of the fuel cell. The City has agreed that if these parameters exceed the maximum value after the limits have been set, then UTS can pass on the additional costs for removing the amounts above the maximum.

Disruption: UTS will not be penalized for electrical power disruptions from the fuel cell if it is down for maintenance or other technical reason. If there are problems with the supply or quality of the digester gas from the Plant, the Plant will pay for the natural gas to keep the fuel cell running. UTS and the City will split the natural gas cost for the first 48 hours, in case of failure of the gas cleaning system after which time UTS will pay for all the natural gas until the gas cleaning system is back on line.

Ongoing Funding: Payment obligations for the first year of operation will be encumbered against the Plant's general utility charges appropriations and will be encumbered on an annual basis throughout the twenty year term of the PPA.

City's Buyout Rights: The City has the option to buy out the fuel cell at the 10th anniversary of commercial operation or at the expiration date of the agreement. The buyout price is equal to the greater of the fair market value of the system as determined at that time or the price set forth in the PPA. If the City exercises its buyout right, then the City would need to provide for the operation and maintenance of the System, including periodic replacement of the fuel cells from the manufacturer.

Site Lease: The fuel cell needs to tie into the Plant's electrical distribution system, so it will be located on approximately 5,000 square feet of Plant property next to a main power substation. This property will be leased to and controlled by UTS as the fuel cell owner/operator for $10 for the 20 year lease term.

Property Tax: The system will be owned and operated by a non-governmental entity and therefore, is subject to property taxes. These taxes have been factored in by UTS into their price of 11 cents/kWh.

Other Terms and Conditions: The PPA contains a mutual indemnification provision and standard insurance and construction bonding requirements.

POLICY ALTERNATIVES

Alternative # 1: Purchase and install new engine-generator
Pros: City staff is very familiar with this technology and has lower cost.
Cons: This technology is less clean, less efficient, and has greater regulatory uncertainty.
Reason for not recommending: The Plant needs to replace up to 8 MW of on-site generation. Most of the new generation will be conventional ICE or gas turbines. For this first 1.4 MW, City staff has opted to use a cleaner, more efficient technology to diversify the generator portfolio. City staff also wants a technology that will maximize incentives and rebates to minimize capital cost, but still be cost-effective. City staff is more familiar with the engine generator technology,

but tighter emission regulations and compliance are expected to increase the O&M costs in the long run. Learning to deal with a new technology will give City staff additional knowledge and experience.

Alternative # 2: Reject bid and drop project
Pros: Money already allocated for engine-generator replacement could be used for other reliability projects.
Cons: Need to purchase more electricity as self-generation capacity reduces with aging engine generators. City will also lose the opportunity for a $6,810,000 in rebates and incentives.
Reason for not recommending: Cost to purchase electricity is forecast to be significantly higher than that from self-generation and the City will lose the opportunity for a clean and efficient technology for electrical generation utilizing the rebate incentive.

PUBLIC OUTREACH/INTEREST

☑ **Criteria 1:** Requires Council action on the use of public funds equal to $1 million or greater. **(Required: Website Posting)**

☐ **Criteria 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**

☐ **Criteria 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or a Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

This requirement meets criteria 1 above and will be posted on the City's website for the October 19, 2010 Council agenda.

COORDINATION

This project and memorandum have been coordinated with the Finance Department (RFP), Planning Building and Code Enforcement, Office of Equality Assurance, Risk Management, Budget Office, and the City Attorney's Office. The City coordinated with PG&E and submitted an application for rebate through the SGIP and the City has received a conditional reservation letter. This item is scheduled to be heard at the October 14, 2010 Treatment Plant Advisory Committee (TPAC) meeting.

EVALUATION AND FOLLOW UP

If this recommendation is approved, staff will return to council within 5 months with a recommendation for award of contract for the construction of the interconnections and concrete foundation pad.

FISCAL/POLICY ALIGNMENT

This project is consistent with the Council approved Budget Strategy, Economic Recovery section, in that it will help to stimulate construction spending in our local economy. This project is in line with the City's Resolution Endorsing the U.S. Mayors Climate Protection Agreement. The fuel cell is a more efficient electric generation technology and will produce less greenhouse gasses compared to other technologies at the same amount electric energy produced.

COST SUMMARY/IMPLICATIONS

As described in the Analysis section, entering into this contract will cause the Treatment Plant to incur both capital and operating costs in the future. The capital costs are currently estimated at $1.5 million. The actual costs will be determined once the construction contract has been put out to bid. The Department will return to the City Council for approval of the construction contract at a later date. Funding for the construction costs is available in 2010-2011 in the San José/Santa Clara Treatment Plant Capital Fund ($1.3 million in the Fuel Cell appropriation, and approximately $200,000 in the Plant Electrical Reliability appropriation).

The proposed operating and maintenance costs of this project have been reviewed and will result in the need to purchase additional landfill or natural gas. The impact is estimated at $200K/yr to the San Jose-Santa Clara Treatment Plant Operating Fund. This funding will be requested through the budget process once the capital project has been completed.

CEQA:

Exempt, File No. PP10-112

/s/
JOHN STUFFLEBEAN
Director, Environmental Services

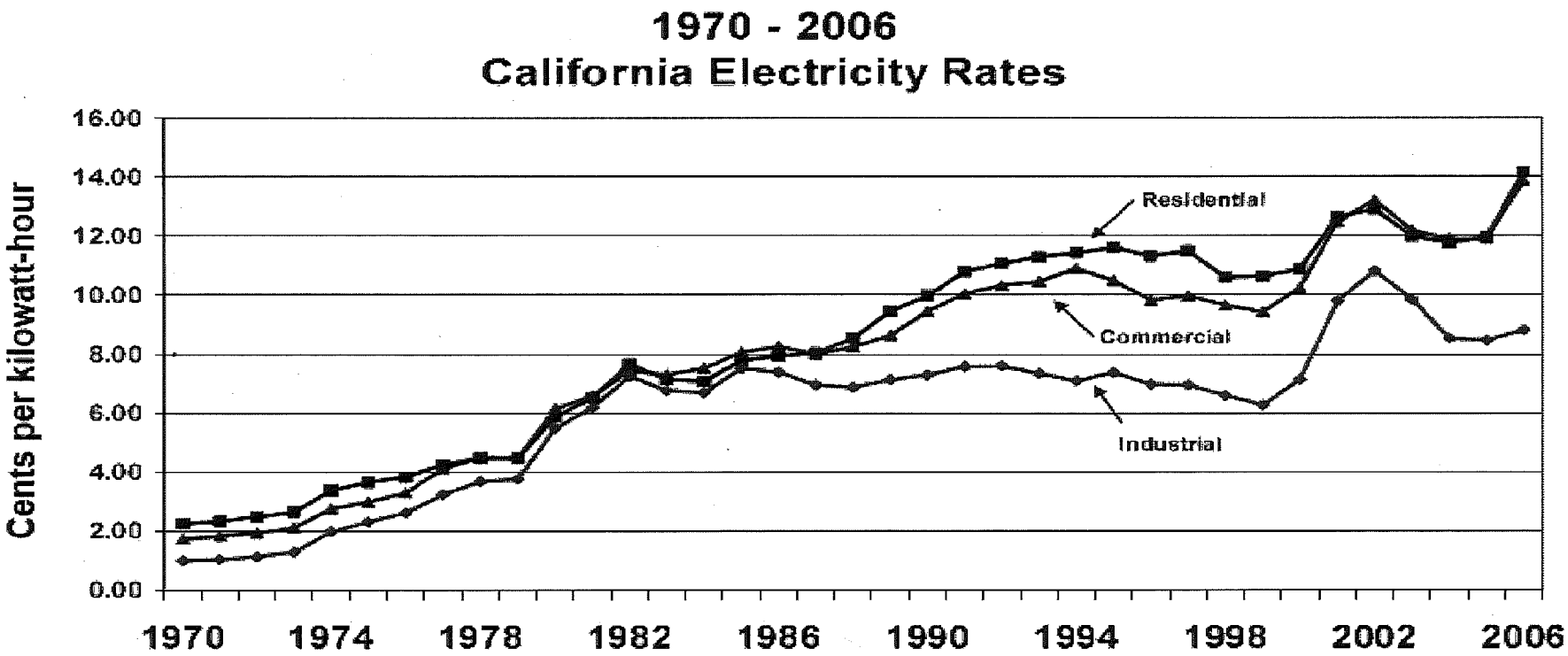
For questions please contact Dale Ihrke, Deputy Director, at (408) 945-5198

Attachment 1

Attachment 1

Historical PG&E Rate Increases

Historic PG&E Rate Increases from 1970-2006:



Sources: Department of Energy, Energy Information Administration (EIA), 1970-1989 EIA State Energy and Price Report 2001, California Tables 2-4; 1990-2003 EIA Electric Power Annual, 2003 Historical Spreadsheets, Average Price by State by Provider (EIA-861); 2004 EIA Electric Power Monthly, March 2005, Table 5.6.B; 2005 EIA Electric Power Monthly, October 2005, Table 5.6.B; 2006 PG&E Advice Letter 2706-E E-7, A-6, and E-19/20 Requested Increases

Compound Annual Growth	
Residential	5.3%
Commercial	6.0%
Industrial	6.3%