

Appendix Z



Convention and Event Center Project Natural Gas System Technical Report



**Convention and Event Center Project
Natural Gas System Technical Report
March 7, 2012**

PREPARED BY:

KPFF Consulting Engineers
6080 Center Drive, Suite 750
Los Angeles, CA 90045
(310) 665-2800

TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	Project Description.....	1
1.2	Scope of Work.....	2
2.0	ENVIRONMENTAL SETTING	3
2.1	Regulatory Framework.....	3
2.2	Regional Conditions	5
2.3	Local Area Conditions	7
2.4	On-site Conditions.....	7
3.0	METHODOLOGY	8
4.0	SIGNIFICANCE THRESHOLDS.....	10
5.0	PROJECT DESIGN FEATURES	10
6.0	PROJECT IMPACTS	11
6.1	Construction Impacts.....	11
6.2	Operational Impacts.....	11
6.3	Cumulative Impacts	16
7.0	PROJECT DESIGN FEATURES AND MITIGATION MEASURES.....	16
7.1	Project Design Features	16
7.2	Mitigation Measures.....	17
8.0	LEVEL OF SIGNIFICANCE AFTER MITIGATION.....	17
	REFERENCES	Error! Bookmark not defined.

Appendix

Figure 1 – Existing Gas Infrastructure

1.0 INTRODUCTION

1.1 Project Description

The Convention and Event Center Project (hereafter referred to as the “Proposed Project”) consists of the following three components: (1) expansion and modernization of the Los Angeles Convention Center (hereafter referred to as the “Convention Center”), (2) the construction of a new multi-use entertainment and sports facility (hereafter referred to as the “Event Center”), and (3) related parking and support facilities. The Proposed Project is located within an approximately 68-acre site that includes all of the existing Convention Center property, including the Bond Street Parking Lot and the Cherry Street Parking Garage, STAPLES Center, as well as the air space over Pico Boulevard and LA Live Way (hereafter referred to as the “Project Site”). The Project Site is generally bounded by the following major roadways: the I-110 Harbor Freeway to the west; Chick Hearn Court to the north; Figueroa Street to the east; and Venice Boulevard to the south.

With the implementation of the Proposed Project, the Project Site would function as a unified center for convention, sports and entertainment uses. The Proposed Project is proposed to be implemented through adoption of a new Specific Plan and Community Plan Amendment. Although the Specific Plan encompasses the entire Project Site, its primary focus would be on the regulation of the proposed buildings and related features, including signage, as well as the regulation of transportation and parking. In addition, notable elements of environmental sustainability would be comprehensively integrated into the Proposed Project and would be one of the key elements that would guide the design of the Proposed Project. Total building square footage to be constructed under the Proposed Project would be approximately 1.74 million square feet of net new gross floor area. A brief overview of each of the Proposed Project’s three components is provided below.

The Proposed Project’s first component would involve the demolition and replacement of the Convention Center’s existing West and Petree Halls. The new structure (hereafter referred to as “New Hall”), would bridge over a portion of Pico Boulevard such that it would adjoin the Convention Center’s existing South Hall and would consist of roughly the same amount of square footage as the former West and Petree Halls. While the total square footage would be comparable, the amount of functional space would substantially increase through a more efficient building design that among other benefits results in a substantial increase in contiguous floor space for the Convention Center.

The Proposed Project’s second component is the development of the Event Center, a multi-purpose, entertainment and sports facility with a potentially retractable roof on the site of the former West and Petree Halls. The approximately 1,750,000 square-foot structure would include approximately 72,000 permanent seats with expandable seating capacity to approximately 76,250 seats for major marquee events, such as a Super Bowl. The Event Center would also be available for use as Convention

Center exhibit and meeting room space, when not used for spectator events, providing roughly 245,650 square feet of rentable exhibition and meeting room space.

The Proposed Project's third component would involve the construction of new larger, more efficient parking facilities on the existing Bond Street Parking Lot and Cherry Street Garage sites. As the West Hall would be demolished, the existing 1,625 parking spaces under the West Hall would be removed by the Proposed Project. The existing Cherry Street Garage would be rebuilt and expanded from the existing 858 spaces to approximately 2,950 parking spaces. A new parking garage would be constructed on the existing Bond Street Parking Lot, which would increase parking on that site from approximately 283 to approximately 928 parking spaces. These improvements would result in a net increase of approximately 1,112 parking spaces. Additionally, above-ground pedestrian bridges would provide connectivity between these parking structures and the Event Center and New Hall, as well as to LA Live Way.

In addition to the above improvements, the Proposed Project includes up to approximately 100,000 square feet of renovations to the existing Concourse building. Changes to the Convention Center's existing South Hall would be limited to its interface with the proposed New Hall. Existing parking under the South Hall and in the Convention Center's Venice Garage would not be affected by the Proposed Project. Street vacations involving portions of Pico Boulevard, LA Live Way, Bond Street and 12th Street would also occur under the Proposed Project.

1.2 Scope of Work

This report provides a description of utility capacity at the Project Site and capacity to serve the proposed project.

2.0 ENVIRONMENTAL SETTING

2.1 Regulatory Framework

Natural gas is addressed at a regulatory level via state legislation. These regulations include Senate Bill 1389, which is responsible for developing an integrated plan for electricity, natural gas, and transportation fuels; Assembly Bill 32 which is also known as the California Global Warming Solutions Act of 2006; and via the California Code of Regulations (i.e., Title 24) which sets forth the State's Building Energy Efficiency Standards.

1. Senate Bill 1389

Senate Bill 1389 (Bowen and Sher), passed by the State Legislature in 2002, reconstituted the State's responsibility to develop an integrated plan for electricity, natural gas, and transportation fuels. The legislation requires that the California Energy Commission (CEC) adopt and transmit to the Governor and Legislature an Integrated Energy Policy Report every two years. The last report completed is the 2009 Integrated Energy Policy Report, which provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The CEC currently is in the process of preparing and taking public comment on the 2011 Integrated Energy Policy Report.

2. Assembly Bill 32

Assembly Bill 32 (AB 32), also known as the California Global Warming Solutions Act of 2006, commits the State to achieving the following:

- 2000 Greenhouse Gas (GHG) emission levels by 2010 (which represents an approximately 11 percent reduction from business-as-usual¹); and
- 1990 levels by 2020 (approximately 28.4 percent below business-as-usual).

To achieve these goals, AB 32 tasked the California Public Utilities Commission (CPUC) and CEC with providing information, analysis and recommendations to the California Air Resources Board (ARB) on ways to reduce GHG emissions from multiple sources, including the combustion of natural gas.

¹ The California Air Resources Board defines "business-as-usual" as emissions in the absence of any greenhouse gas reduction measures discussed in the Climate Change Scoping Plan.

3. Title 24, California Code of Regulations

Title 24 of the California Code of Regulations sets forth the state's Building Energy Efficiency Standards. These regulations were originally established in 1978 in response to a legislative mandate to reduce the State's energy consumption. New buildings in the State are required to comply with these standards, which are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

On April 23, 2008, the CEC adopted the 2008 Building Energy Efficiency Standards. Effective January 1, 2010, new buildings must be designed and constructed to meet the 2008 standards. The CEC adopted the 2008 Building Energy Efficiency Standards for the following reasons:

- To provide California with an adequate, reasonably-priced, and environmentally-sound supply of energy.
- To respond to the greenhouse gas reduction goals set forth in AB 32.
- To pursue the California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- To act on the findings of California's Integrated Energy Policy Report that the standards are the most cost effective means to achieve energy efficiency and that such standards continue to be upgraded over time to reduce electricity and peak demand,
- To recognize the role of the standards in reducing energy related to meeting California's water needs and in reducing greenhouse gas emissions.
- To meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes.
- To meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards.

2.2 Regional Conditions

Southern California Gas Company (SCG), also known as The Gas Company or Sempra Energy Utilities, is the principal distributor of natural gas in Southern California, serving residential, commercial, and industrial markets. SCG serves approximately 20.5 million customers in more than 500 communities.

The 2010 California Gas Report prepared by the California Gas and Electric Utilities presents an outlook for natural gas requirements and supplies in California through the year 2030. Based on this report, California natural gas demand, including volumes not served by utility systems, is expected to contract at an annual rate of 0.212 percent from 2010 to 2030. In addition, demand for natural gas is expected to be flat for the next 20 years due to modest economic growth, decline in commercial and industrial demand, renewable goals, and savings linked to advanced metering methods.

The Southern California Gas Company receives gas supplies from several sedimentary basins in the western United States and Canada, including supply basins located in New Mexico (San Juan Basin), West Texas (Permian Basin), the Rocky Mountains, and Western Canada, as well as local California supplies.² Gas supply available to SCG from California sources was 160 million cubic feet per day (MMcf/day) in 2009.

According to the 2010 California Gas Report, SCG draws a large part of its current supplies from the southwestern United States, especially from the San Juan Basin, a condition that is forecasted to continue into the reasonably foreseeable future. This source of natural gas is delivered to SCG facilities via the El Paso Natural Gas Company and Transwestern Pipeline Company pipelines. The Permian Basin natural gas supplies also provide an additional source of supply into California, whereas the Rocky Mountain supply is used as an alternative supply source. Natural gas from the Rocky Mountain supply is delivered to Southern California primarily on the Kern River Gas Transmission Company's pipeline, although there is also access to Rocky Mountain gas through pipelines interconnected to the San Juan Basin. SCG anticipates that the role of Canadian gas in meeting Southern California's demand during the forecast period will decline as new pipeline capacity out of western Canada to the mid-western and eastern parts of the United States are likely to move Canadian gas away from California. Increased gas deliveries from the Permian Basin to California are expected to replace these supplies.

Other sources of natural gas that may become available in the future include biomethane and liquefied natural gas (LNG). With the passing of AB 32, San Diego Gas & Electric (SDGE) and SCG are working collaboratively with customers and research centers to demonstrate various technologies to achieve these renewable

² California Gas and Electric Utilities, "2010 California Gas Report," www.socalgas.com/regulatory/cgr.shtml; accessed September 7, 2011.

GHG emissions reduction goals. Such technologies involve treating biogas³ produced by digesters from sewage, animal waste and other biomaterials and turning this biogas into biomethane⁴ that can be safely injected into the utilities' distribution and transmission systems. One of the biggest potential sources of biogas are the sewage treatment facilities in Southern California. According to the U.S. EPA, the wastewater treatment industry is responsible for emitting 26.7 million tons of CO₂ equivalent methane every year. The biogas produced by digesters from sewage, animal waste, and other biomaterials contains between 60 percent and 95 percent methane that can be captured and used for electricity and heat generation. Substituting clean burning, renewable biogas for electricity for fossil fuels would reduce CO₂ emissions associated with burning those fuels.

Currently, SCG and SDGE are working with the City of Escondido to test the upgrading treatment of the biogas produced at the Hale Avenue Resource Recovery Facility to meet pipeline quality SCG Rule 30 standards.⁵ Eventually there are plans to inject the treated pipeline quality biomethane into the SCG/SDGE distribution system. The City of Escondido's Hale Avenue Resource Recovery Facility Waste Treatment Plant produces 150,000 cubic feet of biogas each day that is currently flared with no beneficial use. Once the treatment technology has been tested and found safe, SCG and SDGE will seek out viable biogas producing facilities to increase the use of biogas in Southern California. The development of this green technology will result in the reduction of GHG emissions and reduce the carbon footprint of Southern California, as well as turning currently flared biogas into beneficial use of digester gas that can be used at HARRF for heating the digesters resulting in future cost savings and City of Escondido revenues.

As indicated in the 2010 California Gas Report, with the completion of the Costa Azul LNG terminal in Baja California, Mexico in May 2008, LNG is expected to be an important supply source to California. As for other gasification facilities currently under the planning and permitting stage, it is uncertain as to how many other re-gasification facilities will actually be built and where they will be located on the West Coast of North America. Local California supplies of natural gas will also continue to be a source of natural gas to SCG.

³ Biogas is a gas that is produced from the breakdown of organic material under conditions with low to no availability of oxygen. Biogas is produced in processes including, but not limited to, anaerobic digestion, anaerobic decomposition, and thermo-chemical decomposition under sub-stoichiometric conditions. These processes are applied to biodegradable biomass materials, such as manure, sewage, municipal solid waste, green waste, and from energy crops, to produce landfill gas, digester gas, and other forms of biogas.

⁴ Biomethane is a biogas that has been upgraded or otherwise conditioned to meet CPUC natural gas specifications and is suitable for injection into natural gas distribution pipeline systems operated by public and private utilities.

⁵ SCG Rule 30 standards set forth the requirements for customer-transported natural gas over SCG facilities.

2.3 Local Area Conditions

The Project Site is served primarily by the following four SCG lines: (1) a 4-inch line that runs along Georgia Street that connects to a 4-inch line in Chick Hearn Court that travels westerly from Georgia Street and increases to a 6-inch line in 11th Street, west of LA Live Way; (2) a 3-inch line that runs along Pico Boulevard and into LA Live Way in the middle of the Project Site; (3) a 6-inch line that runs along Venice Boulevard and connects to a 4-inch line traveling north in Wright Street southwest of the Los Angeles Convention Center South Hall; (4) a 3-inch line that runs along Figueroa Street from Venice Boulevard to Pico Boulevard east of the Project Site, which increases to a 4-inch line that runs along Figueroa Street from Pico Boulevard to Olympic Boulevard east of the Project Site.

2.4 On-site Conditions

Natural gas is delivered throughout the Project Site via connections to the SCG gas lines described above and shown on Figure 1 in the appendix of this report. Specifically, STAPLES Center receives service from a 4-inch SCG main on Chick Hearn Court. The Los Angeles Convention Center (“Convention Center”) West Hall receives gas from a 4-inch service lateral on Pico Boulevard, while the Convention Center South Hall receives gas from two 4-inch service laterals from Venice Boulevard. Natural gas within the Project Site is currently used for heating, hot water, and food preparation. The Project Site currently consumes approximately 318,180 therms of natural gas per year with a peak demand of 250 therms per hour as shown in Table 1 below. The SCG supply sources and existing on-site natural gas distribution facilities are sufficient to meet the current needs of the Project Site.

Table 1
Existing Natural Gas Consumption

Facility	Existing Demand (Therms*)
STAPLES Center	
Peak Demand (hour)	70 ^a
Annual Consumption	
Arena Operation	241,580
Central Plant ^a	19,500
Total^b	261,080
Convention Center (All Facilities)	
Peak Demand (hour)	180 ^c
Annual Consumption	
Convention Center Operations	33,300
Central Plant ^a	57,100
Total^d	90,400
Total Project Site	
Peak Demand	250
Annual Consumption	
Facility Operations	241,580
Central Plants	76,600
Total	318,180
Convention Center (Facilities Part of Proposed Project)	
Peak Demand – West Hall + Central Plant (hour)	158
Annual Consumption	
West Hall Operations	0 ^e
Central Plant ^a	57,100
Total	57,100
*1 Therm = 100,000 Btu = 100 cubic foot (CF) ^a Based on data provided by Syska Hennessey Group, Inc., 2012. ^b Based on utility bill data provided by AEG, 2011. ^c Based on data provided by M-E Engineers, Inc. ^d Based on utility bill data provided by LACC, 2011. ^e Heating of the existing West hall currently run on electricity. As the existing West Hall does not include any other natural gas consumption sources there is no consumption of natural gas at the West Hall. Under the Proposed Project, heating of the New Hall would occur via natural gas combustion. Therefore, in order to determine the incremental change in natural gas combustion associated with the Proposed Project the existing West hall is included in this table. Source: Matrix Environmental, 2012.	

3.0 METHODOLOGY

The analysis of the Proposed Project's natural gas impacts is based on how much natural gas is consumed by the Project at buildout, as well as the capability of the existing infrastructure to convey the Proposed Project's peak demand for natural gas. On the Project Site, natural gas would be consumed by the equipment located within the Proposed Project's central plant facilities and within each of the Proposed Project structures. Cooking areas and concessions areas inside the structures are where natural gas combustion would primarily occur. Separate engineering forecasts for each of the Proposed Project's two main structures (i.e., the Event Center and the New Hall) have been prepared. No sources of natural gas usage are anticipated to occur within the Project's two new parking garages.

The amount of natural gas consumption at the Event Center would vary with the level of activity at the facility. Daily use at the facility falls within one of three categories: event days (e.g., the day of a football game, concert, exhibition, etc.); days that the Event Center is used to get ready or break down following an event; and days when no activities occur. Separate forecasts were developed for each of these three activity levels. On a set-up or take down day, natural gas usage is forecasted to be 20 percent of that consumed on an event day, and no natural gas is assumed to occur when no activities are occurring at the Event Center. Natural gas usage at the Event Center also varies depending on the type of event being held. For example, natural gas consumption when the entire facility is being used for Spectator or Exhibition Events is very different than when only a portion of the facility is being used for meeting room purposes. As such, the annual forecast of natural gas consumption for the Event Center takes into account the following factors: (1) equipment (e.g., boilers, water heaters, and kitchen/concession areas); (2) level of daily activity (e.g., event day, set-up or break down day, or no activity); and (3) facility usage (e.g., entire facility for Spectator or Exhibition Events, or for meeting room usage only).

Natural gas consumption for the Convention Center is forecasted based on increased gas usage for heating purposes and the growth in attendance at Convention Center events.

The forecast of peak hourly demand for the Event Center takes into consideration the type of equipment or source, the amount of equipment or number of locations, btu rating (the maximum amount of consumption in an hour), and a factor that adjusts maximum consumption to peak consumption. Peak demand for the Convention Center is forecasted based on new boiler capacity, and demand loads for the kitchens and concession areas.

4.0 SIGNIFICANCE THRESHOLDS

The City of Los Angeles CEQA Thresholds Guide states that a determination of significance relative to energy consumption shall be made on a case-by-case basis, considering the following factors:

1. The extent to which the project would require new (off-site) energy supply facilities and distribution infrastructure, or capacity enhancing alterations to existing facilities;
2. Whether and when the needed infrastructure was anticipated by adopted plans; and
3. The degree to which the Project design and/or operations incorporate energy conservation measures, particularly those that go beyond City requirements.

Based on all of these factors, the Project would have a significant impact if:

1. The Project would result in an increase in demand for electricity that exceeds available supply or distribution infrastructure capabilities.
2. The design of the Project fails to incorporate energy conservation measures under California Code of Regulations, Title 24.

5.0 PROJECT DESIGN FEATURES

No project design features are proposed with regard to natural gas consumption.

6.0 PROJECT IMPACTS

6.1 Construction Impacts

Construction activities for the Proposed Project would not require the consumption of natural gas. Construction impacts associated with the installation of new natural gas distribution lines would primarily involve trenching and would not have any significant impacts for the Project Site or to adjoining property, including the upsizing of the existing 4-inch natural gas line to a proposed 6-inch natural gas line within Chick Hearn Court between LA Live Way and Georgia Street. Prior to ground disturbance, Project contractors would coordinate with SCG to identify the locations and depth of all lines. Further, SCG would be notified in advance of proposed ground disturbance activities to avoid natural gas lines and disruption of natural gas service. Therefore, Project impacts on natural gas associated with construction activities would be less than significant.

6.2 Operational Impacts

The Proposed Project would increase the demand for natural gas resources within the Project Site. Table 2 analyzes the connected load for the Event Center and the peak demand in terms of therms per hour for the Event Center and the Convention Center based on usage type (i.e., boilers, kitchen cooking, or water heaters). As shown on Table 2, the Proposed Project is forecasted to result in an increase in peak demand from 158 therms per hour to 706 therms per hour. While the Event Center represents a completely new source, a 72 percent increase in peak demand is forecasted for the Convention Center. The Proposed Project as a whole is forecasted to result in a 346 percent increase in peak demand from existing conditions. This large increase in natural gas consumption result from the following two factors: (1) the New Hall would be heated by natural gas whereas the existing West Hall is heated via electricity, and (2) increase in annual attendance from approximately 2.7 million annual patrons under existing conditions to approximately 4.0 million annual patrons under the Proposed Project. Even though there is a substantial increase in peak demand, the existing infrastructure is capable of delivering this increase in demand except for the natural gas line located in Chick Hearn Court between LA Live Way and Georgia Street. To provide adequate service to the Event Center, this particular line needs to be upgraded from a 4-inch to a 6-inch line.

Table 4 provides the annual forecast of natural gas consumption by the Proposed Project at buildout (2017) which is analyzed by mechanical equipment and plumbing equipment. As shown in Table 5 the forecasted Proposed Project consumption levels are compared to existing site conditions.

At buildout, the forecasted natural gas usage for the Event Center, would be approximately 356,596 therms per year. The forecasted increase in natural gas usage at the Convention Center would be 88,140 therms per year, which would

account for a 154 percent increase in natural gas consumption at the Convention Center. As described above, the large increase in peak demand at the Convention Center is using natural gas to heat the New Hall and the increase in annual patronage at the Convention Center. Overall the Proposed Project is forecasted to consume approximately 501,835.7 therms per year, a five to six-fold increase over existing conditions. Under the Proposed Project and No Existing Convention Center Activity scenario, the increase in natural gas consumption and demand would be the same as that forecasted for the Proposed Project and shown in Tables 2 and 4, respectively. This occurs because under this scenario no natural gas consumption would be occurring at those portions of the Project Site that have been analyzed. As these increases constitute a small percentage of the supply available to SCG, long-term impacts associated with the consumption of natural gas would be less than significant.

Table 2
Forecasted Natural Gas Peak Demand
(Therms*)

	Event Center ^a	Convention Center ^b			Total Convention Center and Event Center Under Proposed Project
		New Facilities (New Hall and Central Plant)	Increased Usage by Existing Facilities Due to Growth ^c	Total Convention Center Under Proposed Project	
Boilers					
Number of Boilers	4	10	-	10	
Therms/hour	60	22	-	22	
Connected Load	240	220	30	250	
Peak Demand Load Factor	1	0.75	-	0.75	
Peak Demand ^d	240	165	22.5	187.5	427.5
Kitchen Cooking					
Number of Kitchens	28	2	-	2	
Therms/hour	6.07	28.4	-	36.7	
Connected Load	170	56.7	16.6	73.3	
Peak Demand Load Factor	1	0.75	-	0.75	
Peak Demand ^d	170	43	12	55	225
Water Heaters					
Number of Boilers	2	6 (concessions) ^d	-	6 (concessions) ^e	
Therms/hour	12	5	-	5	
Connected Load	24	30	-	30	
Peak Demand Load Factor	1	1	-	1	
Peak Demand ^d	24	30	-	30	54
Total Peak Demand	434	238	35	272	706
<					

Table 3
Proposed Project Increase in Natural Gas Peak Demand
(Therms)

	Event Center ^a	Convention Center ^b	Total
Existing Conditions	0	158 ^c	158
Proposed Project	434	272	706
Increase Due to Proposed Project	434	114	548
^a Data provided by M-E Engineers Inc., 2012. ^b Data provided by Syska Hennessy Group Inc., 2012. ^c Number represents Convention Center (Facilities Part of the Proposed Project to remain) Source: Matrix Environmental, 2012.			

Table 4
Forecasted Natural Gas Consumption
(Therms*)

	Daily Natural Gas Consumption		Annual Natural Gas Consumption		
	Event Day	Set-Up/Take Down Day	Event Day	Set-Up/Take Down Day	Total
Event Center					
Mechanical (Boilers)					
Spectator Events/Exhibition Events (with Meeting Room Usage)	1,008.0 ^a	201.6 ^b	109,872 ^c	42,537.6 ^c	152,409.6
Meeting Room Usage Only ^d	151.2	151.2	11,340 ^e	11,340.0 ^e	22,680.0
Sub-Total			121,212	53,877.6	175,089.6
Plumbing (Kitchen Cooking/Water Heaters)					
Spectator Events/Exhibition Events (with Meeting Room Usage)	920.4 ^f	184.08 ^b	100,323.6 ^g	38,840.88 ^h	139,164.48
Meeting Room Usage Only ^d	138.06	138.06	31,987.12 ⁱ	10,354.50 ^j	42,341.62
Sub-Total			132,310.72	49,195.38	181,506.10
Total Event Center			253,522.72	103,072.98	356,595.70
			Annual Consumption		
Convention Center ^k					
Central Plant			95,100		
Kitchen Cooking/Water Heaters/Concessions					
New Hall			33,430		
Increased Usage at Existing Facilities Due to Growth			16,710		

	Daily Natural Gas Consumption		Annual Natural Gas Consumption		
	Event Day	Set-Up/Take Down Day	Event Day	Set-Up/Take Down Day	Total
Total Convention Center				145,240	
					5
PROPOSED PROJECT				501,835.70	
*1 Therm = 100,000 Btu = 100 cubic foot (CF) ^a Event Day consumption calculated at 4 hours at peak demand and 4 hours at non-peak demand (calculated at 40 percent of peak demand). An Event Day is the day the actual event occurs on; e.g., NFL football game, concert, etc. ^b Set-Up and Take Down Day calculated at 20 percent of Event Day consumption. A Set-Up Day is the day or days required to prepare the facility for the Event Day. A Take Down Day occurs after the Event Day to remove any and all materials that supported the Event Day. ^c Based on 109 Event Days and 211 Set-Up/Take Down Days per year. ^d Assumed that 15 percent of the building area would be used when only meeting rooms in use. ^e Based on 75 Event Days and 75 Set-Up/Take Down Days per year. ^f Event Day consumption calculated at 4 hours at peak demand and 3 hours at non-peak demand (calculated at 75 percent of peak demand). ^g Based on annual attendance of 5,862,500 persons. ^h Based on 211 Set-Up/Take Down Days per year. ⁱ Based on annual attendance of 231,690 persons. ^j Based on 75 Set-Up/Take Down Days per year. ^k Data based on Syska Hennessy Group, Inc., 2012. Source: Matrix Environmental, 2011.					

Table 5
Forecasted Proposed Project Increase in Natural Gas Annual Consumption
(Therms*)

	Annual Natural Gas Consumption		
	Event Center	Convention Center	Total
Existing Conditions	0	57,100	57,100
Proposed Project	356,595.7	145,240	501,835.7
Increase Due to Proposed Project	356,595.7	88,140	444,735.7
*One (1) Therm = 100,000 Btu = 100 cubic foot (CF) Source: Matrix Environmental 2012.			

6.3 Cumulative Impacts

The SCG service area extends from Mono County on the north to Orange and San Bernardino Counties on the south. As population and growth forecasts are not available for this entire service area, the County of Los Angeles is selected as the geographic area of analysis. Therefore, in estimating the cumulative projected increase in natural gas demand within this service area, the Southern California Association of Governments population and growth forecasts between 2011 and 2017 for Los Angeles County was used.

The Proposed Project, as well as cumulative growth in the region, would result in a substantial increase in demand for natural gas. As shown in Table 6, based on forecasted growth within Los Angeles County, an increase in demand amounting to 2,485.6 million therms per year would be consumed. With the addition of the Proposed Project's 444,735.7 therms per year, cumulative natural gas demand would increase to approximately 2,486.04 million therms per year. Based on these forecasts, the Project constitutes approximately 0.017 percent of the forecasted cumulative natural gas demand. It is anticipated that the forecasted growth would incorporate design features and energy conservation measures, as required by Title 24, which would lessen the impact on natural gas demand. Additionally, the 2010 California Gas Report prepared by the California Gas and Electric Utilities forecasts that California natural gas demand is expected to be flat for the next 20 years due to modest economic growth, decline in commercial and industrial demand, renewable goals, and savings linked to advanced metering methods. These facts in conjunction with the proportional demand represented by the Proposed Project as well as the fact that all system deficiencies related to Proposed Project development are mitigated to a less than significant level, the Proposed Project's incremental effects are not cumulatively considerable. As a result, the Project would have a less than significant cumulative natural gas impact.

7.0 PROJECT DESIGN FEATURES AND MITIGATION MEASURES

7.1 Project Design Features

No project design features are proposed with regard to natural gas consumption.

7.2 Mitigation Measures

In the event that the Event Center final building design requires connection to the existing natural gas line in Chick Hearn Court, then the Applicant shall upgrade or cause to be upgraded the existing 4-inch natural gas line located in Chick Hearn Court between LA Live Way and Georgia Street to a 6-inch line prior to the completion of construction of the Event Center.

Table 6
Cumulative Natural Gas Consumption
(Therms*)

	Square Footage/ Units	Consumption Rate (cubic feet/month)	Total Consumption (million therm/year)
Consumption by Forecasted Growth			
Commercial Retail	43,441,333 ^a	2.90 ^b	1,511.8
Residential	184,246 ^c	5,285.18 ^c	973.8
Total Forecasted Growth			2,485.6
Proposed Project			0.44
Cumulative Total			2,486.04
<i>*1 Therm = 100,000 Btu = 100 cubic foot (CF)</i> <i>^a Based on Southern California Association of Governments forecasted employment growth and an average of 3 employees per 1,000 square feet of floor area.</i> <i>^b Retail/Shopping Center factor used for forecasting purposes, SCAQMD CEQA Air Quality Handbook, April 1993.</i> <i>^c Consumption factor is based on weighted average of single family and multi-family homes, SCAQMD CEQA Air Quality Handbook, April 1993.</i> <i>Source: Matrix Environmental, 2012.</i>			

No mitigation measures are required to support the construction of the New Hall, the Bond Street Parking Garage, the LA Live Way Parking Garage or any other on-site improvements constructed as part of the Proposed Project.

8.0 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of the mitigation measure, natural gas impacts would be less than significant.

REFERENCES

California Gas and Electric Utilities, "2010 California Gas Report," www.socalgas.com/regulatory/cgr.shtml; accessed September 7, 2011

FIGURE 1

