Business Administration from the University of California at Los Angeles. She also completed the Program for Senior Executives in State and Local Government at the John F. Kennedy School of Government at Harvard University.

ERIC KLINKNER, Assistant General Manager. Mr. Klinkner has been with PWP since 1995. He served as PWP's manager of power resources and Business Unit Director for Power Supply and was appointed to his present position in August 2004. In his current position, he is responsible for regulatory affairs, strategic planning and long term resource and environmental issues. Mr. Klinkner is also responsible for legislative issues impacting PWP. Mr. Klinkner previously worked at LADWP where he started in power resource planning. He has a master's degree in mechanical engineering from California State University-Northridge and is a state registered professional engineer.

SHARI M. THOMAS, Business Unit Director for Finance, Administration and Customer Service. Ms. Thomas joined PWP in January 2006. She began her career with the City of Pasadena in 2002 as the Deputy Director of Finance. She previously worked for the City of Riverside for nearly 15 years in various financial positions. Ms. Thomas is currently responsible for financial planning and budgeting, cost of service analysis and rate setting, information technology for PWP and customer service. She completed her bachelor of science degree with majors in Accounting and Finance in Minnesota and has also completed the University of Wisconsin's Advanced Governmental Finance Institute.

GURCHARAN BAWA, Acting Business Unit Director for Power Supply. Mr. Bawa has been with Pasadena Water and Power for 15 years working in the Power Production field managing regulatory and environmental issues. He most recently has been responsible for evaluating renewable energy resources and incorporating these assets into Pasadena's overall energy resource portfolio. He received his Mechanical Engineering degree from S.V.R. College of Engineering and Technology, Surat, India. He is a licensed Professional Engineer in the State of California.

GEORGE WILSON, Business Unit Director for Power Delivery – Field Services. Mr. Wilson has worked for PWP since 1965. He began as a steam plant operator and served as control room operator and power production supervisor. Mr. Wilson served for five years as Superintendent of Power Production, managing all local power generation facilities and distribution system operations prior to promotion in early 1998 to his current position.

JOE AWAD, Business Unit Director for Power Delivery – Engineering and Construction Management Services. Mr. Awad joined PWP in July 1998 as the Customer Service Manager. He is currently responsible for managing the power engineering program for capital improvement and maintenance programs at PWP. He worked for 18 years for LADWP in engineering, marketing and customer service functions. Mr. Awad obtained his master's degree in Mechanical Engineering from the University of Michigan and is a Certified Professional Engineer in the State of California.

SHAN KWAN, Business Unit Director for Water Delivery. Mr. Kwan has been with PWP since 1985. Prior to his appointment as Business Unit Director for Water Delivery, Mr. Kwan was a principal engineer in the Water System. He worked in water distribution, plant and facilities, quality and supply and resource planning. Prior to his employment with PWP, he was a construction inspector for Caltrans. Mr. Kwan holds a bachelor's degree in civil engineering from UCLA and a master's degree in business administration from Claremont Graduate University.

#### THE ELECTRIC SYSTEM OF PWP

### General

The Electric System of PWP began generating its own electric energy and distributing power in 1906. Electric service was previously supplied by Edison Electric Company, predecessor to Southern California Edison Company ("SCE"). PWP has continued to expand its electric distribution system to meet the demands of its residential, commercial, industrial and public sector customers. The Electric System provides service to virtually all of the electric customers within the limits of the City. For the Fiscal Year ended June 30, 2007, the customer base was comprised of 53,989 residential customers, 8,255 commercial and industrial customers, and six street lighting and traffic signals customers. The service area is approximately 23 square miles, with a current estimated population of approximately 147,000.

The Electric System includes generation, transmission and distribution facilities. The City also purchases power and transmission service from others. The Electric System's current 409 MW resource mix includes 197 MW of local steam and gas turbines, 15 MW small hydroelectric (Azusa Hydroelectric) and 197 MW of long-term purchase contracts (remote generation) from a variety of sources including hydroelectric, coal and nuclear generating units. Although these resources are more than sufficient to meet the City's loads, a portion of the Electric System's energy supply is purchased when it is more economical, on the wholesale hourly, daily and month-ahead spot markets. See "Purchased Power – Bilateral (Spot Market) Energy Purchases" herein.

Legislation affecting the electric utility industry is routinely introduced or enacted by the federal government and the California Legislature. Most recently, these bills have required reduced greenhouse gas emission standards and greater investment in energy-efficient and environmentally friendly generation alternatives through more stringent renewable resource portfolio standards. PWP's generation and transmission facilities and planning are implemented in accordance with existing law and in response to pending legislation. See "DEVELOPMENTS IN THE CALIFORNIA ENERGY MARKETS" and "OTHER FACTORS AFFECTING THE ELECTRIC UTILITY INDUSTRY" herein.

## Valuation of Electric System Facilities

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

TABLE 2
ELECTRIC SYSTEM FACILITIES

	Fiscal Year Ended June 30,					
	2003	2004	2005	2006	2007	
Utility Plant	\$323,649,539	\$424,135,312	\$437,091,925	\$450,259,070	\$482,290,266	
Less Accumulated Depreciation	(184,426,855)	(192,729,295)	(206,348,635)	(220,212,241)	(234,339,955)	
Construction in Progress	82,345,301 <sup>(1)</sup>	16,341,558	23,323,483	31,987,377	31,791,674	
Total Facilities	\$221,567,985	\$247,747,575	\$254,066,773	\$262,034,206	\$279,741,985	

Source: Finance and Administration Business Unit of PWP.

<sup>(1)</sup> Includes the City's repowering project which included the replacement of two steam generators with two new 45 MW simple-cycle combustion turbines (which commenced commercial operation in January of 2004).

# **Power Supply Resources**

The Electric System increased its power production for several consecutive years primarily as a result of increased energy sales to the California Independent Service Operator ("ISO") and also to meet moderately increasing energy demand.

In Fiscal Year 2007, PWP generated 58 GWh from its local resources and purchased 1,495 GWh from long-term contracts and the spot market. The local consumption remained stable as it experienced a 2% decrease in Fiscal Year 2007. The system peak demand in Fiscal Year 2007 was 316 MW. Utilization of local generation has decreased in recent years due to relatively high costs of generation and is subject to market and load conditions.

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

TABLE 3
TOTAL POWER GENERATED AND PURCHASED: PEAK DEMAND (MWh)

	Fiscal Year Ended June 30;					
	2003	2004	2005	2006	2007	
Generated	166,673	142,225	79,273	78,816	57,562	
Purchased	1,153,123	1,369,944	1,342,791	1,516,273	1,494,597	
Total Supply	1,319,796	1,512,169	1,422,064	1,595,088	1,552,159	
Sales and Losses	(142,946)	(342,381)	(209,203)	(335,614)	(269,945)	
Net System Load	1,176,850	1,169,788	1,212,861	1,259,474	1,282,214	
System Peak Demand (MW)	270	282	277	291	316	

Source: Finance and Administration Business Unit of PWP.

The following table sets forth information concerning the City's power supply resources and the energy supplied by each resource during the Fiscal Year ended June 30, 2007.

TABLE 4
POWER SUPPLY RESOURCES

	Name-plate Capacity	Rated Capacity	Actual Energy	Percent of Total
Source	<u>(MW)</u>	$\frac{(\mathbf{M}\mathbf{W})^{(1)}}{}$	$\frac{(GWh)^{(2)}}{}$	Energy
Pasadena-Owned Generating Facilities:				
Steam (Broadway)	75	65	22	1.41%
Combustion Turbines (Glenarm)	156	132	34	2.19
Hydroelectric (Azusa)	3	15	2	0.13
Joint Power Agency/Remote Ownership Interests:				
Intermountain Power Project (IPP)		108	832	53.54
Palo Verde Nuclear Gen. Station (SCPPA)		10	73	4.71
Hoover Project		20	55	3.52
Magnolia Power Project		19	88	5.68
Green Power		13	64	4.12
Purchased Power <sup>(3)</sup>				
Bonneville Power Administration Contract		27	32	2.04
Market	<del></del>	N/A	352	22.66
Total		409	1,554	100.00
Sales and Losses		N/A	(318)	(20.51)
Net System Load		N/A	1,236	79.49

Source: Finance and Administration Business Unit of PWP.

### **City-Owned Generating Facilities**

The Electric System's resource mix includes local steam and gas turbines, a hydroelectric plant and long-term purchase contracts from a variety of sources including hydroelectric, coal and nuclear generating units. In recent years, PWP has developed programs in response to regional power shortages, energy price volatility, and stricter emissions control requirements adopted by the South Coast Air Quality Management District ("SCAQMD"). Currently, PWP owns and operates one natural gas steam generating unit at the Broadway facility, and four gas-fired combustion turbines ("GTs") located at the adjacent Glenarm facility. In addition to the Broadway and Glenarm facilities, the City owns the Azusa Hydroelectric Plant, which is interconnected to the Southern California Edison ("SCE") power distribution system. Each of these resources is more fully described below.

Broadway Power Plant. There is one steam generating unit located at this facility (Broadway 3). This unit is connected to the ISO control center via remote intelligent gateway and is certified to provide spin, non-spin, and replacement reserves. Due to system constraints and the age of the Broadway 3 generator, the City is considering the replacement of this unit with more efficient, cleaner, and reliable generation in or around 2009-10. The exact nature of that generation replacement is still under consideration. The current Broadway 3 generator is expected to remain in service until about 2015.

Glenarm Power Plant. The Glenarm Power Plant includes two 23 MW (rated net output) gasfired combustion turbines designated as Glenarm 1 and 2 generators. Historically, operation of these units was limited to high peak or emergency conditions. In the past few years, these units were retrofitted to improve their reliability. However, due to the ages of the Glenarm 1 and 2 generators, the City is

<sup>(1)</sup> Rated net capacities as of June 30, 2007. For Broadway and Glenarm – ISO rated, for all others maximum contractual entitlement during summer peak.

<sup>(2)</sup> Gigawatt hours provided during the twelve-month period ended June 30, 2007.

<sup>(3)</sup> Entitlements, firm allocations and contract amounts.

considering the replacement of these units with more efficient, cleaner, and reliable generation in or around 2009-10. The exact nature of that generation replacement is still under consideration.

The Glenarm Power Plant also includes two 45 MW simple-cycle combustion turbines located on PWP's Glenarm property (adjacent to Broadway) and designated as Gas Turbine Unit 3 and Unit 4 (GT3 and GT4). GT3 and GT4 turbines were added as part of PWP's Local Generation Repowering Project, and provide higher efficiency, superior operational flexibility, and 98% reduction in NOx emission rates. These units are primarily scheduled to economically meet PWP's intermediate and peaking loads. Excess capacity, operating under the ISO Participating Generator Agreement, provides ancillary services and energy to the California ISO market. See "- Inter-Utility Sales Transactions - California ISO-Participating Generator Agreement" herein. When imports are limited due to tie-line outages, or when loads reach about 200 MW, at least one unit is put on line for reliability purposes. Due to their relatively high cost of generation, utilization of these units is typically limited to when energy and ancillary service prices are strong. The value provided by these units is in their "optionality." "Optionality" refers to the ability to quickly adjust operating levels to changing market and load conditions. Due to system constraints, the City will need to maintain at least 200 MW of generation at its Broadway and Glenarm plants site.

Azusa Hydroelectric Plant. The Azusa Hydroelectric Plant is a 3 MW hydroelectric plant located in the San Gabriel River Basin. Energy is accumulated and delivered to the City by SCE through an agreement which provides for deliveries at rates up to 15 MW. The Azusa Hydroelectric Plant has historically delivered approximately 10 giga watt hours ("GWh") of energy to the City annually. In 2003, extensive blockage of, and damage to the plant's conduit system was discovered, requiring the plant to be taken out of service. Repair and restoration of the plant was completed in 2004 and the plant returned to full service. However, deliveries in recent years have decreased to minimal volumes due to adverse water flow conditions.

## Joint Powers Agency Generation Resources/Remote Ownership Interests

## **Joint Powers Agency Resources**

The City has purchased ownership interests in the Intermountain Power Project ("IPP") of the Intermountain Power Agency, a political subdivision of the State of Utah ("IPA"). In addition, the City and other public agencies in Southern California are members of the Southern California Public Power Authority ("SCPPA"), a joint powers agency created for planning, financing, developing, acquiring, constructing, operating and maintaining electric generating and transmission projects for participation by some or all of its members. The City is a participant in the SCPPA portion of the Palo Verde Nuclear Generating Station ("PVNGS") and the Magnolia Power Project. The City also has a remote ownership interest in the Hoover Hydroelectric Project and a Natural Gas Project relating to natural gas fields located in Wyoming and Texas. In most cases, staff unrelated to the City's bargaining units provide operating, maintenance, engineering, energy management and administrative services for such projects. Labor and related costs are charged to the related joint power or other public agency. The City is informed that labor agreements are in place with each respective bargaining group but cannot give any assurances as to future agreements or the status of negotiations. Each of these resources is briefly described below.

### **Intermountain Power Agency**

The following information has been obtained from the IPA and sources that the City believes to be reliable, but the City takes no responsibility for the accuracy thereof.

IPA Intermountain Power Project Interest. The purpose of the IPA is to provide for the financing, construction and operation of the IPP. The City has entered into certain power purchase contracts with the IPA and others to purchase certain entitlements of IPP and related facilities. The IPP consists of (a) a two unit, 1,800 MW net coal-fired, steam electric generation station and a switchyard located near Lynndyl, Utah and operated by the LADWP; (b) the Southern Transmission System (see "—Transmission Resources" below); (c) two 50-mile 345 kilovolt alternate current ("kV AC") transmission lines from the generation station to a switchyard in the vicinity of Mona, Utah and a 144-mile 230 kV AC transmission line from the generation station to a switchyard near Ely, Nevada (collectively, the "Northern Transmission System"); (d) a railcar service center; (e) a microwave communications system; and (f) certain water rights and coal supplies. The City has three separate contracts with the IPA and certain Utah participants which currently provide the City a 99 MW (6%) entitlement in the facility. After accounting for transmission losses, IPP contributes about 94 MW of local generating capacity to the City. Approximately 800 GWh of energy are delivered to the City from IPP each year. See "TABLE 4 – POWER SUPPLY RESOURCES" herein.

IPP has been financed entirely with debt issued by IPA, of which approximately \$3.2 billion principal amount was outstanding as of November 1, 2007. Debt service, net of projected investment earnings, constitutes in excess of 50% of IPA's total annual costs of owning, operating and maintaining IPP and is the major factor in IPP's power and energy costs. PWP is currently responsible for approximately \$191 million or 6.00% of the IPA's debt service. See TABLE 10 – "OUTSTANDING DEBT OF JOINT ACTION AGENCIES" herein for details of the City's share of this debt.

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

Original Entitlement. The City contracted with IPA to purchase a 54.5 MW (3.409%) entitlement to the IPP plant. The original plan called for four 800 MW units, providing the City with a 109 MW entitlement, but this was later scaled back as load-growth forecasts were moderated throughout the western states. This contract obligates the City to pay its proportional share of the plant costs (including debt and other fixed expenses), regardless of the amount of energy scheduled to the City, for the life of the facility.

Layoff Contract. The City contracted with Scottish Power, as successor to the obligations of Utah Power and Light ("UP&L"), and IPA to purchase a 16 MW (1.00%) entitlement of the IPP plant from UP&L. The term of this contract extends until all bonds issued by IPA to finance the project are defeased.

Excess Sales Contract. The City and the cities of Burbank and Glendale and the LADWP (the "California Purchasers") contracted with 27 sellers (the "Utah Participants") and IPA (acting as agent for the sellers) to purchase a 273 MW (17.057%) entitlement of the IPP plant which was deemed in excess of the sellers' needs. The California Purchasers agreed to split the excess among themselves in proportion to their original entitlements. The City's share of the excess is 25.5 MW (9.328%), which is equivalent to 1.591% of the total IPP project. This contract also provides for access to the Northern Transmission System, which was built with IPA funds in order to deliver power from the IPP to the Utah Participants. The term of this contract extends until the IPA bonds are defeased or the sellers' load requirements meet certain specified conditions; however, the Utah Participants have the unilateral right to recall their original entitlements at any time.

IPP Coal Requirement. The annual coal requirement for the IPP was approximately 5.3 million tons. As part of IPA's fuel supply management program, IPA has acquired an undivided interest in the assets, liabilities and reserves of certain operating coal mines and has entered into arrangements for the management of the mines. IPA uses a portion of the coal taken from the mines for fuel. IPA has stated

that coal presently under contract from mines located in central Utah is sufficient, with the exercise of available options, to meet the Intermountain Generating Station's annual coal requirements until at least the year 2015. Coal is also purchased periodically on a "spot market" basis depending on price and availability. The price of coal under contracts is calculated on a "base price plus escalation" basis. The actual cost of coal purchases under the coal supply contracts for the year ended June 30, 2007 \$214,388,000. During Fiscal Year 2002, Unit 1 of the IPP operated at a plant capacity factor of approximately 93% and Unit 2 of the IPP operated at a plant capacity factor of approximately 89%. Transmission of the output from IPP to the City and the other IPP California Participants is provided by the Southern Transmission System (see "-Transmission Resources" below).

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

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

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

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

**Operating Experience.** The IPP facilities have operated to date with a high degree of availability, exceeding the average of coal-fired generating units of comparable size. In the Fiscal Year ended June 30, 2007, the IPP Generating Station provided 831,931 MWh of energy to the City at an average cost for delivered power of \$41 per MWh (excluding transmission costs).

# Southern California Public Power Authority

The following information has been obtained from SCPPA and sources that the City believes to be reliable, but the City rakes no responsibility for the accuracy thereof.

SCPPA Palo Verde Nuclear Generating Station ("PVNGS") Interest. The City has contracted with SCPPA for a 9.9 MW (4.4%) entitlement of 225 MW SCPPA PVNGS Interest (as defined herein). This resource provides the City with approximately 65-75 GWh of base-load energy annually. The City has entered into a power sales agreement with SCPPA which obligates the City to pay the cost of its share of capacity and energy on a "take-or-pay" basis. For the Fiscal Year ended June 30, 2007, PVNGS provided 73,095 MWh of energy to the City at an average cost for delivered power of \$48 per MWh. SCPPA has issued bonds for PVNGS of which approximately \$114 million aggregate principal amount was outstanding as of June 30, 2007. SCPPA has undertaken certain actions, including collections of amounts in excess of operating and maintenance expenses and current debt service on its bonds for PVNGS to reduce the cost of power from this project. The City, as well as the Cities of Azusa, Banning, Burbank, Colton, Glendale, Los Angeles, Riverside and Vernon and the Imperial Irrigation District ("IID") are PVNGS project participants.

The SCPPA PVNGS Interest consists of a 5.91% ownership interest in the Palo Verde Nuclear Generating Station, Units 1, 2 and 3, and certain associated facilities and contractual rights relating thereto, a 5.56% ownership interest in the Arizona Nuclear Power Project ("ANPP") High Voltage Switchyard and contractual rights relating thereto and a 6.55% share of the rights to use certain portions of the Arizona Nuclear Power Project Valley Transmission System. PVNGS is located on an approximately 4,000-acre site about 50 miles west of Phoenix, Arizona and is comprised of three identical nuclear-fueled steam units. PVNGS Units 1, 2 and 3 achieved firm operation in January 1986, September 1986 and December 1987, respectively. Each unit, designed for a 40-year life, has a nominal rating of 1,270 MW. On May 23, 1996, the Nuclear Regulatory Commission (the "NRC") approved a two percent increase in the licensed thermal rating of the units. Each PVNGS unit is currently rated at 3,893 MW (thermal). The maximum dependable capacity of Units 1, 2 and 3 under adverse atmospheric conditions is 1,243 MW, 1,243 MW and 1,247 MW, respectively. Transmission is accomplished through agreements with Salt River Project Agricultural Improvement and Power District ("Salt River Project"), LADWP and SCE.

In 1997 SCPPA began taking steps designed to accelerate the payment of all fixed rate bonds relating to PVNGS. Such steps consisted primarily of refunding certain outstanding bonds for savings and accelerating payments by the PVNGS project participants on the bonds issued by SCPPA for PVNGS. The restructuring plan has resulted in substantial savings to the City, and the delivered cost of energy produced by PVNGS decreased significantly on July 1, 2004. See "Indebtedness and Joint Agency Obligations" below and TABLE 10 – "OUTSTANDING DEBT OF JOINT ACTION AGENCIES."

Magnolia Power Project. The City is a participant in the Magnolia Power Project, a gas-fired generating facility with a nominally rated net capacity of 242 MW and auxiliary facilities located in Burbank, California. Through a contract with SCPPA, the City is entitled to a 6.4% (15.5 MW base capacity and about 19 MW peaking capacity) entitlement in the project through a long term power purchase agreement with SCPPA. SCPPA has entered into power sales agreements with the City and the Cities of Anaheim, Burbank, Cerritos, Colton, Glendale and Pasadena pursuant to which the Authority has sold 100% of its entitlement to capacity and energy in the Magnolia Project to such participants on a "take-or-pay" basis. The Magnolia Power Project commenced commercial operation on September 22, 2005, with a construction cost of approximately \$362 million. This amount excludes approximately \$37 million for allowance of funds used during construction and approximately \$19 million for emission

credits. SCPPA issued approximately \$320 million of bonds to finance the construction of the Magnolia Power Project. PWP has entered into a power sales agreement with SCPPA for an approximate 6.4% participation share in the Magnolia Power Project and will therefore be responsible for 6.4% of the costs of the Magnolia Power Project.

# **Remote Ownership Interests**

Hoover Hydroelectric Project Interest. The City has a 20 MW capacity entitlement from the generating units at the hydroelectric power plant of the Hoover Dam (the "Hoover Project"), located approximately 25 miles from Las Vegas, Nevada. Modern insulation technology has made it possible to "uprate" the nameplate capacity of existing generators (the "Hoover Uprating Project"). The Hoover Uprating Project consists principally of the uprating of the capacity of 17 generating units at the Hoover Project The City, as well as the Cities of Anaheim, Azusa, Banning, Burbank, Colton, Glendale, Riverside and Vernon have obtained entitlements totaling 127 MW of capacity and approximately 143,000 megawatt-hours ("MWh") of allocated energy annually from the Hoover Uprating Project. In 1987, to reflect these entitlements, these cities entered into contracts with the United States Bureau of Reclamation (the "Bureau") providing for the advancement of funds for the uprating and with the Western Area Power Administration ("Western") for the purchase of power from the Hoover Project. Subsequently, the Cities of Anaheim, Riverside, Burbank, Azusa, Colton and Banning (the "Hoover Participants") entered into assignment agreements with SCPPA to assign their entitlements in return for SCPPA's agreement to provide funds to the Bureau to pay for the Hoover Participants' share of the Hoover Uprating Project costs. As of May 1, 2007, SCPPA had outstanding approximately \$18,770,000 aggregate principal amount of bonds with respect to the Hoover Uprating Project. Based on Western's allocations and the assignment agreements, SCPPA's share of the Hoover Uprating Project is approximately 94 MW of capacity and approximately 107,000 MWh of associated energy annually. The Hoover Participants and SCPPA have executed power sales contracts under which the Hoover Participants have agreed to make monthly payments on a "take-or-pay" basis in exchange for their shares of SCPPA's share of Hoover capacity and allocated energy.

The City's capacity entitlement is comprised of an 11 MW renewal and 9 MW resulting from the uprating. The actual capacity available from the Hoover Project varies, depending on maintenance scheduling and other outages. Under normal hydrologic conditions, the City receives approximately 60 GWh of annual energy deliveries. In the Fiscal Year ended June 30, 2007, the Hoover Project provided 54,703 GWh of energy to the City at an average cost for delivered power of \$13 per MWh.

Natural Gas Project. The Natural Gas Project consists of SCPPA's leasehold interests in natural gas fields located in Wyoming and Texas. The capital costs of the entitlement shares purchased by certain participants were financed through SCPPA by the issuance of project revenue bonds. The City and the City of Glendale contributed capital to SCPPA for the payment of their respective shares of the capital costs of the Natural Gas Project. SCPPA has sold the entire production capacity of its member-related leasehold interests, on a "take-or-pay" basis (with the City and the City of Glendale having no obligation to pay any debt service).

**Prepaid Natural Gas Project.** The Prepaid Natural Gas Project provides, through Gas Sales Agreements with the participants in the Natural Gas Project, for a secure and long-term supply of natural gas of approximately 2,000 MMBtu daily or 730,000 MMBtu annually. The agreement provides this supply at a discounted price below spot market price (the SoCal Index) over the next 30 years. The projected discount of approximately 90 cents per MMBtu should result in savings of approximately \$657,000 annually, or approximately \$19.7 million over the next 30 years. SCPPA will bill the City for actual quantities of natural gas delivered each month. PWP expects that these costs will be recovered

through the energy charge component of the electric rates as they are incurred, just as costs for natural gas purchases are currently recovered.

High Winds Wind Generation Facility. In 2003 the City Council of the City approved a 25-year power purchase agreement with PPM Energy, Inc. ("PPM") for the purchase of wind-powered electrical energy associated with a 6 MW (or approximately 17,500 MWh per year) share of the High Winds wind generation facility which provided 2 MW of power to PWP in 2004. The contract increases PWP's renewable energy to approximately 17.5 GWh per year.

#### **Purchased Power**

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

Bonneville Power Administration Purchase Exchange Contracts. The City executed a 20-year contractual arrangement with the Bonneville Power Administration ("BPA") in January 1988 for up to 12 MW of summer capacity. The agreement has two modes of application: The sale mode takes effect when the Pacific Northwest has surplus energy; an exchange mode applies during periods when the Pacific Northwest has deficit energy. In both cases, the BPA provides 12 MW of firm capacity from May through October and 6 MW during the remainder of the year. Energy deliveries are limited to approximately 30 GWh of energy annually. This contract provides peak capacity to the City through Fiscal Year 2008. PWP does not currently plan to extend this agreement past its termination date in 2008.

The City executed a 20-year seasonal capacity for energy exchange agreement with BPA in May 1995 for up to an additional 15 MW of firm capacity (and attendant energy) in the summer. BPA provides 15 MW of firm capacity and approximately 15 GWh of peak hour energy from May through October. Under the terms of the agreement, the City returns 31 GWh of off-peak, non-firm energy from July through April. This contract provides capacity to the City through Fiscal Year 2015.

Bilateral (Spot Market) Energy Purchases. Approximately 15-30% of PWP's annual energy needs are met through economic purchases of spot market power through short-term bilateral transactions. These transactions, which range in duration from one hour to one year, are made pursuant to the WSPP, of which the City has been a member since 1995. The WSPP is governed by a master enabling agreement with over 175 member utilities and power marketers that allows short-term transactions of one year or less for capacity, energy or transmission at negotiated market prices. This agreement replaced several obsolete agreements with individual utilities that typically had rate requirements above market price, while simultaneously providing access by the City to a much larger, growing market for bulk power transactions. In addition, this agreement allows for the purchase of firm capacity to meet spinning reserve requirements, providing the City with potential additional savings. In the event of excess electric and gas commodity and transmission capacity, the City enters into short-term bilateral sales transactions in order to offset costs.

#### **Transmission Resources**

# **Existing Transmission Resources**

Transmission resources are an integral component of the City's plan to provide economical and reliable electric service to its customers. The City currently has several firm capacity transmission

agreements to deliver over 200 MW of remote generation to the T.M. Goodrich Receiving Station in the City, and to provide access to major hubs of the western wholesale power market. The transmission network allows the City to obtain low-cost energy supplies when available, enable bulk sales and exchanges of energy during low-load periods, and take advantage of price differentials between various locations on the Western System Coordinating Council power grid through wheeling, arbitrage sales and energy swaps. Depending on the generation source, the energy is transmitted through a combination of the transmission resources listed in the following table.

TABLE 5
FIRM TRANSMISSION SERVICE AGREEMENTS

Transmission Line Path	Owner/Party	Capacity
Sylmar-T.M. Goodrich	SCE/ISO <sup>(1)</sup>	200 MW
Pacific-Northwest DC Intertie	Pasadena	$45 \text{ MW}^{(2)}$
Northern Trans. System (NTS)	IPA/Utah	104 MW
Southern Trans. System (STS)	SCPPA	113 MW
Adelanto-Sylmar	LADWP	110 MW
Mead-Phoenix	SCPPA	33 MW
Mead-Adelanto	SCPPA	70 MW
McCullough-Victorville	Pasadena	25 MW
Victorville-Sylmar	LADWP	25 MW
Hoover-Sylmar	LADWP	26 MW

Source: Power Supply Business Unit of PWP.

Southern California Edison. The City has contractual rights from SCE to 200 MW of firm transfer capacity from LADWP's Sylmar Substation to the T. M. Goodrich Receiving Station in the City through SCE. This contract, which expires in August 2010, enables PWP to import energy and all of its power entitlement from remote resources. Beginning on March 31, 1998, the ISO became the scheduling agent for this contract. Federal regulations regarding transmission serve to discourage transmission owners from providing contracts on a long-term basis. Once this contract expires, PWP's default alternative is to take delivery of the related energy by wheeling it through the ISO at the tariff rate. PWP is currently evaluating options for delivering energy from Sylmar to the City, including building alternative transmission lines, contracting with LADWP. In addition, the City joined the ISO in 2005 as a Participating Transmission Owner in order to facilitate the transmission of resources without further contracting with the SCE power distribution system.

Pacific Northwest DC Intertie. Spanning 850 miles from Celilo in northern Oregon to Sylmar, California, the Pacific Northwest DC Intertie is a double-pole, ±500 kV transmission line. The Pacific Northwest DC Intertie conveys energy to the City from BPA and other Pacific Northwest utilities. PWP is entitled to 69 MW (2.25%) of the total 3,100 MW capacity of the southern portion (south of the point where the line crosses the Nevada-Oregon Border ("NOB") of the Pacific Northwest DC Intertie. Because of the load diversity and excess hydroelectric energy in the spring, the Pacific Northwest DC Intertie provides the City many opportunities for energy imports.

Northern Transmission System. The Northern Transmission System consists of two 50-mile long 345 kV AC transmission lines which connect the IPP to the Mona Substation in Utah and the Gonder Substation in Nevada. The City has entitlements of up to 104 MW of capacity on these transmission lines as a result of the IPP Excess Sales Contract with the Utah Participants. IPA allocates 2.4735% of its

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

<sup>(2)</sup> The City owns 69 MW of transmission capacity in this line. 24 MW of transmission capacity has been sold to the Cities of Azusa, Banning, Colton, Anaheim and Riverside.

outstanding debt to the Northern Transmission System. As of June 30, 2007 this allocation was approximately \$3.2 billion. The City's maximum share of this obligation is 6%.

Southern Transmission System. The Southern Transmission System ("STS") is a double-pole, ±500 kV DC transmission line spanning 488 miles from IPP in central Utah to the Adelanto Substation in Southern California, together with an AC/DC converter station at each end. It is operated and maintained by the LADWP under contract with IPA. In connection with its entitlement to the IPP, the City acquired a contractual entitlement to 113 MW (5.88%) of the total 1,920 MW capacity of the STS through a transmission system contract with SCPPA. The term of this contract extends for the life of facility, or until all SCPPA bonds issued to finance the STS are defeased. As of November 1, 2007, SCPPA had outstanding approximately \$843,170,000 principal amount of its bonds issued to finance the STS. The City has entered into a transmission service contract with SCPPA which obligates the City to pay the cost of its share of the transfer capability on a "take-or pay" basis.

Adelanto-Sylmar Transmission Line. The Adelanto-Sylmar Transmission Line is a continuation of the Southern Transmission System. The City has a contract with LADWP for 110 MW of transmission capacity from either Adelanto or Victorville to Sylmar.

Mead-Phoenix Transmission Project. The Mead-Phoenix Transmission Project consists of a 256-mile, 500 kV AC transmission line, which was placed into commercial operation on April 15, 1996, extending between a southern terminus at the existing Westwing Substation (in the vicinity of Phoenix, Arizona) and a northern terminus at Marketplace Substation, a substation located approximately 17 miles southwest of Boulder City, Nevada. The line is looped through the new 500-kV switchyard constructed in the existing Mead Substation in southern Nevada with a transfer capability of 1,300 MW. By connecting to Marketplace Substation, the Mead-Phoenix Transmission Project interconnects with the Mead-Adelanto Transmission Project (as described below) and with the existing McCullough Substation. The Mead-Phoenix Transmission Project is comprised of three project components. SCPPA has executed an ownership agreement providing it with an 18.3077% member-related ownership share in the Westwing-Mead project component, a 17.7563% member-related ownership share in the Mead Substation project component, and a 22.4082% member-related ownership share in the Mead-Marketplace project component. Other owners of the line are Arizona Public Service Company, M-S-R Public Power Agency, Salt River Project and the City of Vernon. Through a contract with SCPPA, the City is entitled to receive 33 MW (2.5%) of this line's 1,320 MW capacity. The term of this contract extends for the life of the facility, or until all SCPPA bonds issued to finance the project are defeased. The City has entered into a transmission service contract with SCPPA which obligates the City to pay the cost of its share of the transfer capability on a "take-or-pay" basis. The commercial operation date for the project was April 15, 1996. As of November 1, 2007, SCPPA had outstanding approximately \$65,305,000 principal amount of its bonds issued to finance its interest in the Mead-Phoenix Transmission Project. Of this amount, the City's proportionate share of the cost of the project is 13.8% or approximately \$9,012,090.

Mead Adelanto Transmission Project. Through a contract with SCPPA, the City is entitled to 70 MW (8.6%) of this 202 mile, 500 kV AC transmission line. This arterial line extends between a southwest terminus at the existing Adelanto Substation in southern California and a northeast terminus at Marketplace Substation, a substation located approximately 17 miles southwest of Boulder City, Nevada. By connecting to Marketplace Substation, the line interconnects with the Mead-Phoenix Transmission Project and the existing McCullough Substation in southern Nevada. The line has a transfer capability of 1,200 MW. SCPPA has executed an ownership agreement providing it with a total of a 67.9167% member-related ownership share in the project. The other owners of the line are M-S-R Public Power Agency and the City of Vernon. The term of this contract extends for the life of the facility, or until all SCPPA bonds issued to finance the project are defeased. The City has entered into a transmission system contract with SCPPA which obligates the City to pay the cost of its share of the transfer capability on a

"take-or-pay" basis. SCPPA sold the entire capability of its member-related ownership interest, on a "take-or-pay" basis. The commercial operation date for the project was April 15, 1996, which coincided with the completion of the Mead-Phoenix Transmission Project. As of November 1, 2007, SCPPA had outstanding approximately \$207,170,000 principal amount of its bonds issued to finance its interest in the Mead-Adelanto Transmission Project.

McCullough-Victorville Transmission Line. The City acquired a 25 MW equity entitlement from LADWP in the 180 mile, 500 kV AC McCullough-Victorville No. 2 Transmission Line. Originally utilized to import the City's PVNGS power, this line provides a parallel path to the Mead-Adelanto transmission line into the critical Mead Substation.

*Victor-Ville-Sylmar*. The City contracts with LADWP for 25 MW of firm transmission service from the Victorville Substation to the Sylmar Substation as a continuation of the McCullough-Victorville Line.

Hoover-Sylmar Transmission Agreements. The City has executed contracts for transmission service to transfer its Hoover renewal (11 MW), its uprate entitlement (9 MW), and an additional 6 MW for other uses concurrent with the terms of the Hoover entitlement. As a result of these contracts, the City's total Hoover transmission entitlement is 26 MW.

#### **Future Transmission Resources**

PWP has transmission resources throughout the west to deliver contractual and spot market supplies into the California ISO grid at the Sylmar interconnection with LADWP, about 10 miles from the City. All of PWP's external resources use this interconnection. As previously noted, PWP has 200 MW rights from Sylmar to the City under contract with SCE that provide firm "Existing Transmission Contract" rights under the ISO. This contract expires in 2010. Federal regulations regarding transmission serve to discourage transmission owners from providing contracts on a long-term basis. Once this contract expires, PWP's default alternative is to take delivery of this related energy by wheeling it through the ISO at the tariff rate. PWP is currently evaluating options for delivering energy from Sylmar to the City, including building alternative transmission lines, contracting with LADWP and joining the ISO as a Participating Transmission Owner to avoid wheeling fees. See "OTHER FACTORS – Changes in Federal Regulation of Electric Utilities" herein.

# **Inter-Utility Sales Transactions**

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

Pacific Northwest DC Transmission Service Agreements. Under these agreements, the City provides up to 24 MW of long-term transmission service to the purchasers over the City's entitlement in the Pacific Northwest DC Intertie Project. During Fiscal Year 2007, transmission service charge revenues from this transaction were approximately \$1 million. Another \$2 million in revenues are projected through the life of the contract, which expires in 2009.

California ISO - Participating Generator Agreement. Under this agreement, the City sells capacity and energy from its local generation resources at Broadway and Glenarm into the California

ISO's ancillary service markets on a day-ahead and hour-ahead basis. Revenues were extraordinary in Fiscal Year 2001 as a result of regional power shortages experienced at that time, yielding more than \$67 million in revenue. Some of these revenues may be subject to refund as a result of ongoing litigation, and approximately \$19.6 million of these revenues remain unpaid by the ISO as of July 1, 2007. As a result, the City has posted a net receivable of approximately \$11 million. Due to the short-term nature of the market, these ancillary service capacity and energy revenues are extremely volatile and difficult to predict; however, it is expected that they will range from \$3 to 10 million annually in the future.

### **Interconnections and Distribution Facilities**

PWP owns facilities for the distribution of electric power within the city limits of the City (approximately 23 square miles). These facilities include approximately 173 miles of 17 kV power lines, 495 miles of 4 kV distribution lines and 13 substations (including the T.M. Goodrich Receiving Station). The City's system experiences approximately .332 hours of outage time per customer per year.

### **Fuel Supply**

PWP's local generating units are fueled by natural gas. PWP has firm transportation contracts to deliver about 8,000 mmbtu per day, which slightly exceeds the annual average consumption. However, peak usage can exceed 30,000 mmbtu per day. The Southern California Gas Company ("SCG") provides intra-state delivery. Gas commodity is subject to reserve leaseholds and prepayment agreements as described herein, purchased on a term basis in forward markets, and also at monthly and daily index rates. During peak months, gas requirements in excess of firm capabilities are purchased at the southern California border at Topock (the California-Arizona border).

PWP has access to Canadian gas via firm transportation on the Nova, Transcanada, and Pacific Gas & Electric ("PG&E") expansion into the SCG system, netting about 3,989 mmbtu/day at Kern River Station in Kern County, California.

PWP has a firm contract entitlement to 4,003 mmbtu per day on the El Paso Pipeline from the San Juan and Permian Basins in New Mexico and Texas to the SCG and PG&E systems at Topock. The City recently signed two purchased power agreements for electricity from landfill gas generator projects diversifying its Renewable Resources Portfolio. The City receives 9.5 MW from Minnesota Methane's generating plant, a pre-existing landfill gas generator project located in Southern California. The City will receive 6.67 MW from Ameresco's gas-turbine landfill gas generating plant which is also located in Southern California but is still under construction. Delivery of power from Ameresco is not expected to commence until December 2008.

In addition, the City is a participant in SCPPA's Natural Gas Project, consisting of leasehold interests in natural gas fields located in Wyoming and Texas, and its Prepaid Natural Gas Project Gas Sales Agreements which provide a supply at prices below spot market price over the next 30 years. See "Remote Ownership Interests – Natural Gas Project" and "- Prepaid Natural Gas Project."

There are a number of factors, including the California Public Utilities Commission (the "CPUC")'s "Green Book" on natural gas industry restructuring, which could affect the tariff rate or fundamentally redesign the City's costs for intra-state gas transmission. The City, acting through the Southern California Public Power Pool and a coalition of California gas generators, is actively participating in the gas industry proceedings. The coalition seeks to discourage demand-based charges and shifting of costs from core customers to gas generators and other non-core customers as a result of the restructuring. See "DEVELOPMENTS IN THE CALIFORNIA ENERGY MARKETS" herein.

The cost of natural gas has increased significantly during the past two years. The City is not able to determine or project what the future cost of natural gas will be.

### Renewable Resources

On October 13, 2003, the City Council adopted a renewable portfolio standard (the "RPS") for PWP. The RPS calls for the addition of cost-effective renewable resources to meet 10% of the City's retail electric energy needs by 2010 through a combination of long-term and short-term power purchases and 20% by 2017. On September 18, 2006 the City adopted the United Nations Urban Environmental Accords and endorsed the US Mayors' Climate Protection Agreement. One of the City's goals under the UEA is to reduce greenhouse gas (GHG) emissions to 7% below 1990 levels by 2012. The City also fully supports and actively strives to fulfill the principles of environmental laws recently passed by the State legislature:

AB-32, "California Global Warming Solutions Act of 2006: Greenhouse Gases," was signed into law on September 27, 2006. AB-32 is intended to reduce California's GHG emissions to 1990 levels by 2020.

SB-107, which accelerates the State's RPS to require retail sellers of electricity (excluding municipal utilities) to procure at least 20% of their retail sales from renewable power by 2010 instead of 2017. Municipals are requested by the legislation to similarly accelerate their RPS goals.

SB-1037, requires that each publicly owned electric utility ("POU"), including PWP, prior to procuring new energy generation resources, first acquire all available energy efficiency, demand reduction, and renewable resources that are cost effective, reliable and feasible. SB-1037 also requires each municipal electric utility to report annually to its customers and to the CEC its investment in energy efficiency and demand reduction programs.

AB-2021 requires municipal electric utilities to identify all potentially achievable cost-effective electricity efficiency savings and to establish annual targets for energy efficiency savings and demand reduction over the next 10 years and to report those targets to the California Energy Commission (the "CEC") within 60 days of adoption, and annually a description of its energy efficiency and demand reduction programs, expenditures, cost-effectiveness and actual results and the results of an independent evaluation that measures and verifies the EE savings and reduction in energy demand achieved by its EE and DR programs. AB-2021 further requires publicly owned POUs to "treat investments made to achieve energy efficiency and demand reduction targets as procurement investments."

AB-1368, which sets limits on carbon dioxide (CO<sub>2</sub>, emissions of new contracts signed by utilities in California. While the specifics are still being negotiated, this zero-carbon resource will comply.

Senate Bill ("SB") 1078, which became law January 1, 2003, requires local publicly owned utilities to establish and implement a renewable portfolio standard that "recognizes the intent of the Legislature to encourage renewable resources, while taking into consideration the effect on rates, reliability, financial resources and the goal of environmental improvement." SB-1078 also requires that each local publicly owned utility report to its customers, on an annual basis, the fuel mix used to serve its customers and the expenditure of public goods funds for renewable resources.

In 2006 the City adopted its energy efficiency ("EE") and demand reduction ("DR") program goals to reduce forecast peak demand in 2012 by 10% and forecast annual energy consumption in 2016 by 13.3% in accordance with the City's Urban Environmental Accords ("UEA") goals and AB-2021. Shortly thereafter, the City adopted solar photovoltaic ("PV") incentive program, with the goal of

installing 14 Megawatts of customer owned PV systems in ten years and assist the City in meeting certain UEA goals. Relevant UEA policies include: (i) Reduce greenhouse gas ("GHG") emissions 25% by 2030; (ii) Reduce the city's peak electric load by 10% by 2012; and, (iii) Increase the use of renewable energy to meet 10% of the City's peak electric load by 2012. The EE and DR program supports three of the City's UEA goals (Renewable Energy, Energy Efficiency, and Climate Change). The program goals will also help PWP meet the goals of two other state laws, including AB-32 and SB-1037.

In 2007 the City Council approved an ordinance creating a commission advisory to the City Council known as the Environmental Advisory Commission (the "EAC"). The EAC holds monthly open meetings to the public and serves as a forum for the discussion of environmental issues with local, regional, and global impacts. Its nine commissioners include seven appointed by the City Council, one appointed by the mayor, and one appointed by the mayor from persons recommended by the seven Council members. PWP will provide fiscal year results to the EAC by October of each year, such reports having commenced in October 2007 for fiscal year 2007. In addition, EE, DR, and PV technologies, avoided costs, and program potential will be reviewed as part of the independent review of the Integrated Resource Plan.

In order to meet the City's Renewable Portfolio Standard of 20% renewable energy sources by 2017, the City will continue to procure additional renewable resources through SCPPA as well as independent negotiations with renewable resources providers. The following is a list of the City's current renewable projects:

High Winds Wind Generation Facility. In 2003 the City Council of the City approved a 25-year power purchase agreement with PPM for the purchase of wind-powered electrical energy associated with a 6 MW (or approximately 17,500 MWh per year) share of the High Winds wind generation facility which provided 2 MW of power to PWP in 2004. The High Winds Project is a 145.6 MW wind generation facility located in Solano County, California. PPM will be responsible for scheduling the wind energy as it is produced at the High Winds Project into the California ISO. PPM will re-deliver the associated energy on a firm basis to a delivery point in Southern California, providing PWP with a constant, reliable source of energy. The wind generation contract is in compliance with SB-1078 and the RPS. The contract increases PWP's renewable energy to approximately 17.5 GWh per year.

Milford Wind Corridor Phase I Wind Generation Project. The City has approved participation in the Milford Wind Corridor Phase I, LLC Wind Generation Project, a new 200 MW wind generating facility to be constructed in Millard County, Utah and a power sales agreement with SCPPA for a 5 MW (2.5% of 200 MW) share of the Project. The Project serves the goals established by the City's RPS for PWP and aids the City in achieving its environmental goals. This new renewable resource will help PWP meet load without additional GHG emissions in alignment with SB-32 and SB-1368. With this agreement, PWP will have exceeded its current RPS goals established in 2003 and approach the accelerated RPS of SB-107. The Project is expected to begin commercial operation by January 1, 2009.

Landfill Gas Generator Projects. The City recently signed two Purchased Power Agreements for electricity from landfill gas generator projects diversifying its Renewable Resources Portfolio. The City receives 9.5 MW from Minnesota Methane's generating plant, a pre-existing landfill gas generator project located in Southern California. The City will receive 6.67 MW from Ameresco's gas-turbine landfill gas generating plant which is also located in Southern California but is still under construction. Delivery of power from Ameresco is not expected to commence until December 2008.

Solar and Photovoltaic. PWP's solar program has been in existence since 1999 and has provided solar rebates to approximately fifty residential and commercial customers. Past funding for PV programs from Public Benefit Charge ("PBC") revenues has averaged approximately \$100,000 per year, and

focused primarily on small installations due to availability of state-funded incentives for systems larger than 30 kW. Typical residential systems range from 2-3 kW and provide 30%-70% of the customer's energy needs. PWP's current rebate is \$3.50 per installed watt, up to a maximum of \$8,000.

Energy Efficiency Programs. PWP currently offers a wide range of residential and commercial energy efficiency programs that are funded from PBC revenues. PWP's EE programs yielded 4,500 MWh per year of energy savings and 1.4 MW of peak demand reduction in Fiscal Year 2006, representing approximately 0.36% and 0.47% of annual energy load and peak demand, respectively. EE programs such as the Refrigerator Replacement or the Energy Star Program are cost effective and very popular among our residential customers. Commercial energy efficiency programs such as the Energy Partnering Program provided approximately 76% of PWP's EE program energy savings and peak load reduction in Fiscal Year 2007.

PWP leverages its PBC funding through joint action with SCPPA that is coordinated through the SCPPA Public Benefits Committee. This has been particularly effective in procuring cost-effective efficient appliances and program services and consulting. The SCPPA Public Benefits Committee meets monthly to share information, develop and compare programs, prepare requests for proposals, and assess pending and new legislation or regulations.

## **Employees**

For Fiscal Year 2007, the City has 285 full-time equivalent employees for the Electric System. All Electric System employees are represented either by the International Brotherhood of Electrical Workers, the International Union of Operating Engineers, the American Federation of State, County and Municipal Employees, the Pasadena Association of Clerical and Technical Employees or Pasadena Management Association in all matters pertaining to wages, benefits and working conditions. The current arrangements with these unions and/or associations, which are in the form of either a contract or a memorandum of understanding, will expire respectively in 2007 thru 2010 and be subject to renegotiation. See APPENDIX A – "THE CITY OF PASADENA – Employee Relations."

The Electric System's permanent employees are all covered by the California Public Employees Retirement System ("PERS"), administered by the State, to which contributions are made by both the City and the employees. As of June 30, 2006, the actuarial staff of PERS reported unfunded liability of \$38.7 million for the City's total miscellaneous employees as compared to an underfunding of \$22.6 million the previous year. As of June 30, 2006, the City reported that its PERS obligation with respect the City's total miscellaneous employees was 98.5% funded.

Other than the pension benefits from the applicable retirement system, the City does not provide medical or other post-retirement benefits to its employees.

### Insurance

The insurable property and facilities of the Electric System are covered under the City's general insurance policies. The City does not carry earthquake insurance on the property and facilities of the Electric System. For additional information on the City's insurance, see APPENDIX A – "THE CITY OF PASADENA – Insurance."

### **Electric Rates and Charges**

The City is obligated by its Charter and by its rate ordinance to establish rates and collect charges in an amount sufficient to meet its expenses of operation and maintenance and debt service requirements

(with specific requirements as to priority and coverage). See "SECURITY AND SOURCES OF PAYMENT FOR THE 2008 BONDS – Rate Covenant." Electric rates are subject to approval by the City Council. Electric rates are not subject to regulation by the CPUC or by any other state agency. The enactment of Assembly Bill 1890 ("AB-1890") by the California Legislature may, however, affect any competition transition charge imposed by the City in the future. Although its rates are not subject to approval by any federal agency, the City is subject to certain ratemaking provisions of the federal Public Utility Regulatory Policies Act of 1978 ("PURPA"). The City believes that it is operating in compliance with PURPA. See "THE ELECTRIC SYSTEM OF PWP – Federal Rate Regulation" and "DEVELOPMENTS IN THE CALIFORNIA ENERGY MARKETS" herein.

PWP's electric rate structure is unbundled into distribution, energy and transmission, does not allow cross subsidy among customer classes, is cost based, includes a 1.85% PBC rider, and includes variable components, which recover cost increases from customers associated with energy and transmission. The City provides no free electric service. The following table sets forth rates for each customer class as of June 30, 2003 through June 30, 2007.

TABLE 7
FIVE-YEAR HISTORY OF ELECTRIC RATES

Dollars Per Kilowatt Hour

Fiscal Year Ended June 30,

Customer Class	2003	2004	2005	2006	2007
Residential	0.1120	0.1146	0.1146	0.1184	0.1310
Small Commercial and Industrial	0.1070	0.1079	0.1095	0.1127	0.1239
Medium Commercial and Industrial	0.1034	0.1054	0.1062	0.1070	0.1176
Large Commercial and Industrial	0.0963	0.1002	0.1024	0.1038	0.1124
Street Lighting and Traffic Signals	0.1020	0.1048	0.0932	0.1008	0.1159

Source: Finance and Administration Business Unit of PWP.

Electric rates have been generally stable over the past five years and PWP does plan to change rates in the near future to reflect changes in purchase power costs, operating and capital costs.

# **Reserve Policies**

During the past few years PWP has, in practice, had cash balances that exceeded 30 days of operating expenses on hand in accordance with reserve policies formalized in May 2006 as a matter of policy and not pursuant to any bond indenture or agreement. PWP was as of June 30, 2007, and currently is, in compliance with such policies. These funds represent moneys required for unanticipated operational expenses, as well as approved capital expenditures, unexpended public benefit fund moneys and reserves for energy and transmission cost increases. The following table sets forth actual reserves at June 30, 2007, for each fund. Reserve levels are calculated in accordance with PWP's reserve policy.

Reserves	(\$million)
Operating Reserve	22.0
Energy Reserve	2.7
Transmission Reserve	5.5
Contingency Reserve	0.3
Unexpected Bond Proceeds	4.0
PBC Reserve	2.4
Capital Reserve	25.0
Total	61.9

Source: Finance and Administration Business Unit of PWP.

*Operating Reserve.* The operating reserve policy provides for 60 days of operations and maintenance expenses. As of June 30, 2007, PWP had about \$22 million in operating reserves.

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

Transmission Services Charge Reserve. This reserve account is a depository account for balancing costs and revenues associated with high-voltage transmission and related services.

Contingency Reserve. The Contingency Reserve is designated for equipment replacement and/or emergency work due to natural disasters.

*Unexpected Bond Proceeds.* This is a depository account for bond proceeds that have not been expended on capital projects.

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

Capital Reserve. This reserve account is designated to fund the design and construction costs of near-term committed capital projects. PWP generally maintains a cash flow budget for key capital projects and ensures that it has on hand sufficient funds to cover its current year ongoing capital projects. Currently, PWP is utilizing the Capital Reserve to cover its pay as you go portion of the financing required for the Power Distribution System Master Plan projects, including the Project. The balance of the financing for these near-term committed projects will be derived from net proceeds of the 2008 Bonds.

Stranded Investment Reserve. The Stranded Investment Fund was established in 1997 to mitigate the difference between the costs associated long-term contracts with IPA and SCPPA, and the anticipated energy costs in a deregulated energy market. The City estimated that the cost of energy under the IPA and SCPPA contracts resulted in a net present value of the "stranded investments" of \$150 million. Since the City's stranded costs are related to power contracts which may not at present be prepaid economically, the City established a Reserve for Stranded Investment (the "Stranded Investment Reserve") and imposed a Stranded Investment Surcharge (the "SIS") on all electric utility bills, which was fully funded by June 30, 2001.

The City expects that this fund will be sufficient to allow PWP to charge market rates to its customers and fund any shortfalls in PWP revenues from the fund. Amounts in the Stranded Investment Reserve may be drawn upon in any year, as needed, to offset the City's stranded cost, if any, in that year. The balance in the Stranded Investment Reserve on June 30, 2007 was approximately \$144,506,546. This amount was reflected on the Statement of Net Assets for the Light and Power Fund as restricted cash. As of June 30, 2006, the City has calculated its Stranded Investment to be \$81.5 million, while the market value of the Stranded Investment Reserve as of year ending June 30, 2007 was \$144.5 million. In 2006, PWP implemented a Stranded Investment Reserve Utilization Plan which included the following:

Direct Defeasance. Commit \$80 million to offset debt service requirements for Intermountain Power Plant (IPP) bonds from Fiscal Year 2008 through Fiscal Year 2023 including \$6.5 million for Fiscal Year 2007 to permanently reduce average retail energy rates by approximately 0.5GkW.

Contingent Mitigation. Retain approximately \$50 million in the Stranded Investment Reserve to mitigate variable and unexpected costs resulting from very low market conditions, increases in power costs or outages associated with IPP or Palo Verde. Duration of investments to support contingent mitigation will be structured to meet cash flow requirements.

Refund Excess Funds. Transfer the remaining \$15 million in the Stranded Investment Reserve to the Power Cost Adjustment Charge Fund (PCACF) and "refund" this amount to customers during the remainder of fiscal years 2007 and 2008. The transferred amount would span two years with \$10 million in Fiscal Year 2007 and \$5 million in Fiscal Year 2008 to minimize impact on the City's investment Approximately \$10,000,000 was withdrawn from the Stranded Investment Reserve in Fiscal Year 2007.

# Customers, Energy Sales and Revenues

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

TABLE 8
CUSTOMERS, ENERGY SALES AND REVENUES

	Fiscal Year Ended June 30,				
	2003	2004	2005	2006	2007
Number of Customers					
Residential	51,696	52,633	53,174	53,989	54,315
Small Commercial & Industrial	6,936	7,275	7,314	7,356	7,202
Medium Commercial & Industrial	668	737	751	744	824
Large Commercial & Industrial	127	134	144	155	160
Public Street & Highway Lighting	4	6	6	6	6
Other (Government)	173	0	0	0	0
Total	59,604	60,785	61,389	62,250	62,507
Megawatt-hour Sales:					
Residential	287,717	306,776	313,470	314,235	337,905
Small Commercial & Industrial	151,320	172,697	158,719	157,731	162,329
Medium Commercial & Industrial	219,554	258,502	262,161	269,360	264,846
Large Commercial & Industrial	444,827	413,250	409,643	435,573	453,485
Public Street and Highway Lighting	16,488	18,563	18,669	16,841	16,332
Other (Government)	40,366	6,120	8,369	(6,119)	9,045
Total Retail Energy Sales	1,160,272	1,175,908	1,171,029	1,187,621	1,243,942
Wholesale Sales to Other Utilities	50,249	113,919	125,250	27,816	122,496
Total Energy Sales	1,210,521	1,289,827	1,296,279	1,215,437	1,366,439
Revenues from Sale of Energy:					
Residential	\$ 30,534,245	\$ 35,161,886	\$ 35,937,447	\$ 37,213,497	\$ 44,266,214
Small Commercial & Industrial	15,726,317	18,630,177	17,376,458	17,781,408	19,994,651
Medium Commercial & Industrial	19,797,832	27,248,599	27,831,108	28,827,639	31,144,843
Large Commercial & Industrial	41,442,325	41,350,819	41,726,502	44,861,113	50,962,878
Wholesale Sales to Other Utilities	8,065,379	9,824,843	5,500,117	5,662,420	5,012,333
Public Street & Highway Lighting	1,570,704	1,946,118	1,739,353	1,697,249	1,893,208
Other (1)	9,288,691	4,367,869	8,530,662	13,941,927	14,263,882

Source: Finance and Administration Business Unit of PWP.

Total Energy Revenue

\$126,425,497

\$138,530,310 \$138,641,647

\$149,985,253

\$167,538,009

Within PWP, "commercial and industrial" customers are principally educational and healthcare institutions and office buildings, as well as a wide range of businesses. These businesses include postal service, engineering, telecommunications, healthcare, property development, insurance, office products and packaging and chemical products. No single commercial industrial customer currently accounts for more than 3% of total annual electrical sales revenue. The top 20 commercial and industrial customers typically represent approximately 17% of PWP's annual electric sales revenue.

Other revenue includes Public Benefit Charge, unbilled revenue and miscellaneous governmental revenue. Starting in Fiscal Year 2004, government revenue, government megawatt-hour sales, and government customer data have been incorporated into the Commercial and Industrial category and excluded from the Other category. In Fiscal Year 2004, Other represents Public Benefit Charge, unbilled revenue and miscellaneous revenue. In Fiscal Years 2005, 2006 and 2007 Other represents PTO – TRR revenues, Public Benefit Charge, unbilled revenue, and miscellaneous revenue.

### **Capital Requirements**

In March 2005, the City Council adopted the Power Master Plan which identified the infrastructure needs of the power distribution system and recommended system improvements over a 20-year planning period (2005 - 2025). Following the adoption of the Master Plan, PWP engaged R.W. Beck to develop a detailed capital improvement project implementation and spending plan for the first six years of the Master Plan. This implementation and spending plan was completed in July 2005. The implementation and spending plan recommended that PWP make a capital investment of about \$121.9 million in its power distribution system through 2011. This capital investment is in addition to other planned capital projects of about \$74.4 million over the same period and does not include any new investments for energy supply. Specifically, the implementation and spending plan requires PWP to augment the power distribution system capacity, install additional equipment and replace aging infrastructure. Over 17 specific projects were identified for the first six years of the Master Plan as well as associated resource requirements and costs.

The City expects routine capital requirements for the next five Fiscal Years to aggregate approximately \$367 million. It is expected that on average, approximately 35 percent of these improvements are expected to be funded through current revenues and the balance will be funded through the issuance of future tax-exempt financings.

TABLE 9
CAPITAL REQUIREMENTS
(In Thousands)

Fiscal Year	Capital Requirements
2008	\$ 51,046
2009	95,511
2010	101,033
2011	78,343
2012	40,826
Total	\$366,759

## **Indebtedness and Joint Agency Obligations**

As of June 30, 2007, the City had \$121,695,000 aggregate principal amount of Outstanding Bonds which are payable from the Light and Power Fund and secured by a pledge of the Net Income of the Electric System. See "SECURITY AND SOURCES OF PAYMENT FOR THE 2008 BONDS – Parity Reserve Fund" herein.

As previously discussed, the City participates in the SCPPA joint powers agency. SCPPA provides for the financing and construction of electric generating and transmission projects for participation by some or all of its members. The City is a participant in the following SCPPA projects: PVNGS, Hoover and the Magnolia Power Project, and will be a participant in the Milford Wind Corridor Phase I, LLC Wind Generation Project, with respect to generation and is a participant in the Mead-Phoenix Transmission Project, the Mead-Adelanto Transmission Project and the Southern Transmission System with respect to transmission. To the extent the City participates in projects developed by SCPPA, the Electric System is obligated for its proportionate share of the cost of the particular project. See TABLE 10 – "OUTSTANDING DEBT OF JOINT ACTION AGENCIES." In 1997 SCPPA began taking steps designed to accelerate the payment of all fixed rate bonds relating to PVNGS. Such steps consisted primarily of refunding certain outstanding bonds for savings and accelerating payments by the PVNGS project participants on the bonds issued by SCPPA for PVNGS. The restructuring plan has

resulted in substantial savings to the City, and the delivered cost of energy produced by PVNGS decreased significantly on July 1, 2004.

In addition, the City has entered into certain power sales contracts with IPA and others for the delivery of electric power from IPP. The Electric System's share of IPP power is equal to 6.0% of the generation output of IPP, IPA's 1.660 MW coal-fueled generating station, located in central Utah. The contracts constitute an obligation of the Electric System to make payments solely from revenues from the Light and Power Fund. The power sales contracts also require the Electric System to pay certain minimum charges that are based on debt service requirements. Such payments are considered a Maintenance and Operating Expense as a cost of purchased power.

Obligations of the City under the agreements with IPA and SCPPA constitute operating and maintenance expenses of the City payable prior to any of the payments required to be made on the Bonds. Agreements between the City and SCPPA and the City and IPA (other than the agreement relating to SCPPA's Natural Gas Prepaid bonds) are on a "take-or-pay" basis, which requires payments to be made whether or not applicable projects are operating or operable, or whether the output from such projects is suspended, interfered with, reduced, curtailed or terminated in whole or in part. In addition, all of these agreements (other than the agreement relating to SCPPA's Natural Gas Prepaid bonds) contain "step up" provisions obligating the City to pay a share of the obligations of a defaulting participant. Such payments represent the Electric System's share of current and long-term obligations. Payment for these obligations will be made from operating revenues received during the year that payment is due. Interest rates on the outstanding debt associated with the take-or-pay obligations range from 5.0% to 10.3%. The City's participation and share of principal obligations (without giving effect to interest due on the obligations or any "step up" provisions) for each of the joint powers agency projects in which it participates are shown in the following table.

TABLE 10
OUTSTANDING DEBT OF JOINT ACTION AGENCIES
As of November 1, 2007

	Outstanding Debt	City's Participation <sup>(1)</sup>	City's Share of Outstanding Debt <sup>(2)</sup>
IPA			
Intermountain Power Project <sup>(3)</sup>	\$3,191,400,000	6.0%	\$191,484,000
SCPPA			
Palo Verde Project	113,715,000	4.4	5,003,460
Southern Transmission Systems	843,170,000	5.9	49,747,030
Mead-Adelanto Transmission Project	207,170,000	8.6	17,816,620
Mead-Phoenix Transmission Project	65,305,000	13.8	9,012,090
Magnolia Power Project	361,510,000	6.4	23,136,640
Natural Gas Prepaid	504,445,000	16.5	83,233,425
TOTAL	\$5,286,715,000	-	\$379,433,265

Source: Finance and Administration Business Unit of PWP.

<sup>(1)</sup> Participation obligation is subject to increase upon default of another project participant (other than with respect to SCPPA's Natural Gas Prepaid bonds).

<sup>(2)</sup> Excludes interest on the debt.

<sup>(3)</sup> Based upon currently-accreted value (and not upon principal amount outstanding). Inclusive of the IPP Excess Power Sales Agreement, after reduction for portion withdrawn by Utah members in accordance with such Agreement.

# Historical Operating Results and Debt Service Coverage

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

TABLE 11 HISTORICAL OPERATING RESULTS AND DEBT SERVICE COVERAGE (Dollar Amounts In Thousands)

Fiscal Year Ended June 30,

				<del></del>	
	2003	2004	2005	2006	2007
Revenues:					
Base Rate Operating Revenues	\$ 32,810	\$ 34,378	\$ 35,085	\$ 34,082	\$ 47,665
Recovered Energy & Transmission					
Costs	84,934	90,730	90,017	96,271	100,261
Energy Cost Adjustment Charge	(4,862)	0	0	0	0
PTO – TRR Revenues (1)	0	0	4,418	10,621	10,581
Public Benefit Charge	5,478	3,322	3,306	3,249	3,391
Sales to Other Utilities	8,065	9,825	5,499	5,662	5,012
Other Operating Revenues	0	276	316	100	628
Total Operating Revenues	\$126,425	\$138,530	\$138,641	\$149,985	\$167,538
Expenses:					
Energy Costs – Fuel					
Retail	\$ 11,270	\$ 10,238	\$ 6,745	\$ 8,025	\$ 8,187
Wholesale	44	3,583	1,284	0	785
Purchased Power					
Retail	61,940	66,834	68,561	84,208	80,000
Wholesale	1,280	3,388	0	0	
Direct Operating Expenses	12,188	13,410	14,719	15,691	16,290
General and Administrative	13,712	13,957	14,392	14,974	15,354
includes Commercial)					
nterest Expense	6,058	6,523	6,300	5,937	6,017
Depreciation	8,869	8,970	13,858	14,227	14,652
Total Expenses	\$115,361	\$126,904	\$125,859	\$143,062	\$141,286
Earnings from Operations	\$ 11,064	\$ 11,626	\$ 12,782	\$ 6,923	\$ 26,252
Non Operating Income	16,275	5,720	15,263	8,283	20,091
Net Income	\$ 27,339	\$ 17,348	\$ 28,045	\$ 15,206	\$ 46,342
Cash Flow and Debt Service Calculation					
Add Back Interest Expense	\$ 6,058	\$ 6,523	\$ 6,300	\$ 5,937	\$ 6,017
Add Back Depreciation	8,869	8,970	13,858	14,227	14,652
Available for Debt Service	\$ 42,266	\$ 32,841	\$ 48,203	\$ 35,370	\$ 67,011
Debt Service	\$ 13,458	\$ 13,993	\$ 13,875	\$ 12,677	\$ 12,855
Debt Service Coverage	3.14x	2.35x	3.70x	2.79x	5.21x
Amount Available After Debt Service	\$ 28,808	\$ 18,848	\$ 34,328	\$ 22,693	\$ 54,156

Source: City of Pasadena Department of Finance.

(1) Participating Transmission Owner – Transmission Revenue Requirement Revenues. Effective January 1, 2005, Pasadena became a PTO.